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Registration No. 333-128797

PROSPECTUS SUPPLEMENT

(To Prospectus dated November 16, 2005)

11,750,820 Shares

STEMCELLS, INC. LOGO

Common Stock

We are offering 11,750,820 shares of our common stock pursuant to this prospectus supplement. The common stock will be sold at a negotiated price of $3.05 per share. Our common stock is quoted on The Nasdaq National Market under the symbol “STEM.” On March 31, 2006, the last reported sales price of our common stock on The Nasdaq National Market was $3.58 per share.

Investing in our common stock involves a high degree of risk. Before buying any shares, you should read the discussion of material risks of investing in our common stock under the heading “Risk factors” beginning on page S-4 of this prospectus supplement.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus supplement or the accompanying prospectus. Any representation to the contrary is a criminal offense.

We have retained UBS Securities LLC to act as our exclusive placement agent in connection with the arrangement of this transaction. We have agreed to pay the placement agent the placement agent fees set forth in the table below, which assumes that we sell all of the 11,750,820 shares we are offering. We have also agreed to reimburse the placement agent for certain of its expenses as described under “Plan of distribution” in this prospectus supplement. The placement agent is not required to arrange for the sale of any specific number or dollar amount of shares but will use reasonable efforts to arrange for the sale of all of the shares.

		Per share		Total
Offering price	$	3.05	$	35,840,001
Placement agent fees	$	0.183	$	2,150,400
Proceeds, before expenses, to us	$	2.867	$	33,689,601

We expect the total offering expenses, excluding placement agent fees, to be approximately $500,000 for all sales pursuant to this prospectus supplement. Because there is no minimum offering amount required as a condition to the closing of this offering, the actual public offering amount, placement agent fees and proceeds to us are not presently determinable and may be substantially less than the maximum amounts set forth above.

Delivery of the shares will be made on or about April 6, 2006.

UBS Investment Bank

as Placement Agent

The date of this prospectus supplement is April 3, 2006.

This prospectus supplement is not complete without, and may not be utilized except in connection with, the accompanying prospectus dated November 16, 2005 and any amendments to such prospectus. This prospectus supplement provides supplemental information regarding us, updates certain information contained in the accompanying prospectus and describes the specific terms of this offering. The accompanying prospectus gives more general information, some of which may not apply to this offering. We incorporate important information into this prospectus supplement and the accompanying prospectus by reference. You may obtain the information incorporated by reference into this prospectus supplement and the accompanying prospectus without charge by following the instructions under "Where you can find more information." You should carefully read both this prospectus supplement and the accompanying prospectus, as well as the additional information described under "Incorporation of certain documents by reference," before deciding to invest in shares of our common stock.

You should rely only on the information contained and incorporated by reference in this prospectus supplement and the accompanying prospectus. We have not, and the placement agent has not, authorized anyone to give you different or additional information. You should not assume that the information included or incorporated by reference in this prospectus supplement and accompanying prospectus is accurate as of any date after the respective dates of the documents containing the information.

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Unless the context requires otherwise, the words "StemCells," "we," "company," "us" and "our" refer to StemCells, Inc. and our subsidiary.

Prospectus supplement summary

This summary highlights selected information appearing elsewhere or incorporated by reference in this prospectus supplement and accompanying prospectus and may not contain all of the information that is important to you. This prospectus supplement and the accompanying prospectus include or incorporate by reference information about the shares we are offering as well as information regarding our business and detailed financial data. You should read this prospectus supplement and the accompanying prospectus in their entirety, including the information incorporated by reference.

BUSINESS OVERVIEW

We are focused on the discovery and development of stem cell therapeutics to treat damage to or degeneration of major organ systems such as the central nervous system, liver and pancreas. Our aim is to return patients to productive lives and significantly reduce the substantial health care costs often associated with these diseases and disorders. We seek to identify and purify rare stem cells, develop methods and processes to expand and bank them as transplantable cells, and then demonstrate their safety and efficacy as therapeutic agents. In October 2005, we received clearance from the US Food and Drug Administration (FDA) to initiate a Phase I clinical trial to evaluate the safety and preliminary efficacy of our human neural stem cells (HuCNS-SC™) as a treatment for infantile and late infantile neuronal ceroid lipofuscinosis (NCL), two forms of a group of disorders often referred to as Batten disease. In March 2006, we received approval from the Institutional Review Board of the Oregon Health & Science University to begin our Phase I clinical trial at OHSU Doernbecher Children's Hospital in Portland.

Stem cells are cells that can produce all the functional mature cell types found in normal organs of healthy individuals. Progenitor cells are cells that have already developed from the stem cells, but can still produce one or more types of mature cells within an organ. 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 developing embryonic stem cells for therapeutic use. Neither are we involved in any activity directed toward human cloning; our programs are all directed toward the use of tissue-derived cells for treating or curing diseases and injuries.

We have successfully identified, purified and characterized the human neural stem cell. Our neural stem cell product, HuCNS-SC, is about to begin clinical development for its first indication. We have also identified candidate stem or progenitor cells of the liver and the pancreas. Our candidate liver stem cell, when transplanted into a mouse model of liver degeneration, shows long-term engraftment evidenced by secretion of human hepatic proteins. Based on this data, we plan to develop this cell for potential therapeutic applications to liver diseases.

We believe that, if successfully developed, our stem cell technologies will create the basis for therapies that would address a number of conditions with significant unmet medical needs. Many diseases, such as Alzheimer's, Parkinson's, lysosomal storage diseases and other degenerative diseases of the brain or central nervous system, involve the failure of organs that cannot be transplanted. Other diseases, such as hepatitis and diabetes, involve organs such as the liver or pancreas that can be transplanted, but there is a very limited supply of those organs available for transplant. We estimate that these neural, liver and pancreatic conditions affect more than 55 million people in the United States and account for more than $325 billion annually in health care costs.[1]

OUR CORPORATE INFORMATION

We were incorporated in Delaware. Our principal executive offices are located at 3155 Porter Drive, Palo Alto, California 94304, and our telephone number is (650) 475-3100. We maintain an Internet website at www.stemcellsinc.com. We have not incorporated by reference into this prospectus supplement or the accompanying prospectus the information in, or that can be accessed through, our website, and you should not consider it to be a part of this prospectus supplement or the accompanying prospectus.

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

The offering

Common stock we are offering	11,750,820 shares
Common stock to be outstanding after this offering	77,146,842 shares
Use of proceeds	We intend to use the net proceeds of this offering for general corporate purposes, including working capital, product development and capital expenditures, as well as acquisitions and other strategic purposes. See “Use of proceeds.”
Nasdaq National Market symbol	STEM

The number of shares of common stock shown above to be outstanding after this offering is based on the 65,396,022 shares outstanding as of December 31, 2005 and excludes:

- 6,608,109 shares of our common stock subject to options outstanding as of December 31, 2005 having a weighted average exercise price of $3.02 per share;
- 1,583,543 shares of our common stock that have been reserved for issuance in connection with future grants under our stock option plans as of December 31, 2005; and
- 2,521,400 shares of our common stock that have been reserved for issuance upon exercise of outstanding warrants as of December 31, 2005 having a weighted average exercise price of $1.92 per share.

Risk factors

Investing in our common stock involves a high degree of risk. In addition to the risks related to our business set forth in the accompanying prospectus and the other information included and incorporated by reference in this prospectus supplement and accompanying prospectus, you should carefully consider the risks described below before purchasing our common stock. If any of the following risks actually occurs, our business, results of operations and financial condition will likely suffer. As a result, the trading price of our common stock may decline, and you might lose part or all of your investment.

RISKS RELATED TO OUR BUSINESS

Any adverse development in the initial clinical trial for our stem cell technology could substantially depress our stock price and prevent us from raising the capital we will need to further develop our stem cell technology.

To an unusual extent, our ability to progress as a company is significantly dependent on a single early stage clinical trial. Any clinical, regulatory or other development that prevents or delays us from conducting our initial clinical trial for Batten disease, or any safety issue or adverse side effect to any patient that occurs during the trial, or the failure of this initial trial to enroll patients and proceed to completion as anticipated or to show the results expected by investors, would likely significantly depress our stock price and could prevent us from raising the substantial additional capital we will require to further develop our stem cell technologies.

Our financial situation is precarious and, based on currently estimated operating expenses, our existing capital resources may not be sufficient to fund our operations beyond the next eighteen months.

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 revenues 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 and increasing operating losses. We have limited liquidity and capital resources and must obtain significant additional capital resources in order to sustain our product development efforts and for 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, maintaining and enforcing our intellectual property portfolio, general and administrative expenses and other working capital requirements. We rely on cash reserves 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. If we exhaust our cash reserves and are unable to realize adequate financing, we may be unable to meet operating obligations and be required to initiate bankruptcy proceedings. Our existing capital resources may not be sufficient to fund our operations beyond the next eighteen months. We intend to pursue opportunities to obtain additional financing in the future through equity and debt financings, corporate alliances, grants and collaborative research arrangements. 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 to delay, scale back or eliminate some or all of our research and product development programs and/or our capital expenditures or to license our potential products or technologies to third parties.

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 the therapies creates significant challenges in regards to product development and optimization, manufacturing, government regulation, third party reimbursement and market acceptance. For example, the FDA has relatively little experience with stem cell-based therapeutics, and the pathway to regulatory approval for our product candidates may accordingly be more complex and lengthy than the pathway for new conventional drugs. These challenges may prevent us from developing and commercializing products on a timely or profitable basis or at all.

Our technology is at an early stage of discovery and development, and we may fail to develop any commercially acceptable or profitable products.

We have yet to develop any products. Before we may market any product, we must obtain regulatory approval from the FDA and equivalent foreign agencies after conducting extensive preclinical studies and clinical trials that demonstrate that our product candidates are safe and effective for each disease for which we seek approval. We have no experience in conducting clinical trials. We expect that none of our cellular therapy product candidates will be commercially available for several years, if at all.

Our programs are still at the preclinical phase for our candidate human liver stem cell, and at the discovery phase for our candidate human pancreas stem cell. While the US Food and Drug Administration (FDA) has permitted us to go forward with our proposed Phase I clinical trial of our proprietary neural stem cell therapy product— HuCNS SC— in Batten disease, and the Institutional Review Board of the Oregon Health & Science University has approved the protocol, that trial has not yet enrolled or treated any patients and there can be no assurance that the clinical investigators will be able to identify suitable candidates for the trial or of a successful outcome of the trial if candidates are enrolled. We may fail to discover the stem cells we are seeking, to develop any products, to obtain regulatory approvals, to enter clinical trials, or to commercialize any products. We may elect to delay or discontinue preclinical studies or clinical trials based on unfavorable results. Any product using stem cell technology may fail to:

Ø survive and persist in the desired location;

Ø provide the intended therapeutic benefits;

Ø properly integrate into existing tissue in the desired manner; or

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

In addition, our products may cause undesirable side effects. Results of preclinical research may not be indicative of the results that will be obtained in later stages of preclinical or clinical research. 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. Furthermore, because stem cells are a new form of therapy, the marketplace may not accept any products we may develop. If we do succeed in developing products, we will face many potential obstacles such as the need to obtain regulatory approvals and to develop or obtain manufacturing, marketing and distribution capabilities. In addition, we will face substantial additional risks such as product liability claims.

Moreover, because our cell therapy treatments will be derived from tissue of individuals other than the patient (that is, they will be “non-self” or “allogeneic” transplant products), patients will require the use of immunosuppressive drugs such as cyclosporine, FK506, or others to prevent rejection of the cells. While immunosuppression is now standard in connection with allogeneic transplants of various kinds, long-term maintenance on immunosuppressive drugs can produce complications that include

infection, cancer, cardiovascular disease, renal dysfunction and other side effects depending upon which immunosuppressive regimen is employed. Immunosuppression has not been tested with our therapies since we have not yet conducted any clinical trials.

Our success will depend in large part on our ability to develop and commercialize products that treat diseases other than Batten disease.

Although we have initially focused on evaluating our neural cell therapy product for the treatment of infantile and late infantile forms of NCL (Batten disease), this disease is rare, and the market for treating this disease is small. Accordingly, even if we obtain marketing approval for HuCNS-SC for Batten disease, in order to achieve profitability, if at all, we will need to obtain approval for HuCNS-SC and other potential products to treat additional diseases that present more significant market opportunities.

We have payment obligations resulting from real property owned or leased by us in Rhode Island, which diverts funding from our stem cell research and development.

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 $1,450,000 in 2005; 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 $450,000 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 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 have currently subleased the entire pilot manufacturing facility to a privately-held biotechnology company, but may not be able to sublease or sell the facility in the future once the current sublease agreements expire. These continuing costs significantly reduce our cash resources and adversely affect our ability to fund further development of our stem cell technology. 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, 2005, the reserve was $7,306,000. In 2005 and 2004, we incurred $1,079,000 and $1,152,000 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 need but fail to obtain partners to support our stem cell development efforts and to commercialize our technology.

Equity and debt financings alone may not be sufficient to fund the cost of developing our stem cell technologies, and we may need to rely on our ability to reach partnering arrangements to provide financial support for our stem cell discovery and development efforts. In addition, in order to successfully develop and commercialize our technology, we may need to enter into a wide variety of arrangements with corporate sponsors, pharmaceutical companies, universities, research groups and others. While we have engaged, and expect to continue to engage, in discussions regarding such arrangements, we have not reached any agreement, and we may fail to obtain any such agreement on terms acceptable to us. Even if we enter into these 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 certain rights to third parties, including exclusive marketing rights to one or more products, may require us to issue securities to our collaborators or may contain other terms that are burdensome to us. If any of our collaborators terminates its relationship with us or fails to perform its obligations in a timely manner, the development or commercialization of our technology and potential products may be adversely affected.

Because the patient population for NCL, or Batten disease, is very small, we may encounter difficulties in enrolling subjects in our first planned clinical trial.

The first clinical application we are pursuing— NCL (also known as Batten disease)— has a very small patient population. From this small population, we must locate and enroll patients that satisfy the specific enrollment criteria for our planned clinical trial for this indication. This clinical trial may be delayed significantly or terminated if we are unable to enroll a sufficient number of qualified patients.

We have a history of operating losses, and we may fail to obtain revenues or become profitable.

We expect to continue to incur substantial operating losses in the future in order to conduct our research and development activities, and, if those activities are successful, to fund clinical trials and other expenses. These expenses include the cost of acquiring technology, product testing, acquiring regulatory approvals, establishing production, marketing, sales and distribution programs and administrative expenses. We have not earned any revenues from sales of any product. All of our past revenues have been derived from, and any revenues we may obtain for the foreseeable future are expected to be derived from, cooperative agreements, research grants, investments and interest on invested capital. We currently have no cooperative agreements, we have only one current research grant for our stem cell technology, and we may not obtain any such agreements or additional grants in the future or receive any revenues from them.

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

We own or license a number of patents and pending patent applications related to various stem and progenitor cells and methods of deriving and using them, including human neural stem cell cultures. 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 before or after issuing the patent. Consequently, we do not know whether any of our pending applications will result in the issuance of patents, if any existing or future patents will provide sufficient protection or significant commercial advantage or if others will circumvent these patents. We cannot be certain that we were the first to discover the inventions covered by each of our pending

patent applications or that we were the first to file patent applications for such inventions because patent applications are secret until they are published, and because publication of discoveries in the scientific or patent literature often lags behind actual discoveries. Patents may not issue from our pending or future patent applications or, if issued, may not be of commercial benefit to us. In addition, our patents may not afford us adequate protection from competing products. Third parties may challenge our patents or governmental authorities may declare them invalid or reduce their scope. In the event that a third party has also filed a patent application relating to inventions claimed in our patent applications, we may have to participate in proceedings to determine priority of invention. Even if a patent issues, a court could decide that the patent was issued invalidly. Because patents issue for a limited term, our patents may expire before we utilize them profitably. Our most important patents begin to expire in 2015. 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. One party has opposed two of our granted European patents. Both oppositions were heard in 2005, and the patents were maintained in somewhat altered form. The time for appeal has not yet run and there can be no assurance that the opposing party will not appeal. While we are confident that, should the decision be appealed by the opposing party, it will be upheld, there can be no guarantee of this. If we are ultimately unsuccessful in our defense of the opposed patents, all claimed rights in the opposed patents will be lost in Europe. US counterparts to these patents are part of our issued patent portfolio; they are not subject to opposition, since that procedure does not exist under US patent law, but other types of proceedings may be available to third parties to contest our US patents. See “Item 1. Business— Patents, Proprietary Rights and Licences” and “Item 3. Legal proceedings” in our Annual Report on Form 10-K for our fiscal year ending December 31, 2005.

If we learn of third parties who infringe our patent rights, we may need to initiate legal proceedings to enforce our patent rights. These proceedings may entail significant costs, and these third parties may have significantly greater financial resources than us. We may not prevail in these proceedings.

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 others are first to discover and patent the stem cells we are seeking to discover, we could be blocked from further work on those stem cells.

Because the first person or entity to discover and obtain a valid patent to a particular stem or progenitor cell may effectively block all others, it will be important for us or our collaborators to be the first to discover any stem cell that we are seeking to discover. Failure to be the first could prevent us from commercializing all of our research and development affected by that patent.

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 cells and other

technologies potentially relevant to or necessary for our expected products. We cannot predict which, if any, of the applications will issue as patents, and there may be existing patents of which we are currently unaware which the commercialization of our product candidates would infringe. If third party patents or patent applications contain valid claims that our technology infringes upon their technology, we may be prevented from commercializing that technology unless the third party is willing to grant a license to us. We may be unable to obtain licenses to the relevant patents at a reasonable cost, if at all, and may also be unable to develop or obtain alternative non-infringing technology. If we are unable to obtain such licenses or develop non-infringing technology at a reasonable cost, our business could be significantly harmed. Also, any infringement lawsuits commenced against us may result in significant costs, divert our management's attention and result in an award against us for substantial damages.

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 stem cell 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 alternate 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. Also, if we use alternative non-infringing technology, we may need to demonstrate comparability in subsequent clinical trials.

We have obtained rights from 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. Many of the world's large pharmaceutical companies, including Merck, Pfizer, Abbott, Bristol-Myers Squibb, Novartis and GlaxoSmithKline, have made significant commitments to the CNS field. Any cell-based therapy to treat diseases of, or injuries to, the CNS is likely to face intense competition from the small molecule sector. In addition, a number of biotechnology companies with resources far greater than ours may also emerge as competitors. These include Genzyme, Amgen, Cephalon, Shire Pharmaceuticals, BioMarin, Celgene, Biogen Idec, and Titan Pharmaceuticals/ Schering AG. Finally, we also expect to compete with smaller biotechnology companies, such as NeuralStem, Geron, NeuroNova, ReNeuron, and ES Cell International, some of which are privately owned.

We believe that our human neural stem cells may have application to many or most of the Lysosomal Storage Diseases ("LSDs") with CNS involvement. We have received FDA approval for our first IND to treat the infantile and late infantile forms of NCL (also known as Batten disease), which are among the LSDs that affect the CNS, and our Phase I clinical trial is expected to begin at Doernbecher Children's Hospital at Oregon Health & Safety University. There can be no assurance that the trial

will demonstrate either safety or efficacy of our HuCNS-SC. There are, so far as we know, no approved therapies for Batten disease or any of the other CNS-specific LSDs, but other companies, including Genzyme, BioMarin, and Shire, have products approved to treat peripheral aspects of some of the other LSDs, and other products are in clinical trials.

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. In addition, new therapies may become available before we successfully develop a cell-based therapy for liver disease.

In the field of diabetes, a number of major companies currently market products for the treatment of diabetes and are also engaged in the research and development of new therapies. Such companies include Eli Lilly, Novo Nordisk, J&J, Amylin, ViaCell, and Serono. Consequently, should we successfully develop a cell-based therapy for diabetes, we would expect to face severe competition from these and similar companies.

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

Our research and development efforts, as well as any 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 US Food and Drug Administration and other necessary regulatory approvals is lengthy, expensive and uncertain. 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 US 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 fetal tissue. The federal and state governments and other jurisdictions impose restrictions on the use of fetal tissue, including those incorporated in the recent federal current Good Tissue Practice, or cGTP, 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. 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 guidelines for cell procurement. Certain components used to manufacture our stem cell product candidates will need to be manufactured in compliance with the FDA's Good Manufacturing Practices, or cGMP. Accordingly, we will need to enter into supply agreements with companies that manufacture these components to cGMP standards.

Although we do not use embryonic stem cells, government regulation and threatened regulation of embryonic tissue may lead top researchers to leave the field of stem cell research, or the country, in order to assure that their careers will not be impeded by restrictions on their work. Similarly, these factors may induce the best graduate students to choose other fields less vulnerable to changes in regulatory oversight, thus exacerbating the risk, discussed below, that we may not be able to attract and retain the scientific personnel we need in face of the competition among pharmaceutical, biotechnology and health care companies, universities and research institutions for what may become a shrinking class of qualified individuals. In addition, we cannot assure you that constraints on the use of embryonic stem cells will not be extended to use of fetal stem cells. Moreover, it is possible that

concerns regarding research using embryonic stem cells will negatively impact our stock price and our ability to attract collaborators and investors.

We may apply for status under the Orphan Drug Act for some of our therapies to gain a seven-year period of marketing exclusivity for those therapies. The US Congress in the past has considered, and in the future again may consider, legislation that would restrict the extent and duration of the market exclusivity of an orphan drug. If enacted, such legislation could prevent us from obtaining some or all of the benefits of the existing statute even if we were to apply for and obtain orphan drug status with respect to a potential product.

We are dependent on the services of key personnel.

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

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

Our research and development activities involve the controlled use of hazardous chemicals and potentially hazardous biological materials such as human tissue and animals. Their use subjects us to environmental and safety laws and regulations such as those governing laboratory procedures, exposure to blood-borne pathogens, use of 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 California and federal regulations, 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.

The manufacture, development and commercialization of stem cell products expose us to product liability claims, which could lead to substantial liability.

By developing and, ultimately, commercializing medical products, we are exposed to the risk of product liability claims. Product liability claims against us could entail substantial litigation costs and damage awards against us. We are in the process of obtaining 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.

Since 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 reduced.

In both domestic and foreign markets, sales of potential 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, and 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 US Food and Drug Administration has not 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 stem cell technology. 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 at health care reform 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 payers for health care goods and services may take in response to health care reform proposals or legislation. We cannot predict the effect government control and other health care reforms may have on our business.

We have limited liquidity and capital resources and may not obtain the significant capital resources we will need to sustain our research and development efforts.

We have limited liquidity and capital resources and must obtain substantial additional capital to support our research and development programs, for acquisition of technology and intellectual property rights and, to the extent we decide to undertake these activities ourselves, for preclinical and clinical testing of our anticipated products, pursuit of regulatory approvals, establishment of production capabilities, maintaining and enforcing our intellectually property portfolio, establishment of marketing and sales capabilities and distribution channels, and general administrative expenses. If we do not obtain the necessary capital resources, we may have to delay, reduce or eliminate some or all of our research and development programs or license our technology or any potential products to third parties rather than commercialize them ourselves. We intend to pursue our needed capital resources through equity and debt financings, corporate alliances, grants and collaborative research arrangements. We may fail to obtain the necessary capital resources from any such sources when needed or on terms acceptable to us. Our ability to complete successfully any such arrangements will depend upon market conditions and, more specifically, on continued progress in our research and development efforts.

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

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 do not use, the distinction between embryonic and non-embryonic stem cells is frequently overlooked; moreover, our use of human stem cells from fetal sources might raise these or similar concerns. Negative public attitudes toward stem cell therapy could result in greater governmental regulation of stem cell therapies, which could harm our business. For example, concerns regarding such possible regulation could impact our ability to attract collaborators and investors. Also, existing regulatory constraints on the use of embryonic stem cells may in the future be extended to use of fetal stem cells, and these constraints might prohibit or restrict us from conducting research or commercializing products. Government regulation and threatened regulation of embryonic tissue could also harm our ability to attract and retain qualified scientific personnel by causing top researchers to leave the country or the field of stem cell research altogether; and by encouraging the best graduate students to choose other fields that are less vulnerable to changes in regulatory oversight.

Our corporate documents and Delaware law contain provisions that may make it difficult for us to be acquired in a transaction that would be beneficial to our shareholders.

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 shareholder approval. In addition, we have adopted a rights plan that generally permits our existing shareholders to acquire additional shares at a substantial discount to the market price in the event of certain attempts by third parties to acquire us. These rights, along with certain provisions in our corporate documents and 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 shareholders.

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 of our stock has been and is likely to continue to be highly volatile due to the risks and uncertainties described in this section of the prospectus, as well as other factors, including:

Ø our ability to develop and test our technology;

Ø our ability to patent or obtain licenses to necessary technology;

Ø conditions and publicity regarding the industry in which we operate, as well as the specific areas our product candidates seek to address;

Ø competition in our industry;

Ø price and volume fluctuations in the stock market at large that are unrelated to our operating performance; and

Ø comments by securities analysts, or our failure to meet market expectations.

In September 2005 the Nasdaq Stock Market approved our application to move the listing of our common stock from the Nasdaq Capital Market (previously known as the Nasdaq SmallCap Market) to the Nasdaq National Market. The stock began trading on the Nasdaq National Market on September 30, 2005 under the same symbol, STEM. Over the two-year period ended December 31,

2005, the closing price of our common stock as reported on the Nasdaq Markets ranged from a high of $6.77 to a low of $1.24. As a result of this volatility, your investment in our stock is subject to substantial risk. Furthermore, the volatility of our stock price could negatively impact our ability to raise capital in the future.

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

As of December 31, 2005, there were outstanding warrants to purchase 2,521,400 shares of our common stock, at a weighted average exercise price of $1.92 per share. As of December 31, 2005, there were also outstanding options to purchase 6,608,109 shares of our common stock, at a weighted average exercise price of $3.02 per share. Moreover, we expect to issue additional options 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 shareholders.

Note regarding forward-looking statements

This prospectus supplement, the accompanying prospectus, any free writing prospectus used in connection with this offering and the documents incorporated by reference herein and therein may contain “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). These statements may be identified by the use of forward-looking words or phrases such as “anticipate,” “believe,” “could,” “expect,” “intend,” “look forward,” “may,” “planned,” “potential,” “should,” “will” and “would.” These forward-looking statements reflect our current expectations and are based upon currently available data. The Private Securities Litigation Reform Act of 1995 provides a “safe harbor” for such forward-looking statements. In order to comply with the terms of the safe harbor, we note that a variety of factors could cause actual results and experience to differ materially from the anticipated results or other expectations expressed in the forward-looking statements. 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.

Use of proceeds

We estimate that the net proceeds from the sale of the 11,750,820 shares of common stock we are offering will be approximately $33.2 million, assuming that we sell the maximum number of shares we are offering pursuant to this prospectus supplement. Because there is no minimum offering amount required as a condition to the closing of this offering, the actual number of shares sold, placement agent fees and proceeds to us are not presently determinable and may be substantially less than the maximum amount set forth above.

We intend to use the net proceeds of our sales of common stock in this offering for general corporate purposes, including working capital, product development and capital expenditures. A portion of the net proceeds may also be used for the acquisition of businesses, products and technologies that are complementary to ours, or for other strategic purposes. There are currently no commitments or agreements with respect to any such material acquisition.

Price range of common stock

Our common stock trades on The Nasdaq National Market under the symbol “STEM.” From the time that public trading of our common stock commenced on April 1, 1992 until December 22, 2002 and since September 30, 2005, our common stock has traded on The Nasdaq National Market. Our common stock was traded on The Nasdaq Capital Market (previously known as The Nasdaq SmallCap Market) between December 23, 2002 and September 29, 2005. The following table sets forth, for the periods indicated, the high and low intraday sales prices per share of our common stock as reported by The Nasdaq National Market and The Nasdaq Capital Market, as applicable. These prices do not include retail markups, markdowns or commissions.

	High	Low
Fiscal year ended December 31, 2004		
First quarter	$ 2.69	$ 1.56
Second quarter	2.20	1.30
Third quarter	1.87	1.24
Fourth quarter	4.87	1.53
Fiscal year ended December 31, 2005		
First quarter	$ 6.77	$ 3.00
Second quarter	4.60	2.59
Third quarter	6.58	4.20
Fourth quarter	5.54	3.40
Fiscal year ending December 31, 2006		
First quarter	$ 4.07	$ 3.45

The last reported sales price of our common stock on The Nasdaq National Market on March 31, 2006 was $3.58 per share. As of December 31, 2005, there were outstanding 65,396,022 shares of our common stock.

Dividend policy

We have never declared or paid any cash dividends on our common stock. We anticipate that we will continue to retain our earnings, if any, for use in the operation of our business. Accordingly, we do not expect to pay any cash dividends on our common stock for the foreseeable future.

Capitalization

The following table sets forth our cash and cash equivalents and capitalization as of December 31, 2005:

Ø on an actual basis; and

Ø on an adjusted basis to give effect to the sale of 11,750,820 shares of our common stock, the maximum number of shares we are offering pursuant to this prospectus supplement, at an offering price of $3.05 per share, after deducting placement agent fees and estimated offering expenses payable by us.

	As of December 31, 2005	
	Actual	As adjusted
	(in thousands, except share and per share data)	
Cash and cash equivalents	$ 34,541	$ 67,731
Long-term obligations, less current portion	$ 8,915	$ 8,915
Stockholders' equity:		
Common stock, $0.01 par value per share; 125,000,000 shares authorized; 65,396,022 shares issued and outstanding, actual; 77,146,842 shares issued and outstanding, as adjusted	654	772
Additional paid in capital	217,919	250,991
Accumulated deficit	(185,944)	(185,944)
Accumulated other comprehensive loss	(254)	(254)
Total stockholders' equity	32,375	65,565
Total capitalization	$ 41,290	$ 74,480

Because there is no minimum offering amount required as a condition to the closing of this offering, the actual number of shares sold, the proceeds to us and our capitalization after this offering are not presently determinable and may be substantially different from the amounts set forth above.

The number of shares of common stock shown above to be outstanding after this offering is based on the 65,396,022 shares outstanding as of December 31, 2005 and excludes:

Ø 6,608,109 shares of our common stock subject to options outstanding as of December 31, 2005 having a weighted average exercise price of $3.02 per share;

Ø 1,583,543 shares of our common stock that have been reserved for issuance in connection with future grants under our stock option plans as of December 31, 2005; and

Ø 2,521,400 shares of our common stock that have been reserved for issuance upon exercise of outstanding warrants as of December 31, 2005 having a weighted average exercise price of $1.92 per share.

Dilution

If you invest in our common stock, you will experience dilution to the extent of the difference between the price per share you pay in this offering and the net tangible book value per share of our common stock immediately after this offering. Our net tangible book value as of December 31, 2005 was approximately $31.4 million, or $0.48 per share of common stock. Net tangible book value per share is equal to our total tangible assets minus total liabilities, all divided by the number of shares of common stock outstanding as of December 31, 2005. Assuming we sell 11,750,820 shares of common stock, the maximum number of shares we are offering pursuant to this prospectus supplement, at an offering price of $3.05 per share, and after deducting placement agency fees and our estimated offering expenses, our as adjusted net tangible book value would have been approximately $64.6 million, or approximately $0.84 per share of common stock, as of December 31, 2005. This represents an immediate increase in net tangible book value of approximately $0.36 per share to existing stockholders and an immediate dilution of approximately $2.21 per share to new investors. The following table illustrates this calculation on a per share basis:

Offering price per share		$ 3.05
Net tangible book value per share as of December 31, 2005	$ 0.48	
Increase per share attributable to the offering	0.36	
As adjusted net tangible book value per share after this offering		0.84
Dilution per share to new investors		$ 2.21

Because there is no minimum offering amount required as a condition to the closing of this offering, the dilution per share to new investors may be more than that indicated above in the event that the actual number of shares sold, if any, is less than the maximum number of shares we are offering.

The number of shares of common stock outstanding used for existing stockholders in the table and calculations above is based on 65,396,022 shares outstanding as of December 31, 2005 and excludes:

Ø 6,608,109 shares of our common stock subject to options outstanding as of December 31, 2005 having a weighted average exercise price of $3.02 per share;

Ø 1,583,543 shares of our common stock that have been reserved for issuance in connection with future grants under our stock option plans as of December 31, 2005; and

Ø 2,521,400 shares of our common stock that have been reserved for issuance upon exercise of outstanding warrants as of December 31, 2005 having a weighted average exercise price of $1.92 per share.

The exercise of outstanding options and warrants having an exercise price less than the offering price will increase dilution to new investors.

Plan of distribution

Pursuant to a placement agency agreement between us and UBS Securities LLC, we have engaged UBS Securities LLC as our exclusive placement agent to solicit offers to purchase our common stock in this offering. The placement agent is not purchasing or selling any of the shares we are offering, and it is not required to arrange the purchase or sale of any specific number or dollar amount of common stock, but it has agreed to use reasonable efforts to arrange for the sale of the shares.

The placement agent proposes to arrange for the sale of the shares of common stock we are offering pursuant to this prospectus supplement to one or more investors through purchase agreements directly between the purchasers and us. All of the shares will be sold at the same price and, we expect, at a single closing. We established the price following negotiations with prospective investors and with reference to the prevailing market price of our common stock, recent trends in such price and other factors. It is possible that not all of the shares we are offering pursuant to this prospectus supplement will be sold at the closing, in which case our net proceeds would be reduced. We expect that the sale of the shares will be completed on the date indicated on the cover page of this prospectus supplement.

In connection with this offering, the placement agent may distribute this prospectus supplement and the accompanying prospectus electronically.

We will pay the placement agent a placement agent fee equal to 6.0% of the gross proceeds of this offering. The following table shows the per share and total placement agent fees we will pay to the placement agent in connection with the sale of the shares, assuming the purchase of all of the shares we are offering.

Per share	$	0.183
Total	$	2,150,400

Because there is no minimum offering amount required as a condition to the closing of this offering, the actual total placement agent fees are not presently determinable and may be substantially less than the maximum amount set forth above, but we have agreed to pay a minimum total placement agent fee of $1.0 million. In addition, we have granted the placement agent a right of first refusal until September 2006 to act as sole book-running lead manager for any public offering of our equity, equity-linked or debt securities.

We estimate the total expenses of this offering which will be payable by us, excluding the placement agent fees, will be approximately $500,000.

Investors in this offering will pay the purchase price of the shares directly to us.

UBS Securities LLC, in its capacity as placement agent, may be deemed to be an underwriter for purposes of the Securities Act.

NO SALES OF SIMILAR SECURITIES

We and our executive officers and directors have entered into lock-up agreements with the placement agent. Under these agreements, we and each of these persons may not, without the prior written approval of the placement agent, subject to exceptions, offer, sell, contract to sell or otherwise dispose of or hedge our common stock or securities convertible into or exercisable or exchangeable for our common stock. These restrictions will be in effect for a period of 90 days after the date of this prospectus supplement. However, these restrictions do not prohibit us from issuing securities in

connection with a partnership, research, licensing, collaboration, joint venture or similar arrangement, or an acquisition of another business or entity or its stock, assets or technology, so long as the recipients agree to be locked up for the remainder of the lock-up period. In addition, the maximum number of shares of common stock we may issue during the lock-up period pursuant to these transactions is limited to 20% of the number of shares of common stock outstanding immediately before the first of such transactions. At any time and without public notice, the placement agent may in its sole discretion release all or some of the securities from these lock-up agreements.

INDEMNIFICATION AND CONTRIBUTION

We have agreed to indemnify the placement agent and its controlling persons against certain liabilities, including liabilities under the Securities Act. If we are unable to provide this indemnification, we will contribute to payments the placement agent and its controlling persons may be required to make in respect of those liabilities.

NASDAQ NATIONAL MARKET QUOTATION

Our common stock is quoted on The Nasdaq National Market under the symbol “STEM.”

PRICE STABILIZATION

In connection with this offering, the placement agent may engage in activities that stabilize, maintain or otherwise affect the price of our common stock. These activities may maintain the market price of our common stock at a level above that which might otherwise prevail in the open market. The placement agent is not required to engage in these activities and, if commenced, may end any of these activities at any time. The placement agent may carry out these transactions on The Nasdaq National Market, in the over-the-counter market or otherwise.

In addition, in connection with this offering, the placement agent may engage in passive market making transactions in our common stock on The Nasdaq National Market prior to the pricing and completion of this offering. Passive market making consists of displaying bids on The Nasdaq National Market no higher than the bid prices of independent market makers and making purchases at prices no higher than these independent bids and effected in response to order flow. Net purchases by a passive market maker on each day are generally limited to a specified percentage of the passive market maker’s average daily trading volume in the common stock during a specified period and must be discontinued when such limit is reached. Passive market making may cause the price of our common stock to be higher than the price that otherwise would exist in the open market in the absence of these transactions. If passive market making is commenced, it may be discontinued at any time.

AFFILIATIONS

The placement agent and its affiliates have provided and may provide certain commercial banking, financial advisory and investment banking services for us for which they receive fees. The placement agent and its affiliates may from time to time in the future engage in transactions with us and perform services for us in the ordinary course of their business.

Where you can find more information

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at *http://www.sec.gov*. The SEC's website contains reports, proxy and information statements and other information regarding issuers, such as us, that file electronically with the SEC. You may also read and copy any document we file with the SEC at the SEC's Public Reference Room at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. You may also obtain copies of these documents at prescribed rates by writing to the SEC. Please call the SEC at 1-800-SEC-0330 for further information on the operation of its Public Reference Room.

Incorporation of certain documents by reference

The SEC allows us to "incorporate by reference" into this prospectus supplement the information we have filed with the SEC. The information we incorporate by reference into this prospectus supplement is an important part of this prospectus supplement. Any statement in a document we incorporate by reference into this prospectus supplement or the accompanying prospectus will be considered to be modified or superseded to the extent a statement contained in this prospectus supplement or any other subsequently filed document that is incorporated by reference into this prospectus supplement modifies or supersedes that statement. The modified or superseded statement will not be considered to be a part of this prospectus supplement or accompanying prospectus, as applicable, except as modified or superseded.

We incorporate by reference into this prospectus supplement the information contained in the documents listed below, which is considered to be a part of this prospectus supplement:

Ø our Annual Report on Form 10-K for the year ended December 31, 2005, including any amendment filed for the purpose of updating such Annual Report; and

Ø the description of our common stock and related rights contained in our registration statements on Form 8-A (file no. 000-19871) filed under the Exchange Act, including any amendment or report filed for the purpose of updating such description.

We also incorporate by reference all documents filed pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus supplement and prior to the termination of this offering; provided, however, that we are not incorporating any information furnished under Item 2.02, Item 7.01 or Item 9.01 of any current report on Form 8-K we may subsequently file.

Statements made in this prospectus supplement or the accompanying prospectus or in any document incorporated by reference in this prospectus supplement or the accompanying prospectus as to the contents of any contract or other document referred to herein or therein are not necessarily complete, and in each instance reference is made to the copy of such contract or other document filed as an exhibit to the documents incorporated by reference, each such statement being qualified in all material respects by such reference.

You may request a copy of these filings, at no cost, by writing or telephoning us at the following address:

StemCells, Inc.
3155 Porter Drive
Palo Alto, CA 94304
Attention: Investor Relations
Phone: (650) 475-3100
email: irpr@stemcellsinc.com

Copies of these filings are also available, without charge, on our Internet website at *www.stemcellsinc.com* after they are filed electronically with the SEC.

Legal matters

Various legal matters with respect to the validity of the shares of common stock offered by this prospectus supplement will be passed upon for us by Ropes & Gray LLP. Dewey Ballantine LLP is counsel for the placement agent in connection with this offering.

Experts

The financial statements and management's assessment of the effectiveness of internal control over financial reporting incorporated by reference in this prospectus and elsewhere in the registration statement have been audited by Grant Thornton LLP, independent registered public accountants, as indicated in their reports with respect thereto, and are included herein in reliance upon the authority of said firm as experts in giving said reports.

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PROSPECTUS

$100,000,00

StemCells, Inc.

Common Stock

We may sell from time to time up to $100,000,000 of our common stock in one or more transactions. We will provide specific terms of these securities and offerings in supplements to this prospectus. You should read this prospectus and any supplement carefully before you invest.

The securities offered in this prospectus involve a high degree of risk. You should carefully consider the "Risk Factors" set forth herein beginning on page 2 and in our future filings made with the Securities and Exchange Commission, which are incorporated by reference in this prospectus, in determining whether to purchase our securities.

Our common stock is currently listed on the Nasdaq National Market with the ticker symbol: "STEM." On October 31, 2005, the closing price of one share of our common stock on the Nasdaq National Market was $4.57.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this Prospectus is November 16, 2005.

You should rely only on the information contained or incorporated by reference in this prospectus. We have not authorized anyone to provide you with different information. This prospectus may only be used where it is legal to sell these securities. You should not assume that the information contained in this prospectus is accurate as of any date other than the date on the front of this prospectus. Our business, financial condition, results of operations and prospects may have changed since that date.

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Summary

The following summary is qualified in its entirety by the more detailed information and financial statements appearing elsewhere or incorporated by reference in this prospectus. Without limiting the generality of the foregoing, prospective investors should carefully consider factors set forth under the caption "Risk Factors" below.

OUR COMPANY

We are engaged in research aimed at the development of therapies that would use stem and progenitor cells to treat, and possibly cure, human diseases and injuries such as neurodegenerative diseases (for instance, Batten, Parkinson's, and Alzheimer's diseases, and other metabolic genetic disorders), demyelinating disorders (for instance, Multiple Sclerosis), spinal cord injuries, stroke, hepatitis, chronic liver failure, and diabetes. We believe that our stem cell technologies, if successfully developed, may provide the basis for effective therapies for these and other conditions. Our aim is to return patients to productive lives and significantly reduce the substantial health care costs often associated with these diseases and disorders. The body uses certain key cells known as stem cells to produce all the functional mature cell types found in normal organs of healthy individuals. Progenitor cells are cells that have already developed from the stem cells, but can still produce one or more types of mature cells within an organ. We use cells derived from fetal or adult tissue sources, and are not developing embryonic stem cells for therapeutic use. Neither are we involved in any activity directed toward human cloning; our programs are all directed toward the use of tissue-derived cells for treating or curing diseases and injuries.

Many diseases, such as Alzheimer's, Parkinson's, lysosomal storage diseases and other degenerative diseases of the brain or nervous system, involve the failure of organs that cannot be transplanted. Other diseases, such as hepatitis and diabetes, involve organs such as the liver or pancreas that can be transplanted, but there is a very limited supply of those organs available for transplant. We estimate that these neural, liver and pancreatic conditions affect more than 50 million people in the United States and account for more than $300 billion annually in health care costs.

Our stem cell discovery engine relies upon our state-of-the-art cell sorting capabilities and our library of known and proprietary monoclonal antibodies to human proteins. Using this library of monoclonal antibodies, we have successfully identified, purified, and characterized the human central nervous system stem cell. We have also used our proprietary monoclonal antibodies to make significant advances in our search for stem or progenitor cells of the liver and the pancreas. We have established an intellectual property position in all three areas of our stem cell research— the nervous system, the liver and the pancreas— by patenting our discoveries and entering into exclusive in-licensing arrangements. We believe that, if successfully developed, our platform of stem cell technologies may create the basis for therapies that would address a number of conditions with significant unmet medical needs. We are concentrating our efforts on the preclinical and clinical development of our neural stem cell program and research endeavors in characterizing the candidate stem/progenitor cells for the liver and pancreas programs.

In late December 2004, we submitted our first Investigational New Drug application (IND) to the U.S. Food and Drug Administration (FDA) for a clinical trial using our proprietary human neural stem cells to treat Batten disease. On October 19, 2005, the Company received clearance from the FDA to begin a Phase I safety and preliminary efficacy trial. The Company plans to seek Institutional Review Board (IRB) approval from a number of leading medical institutions. Such approval is needed before the clinical trial may begin.

Our principal executive offices are located at StemCells, Inc., 3155 Porter Drive, Palo Alto, CA 94304 and our phone number is (650) 475-3100.

Risk factors

Investing in our common stock is risky. In addition to the other information in this prospectus, the following risk factors should be considered carefully in evaluating us and our business. If any of the following risks were to occur, our business, financial condition or results of operations would likely suffer. In that event, the trading price of our common stock could decline, and you could lose all or a part of your investment.

RISKS RELATED TO OUR BUSINESS

Our financial situation is precarious and, based on currently estimated operating expenses, our existing capital resources may not be sufficient to fund our operations beyond 2006.

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 revenues 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 and for 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 cash reserves 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. If we exhaust our cash reserves and are unable to realize adequate financing, we may be unable to meet operating obligations and be required to initiate bankruptcy proceedings. Our existing capital resources may not be sufficient to fund our operations beyond 2006. 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.

We intend to pursue opportunities to obtain additional financing in the future through equity and debt financings, grants and collaborative research arrangements. 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 to delay, scale back or eliminate some or all of our research and product development programs and/or our capital expenditures or to license our potential products or technologies to third parties.

Institutional Review Boards (IRBs) at the clinical sites to which we apply may fail to approve the clinical protocol for our Phase I clinical trial of our proprietary neural cell therapy product in Batten disease.

We filed our first Investigational New Drug application, or IND, with the U.S. Food and Drug Administration (FDA) in late December 2004 for our proposed Phase I clinical trial of our proprietary neural cell therapy product— HuCNS SC— to treat Batten disease. The FDA recently informed us that it has approved our IND. We plan to seek Institutional Review Board (IRB) approval from a number of leading medical institutions. Such approval is needed before the clinical trial may begin. There can be no guarantee that we will obtain IRB approval.

Risk factors

Our technology is at an early stage of discovery and development, and we may fail to develop any commercially acceptable products.

We have yet to develop any products. Our stem cell technology is still at the discovery phase for the liver and pancreas stem cells and, while the FDA has approved our IND with respect to our human neural (brain) stem cells, as described above we need to obtain IRB approval before we can proceed with our clinical trial.

We may fail to discover the stem cells we are seeking, to develop any products, to obtain regulatory approvals, to enter clinical trials, or to commercialize any products. Any product using stem cell technology may fail to:

Ø survive and persist in the desired location;

Ø provide the intended therapeutic benefits;

Ø properly integrate into existing tissue in the desired manner; or

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

In addition, our products may cause undesirable side effects. Results of early pre-clinical research may not be indicative of the results that will be obtained in later stages of pre-clinical or clinical research. If regulatory authorities do not approve our products or if we fail to maintain regulatory compliance, we would have limited ability to commercialize our products, and our business and results of operations would be harmed. Furthermore, because stem cells are a new form of therapy, the marketplace may not accept any products we may develop. If we do succeed in developing products, we will face many potential obstacles such as the need to obtain regulatory approvals and to develop or obtain manufacturing, marketing and distribution capabilities. In addition, we will face substantial additional risks such as product liability claims.

Moreover, because our cell therapy treatments will be derived from tissue of individuals other than the patient (that is, they will be “non-self” or “allogeneic” transplant products), patients will require the use of immunosuppressive drugs such as cyclosporine, FK506, or others to prevent rejection of the cells. While immunosuppression is now standard in connection with allogeneic transplants of various kinds, long-term maintenance on immunosuppressive drugs can produce complications that include infection, cancer, cardiovascular disease, renal dysfunction and other side effects depending upon which immunosuppressive regimen is employed. Immunosuppression has not been tested with our therapies since we have not yet conducted any clinical trials.

We have payment obligations resulting from real property owned or leased by us in Rhode Island, which diverts funding from our stem cell research and development.

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 of approximately $1,450,000 per year before sub-tenant rent income for our former science and administrative facility, which we have leased through June 30, 2013, and debt service payments and payments for operating costs of approximately $500,000 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 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 have currently subleased the entire pilot manufacturing facility to a privately-held biotechnology company, but may not be able to sublease or sell the facility in the future once the current sublease agreements expire. These continuing costs

significantly reduce our cash resources and adversely affect our ability to fund further development of our stem cell technology. 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 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. At September 30, 2005, the reserve was $5,520,000. The Company incurred $845,000 in operating expenses for the nine month period ending September 30, 2005, which was recorded against the reserve. 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.

We may need but fail to obtain partners to support our stem cell development efforts and to commercialize our technology.

Equity and debt financings alone may not be sufficient to fund the cost of developing our stem cell technologies, and we may need to rely on our ability to reach partnering arrangements to provide financial support for our stem cell discovery and development efforts. In addition, in order to successfully develop and commercialize our technology, we may need to enter into a wide variety of arrangements with corporate sponsors, pharmaceutical companies, universities, research groups and others. While we have engaged, and expect to continue to engage, in discussions regarding such arrangements, we have not reached any agreement, and we may fail to obtain any such agreement on terms acceptable to us. Even if we enter into these 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 certain rights to third parties, including exclusive marketing rights to one or more products, may require us to issue securities to our collaborators or may contain other terms that are burdensome to us. If any of our collaborators terminates its relationship with us or fails to perform its obligations in a timely manner, the development or commercialization of our technology and potential products may be adversely affected.

We have a history of operating losses, and we may fail to obtain revenues or become profitable.

We expect to continue to incur substantial operating losses in the future in order to conduct our research and development activities, and, if those activities are successful, to fund clinical trials and other expenses. These expenses include the cost of acquiring technology, product testing, acquiring regulatory approvals, establishing production, marketing, sales and distribution programs and administrative expenses. We have not earned any revenues from sales of any product. All of our past revenues have been derived from, and any revenues we may obtain for the foreseeable future are expected to be derived from, cooperative agreements, research grants, investments and interest on invested capital. We currently have no cooperative agreements, we have only one current research grant for our stem cell technology, and we may not obtain any such agreements or additional grants in the future or receive any revenues from them.

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

We own or license a number of patents and pending patent applications related to various stem and progenitor cells and methods of deriving and using them, including human neural stem cell cultures. 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 before or after issuing the patent. Consequently, we do not know whether any of our pending applications will result in the issuance of patents, if any existing or future patents will provide sufficient protection or significant commercial advantage or if others will circumvent these patents. We cannot be certain that we were the first to discover the inventions covered by each of our pending patent applications or that we were the first to file patent applications for such inventions because patent applications are secret until they are published and because publication of discoveries in the scientific or patent literature often lags behind actual discoveries. Patents may not issue from our pending or future patent applications or, if issued, may not be of commercial benefit to us. In addition, our patents may not afford us adequate protection from competing products. Third parties may challenge our patents or governmental authorities may declare them invalid. In the event that a third party has also filed a patent application relating to inventions claimed in our patent applications, we may have to participate in proceedings to determine priority of invention. This 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. Even if a patent issues, a court could decide that the patent was issued invalidly. Further, patents issue for a limited term, and our patents may expire before we utilize them profitably. Under the procedures of the European Patent Office, third parties may oppose our issued European patents during the relevant opposition period. Such 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. One party has opposed two of our granted European patents. If we are unsuccessful in our defense of the opposed patents, all claimed rights in the opposed patents will be lost in Europe.

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 others are first to discover and patent the stem cells we are seeking to discover, we could be blocked from further work on those stem cells.

Because the first person or entity to discover and obtain a valid patent to a particular stem or progenitor cell may effectively block all others, it will be important for us or our collaborators to be the first to discover any stem cell that we are seeking to discover. Failure to be the first could prevent us from commercializing all of our research and development affected by that patent.

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 cells and other technologies potentially relevant to or necessary for our expected products. We cannot predict which, if any, of the applications will issue as patents. If third party patents or patent applications contain valid claims that our technology infringes upon their technology, we may be unable to obtain licenses to these patents at a reasonable cost, if at all, and may also be unable to develop or obtain alternative technology. If we are unable to obtain such licenses at a reasonable cost, our business could be significantly harmed. We have obtained rights from 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 risks of third-party patents and/or technology. 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. Many of the world's large pharmaceutical companies, including Merck, Pfizer, Abbott, Bristol-Myers Squibb, Novartis and GlaxoSmithKline, have made significant commitments to the CNS field. Any cell-based therapy to treat diseases of, or injuries to, the CNS is likely to face intense competition from the small molecule sector. In addition, a number of biotechnology companies with resources far greater than ours may also emerge as competitors. These include Genzyme, Amgen, Cephalon, Shire Pharmaceuticals, BioMarin, Celgene, Biogen Idec, and Titan Pharmaceuticals/ Schering AG. Finally, we also expect to compete with smaller biotechnology companies, such as NeuralStem, Geron, NeuroNova, ReNeuron, and ES Cell International, some of which are privately owned.

We believe that our human neural stem cells may have application to many or most of the Lysosomal Storage Diseases ("LSDs") with CNS involvement. We have received approval for our first IND to treat the Infantile and Late Infantile forms of Batten disease, which are among the LSDs that affect the CNS. However, we will need to obtain IRB approval prior to initiating our clinical trial, and we have no assurance as to when IRB approval will be obtained. There are, so far as we know, no approved therapies for Batten Disease or any of the other CNS-specific LSDs, but other companies, including Genzyme, BioMarin, and Shire, have products approved to treat peripheral aspects of some of the other LSDs, and other products are in clinical trials.

In the field of diabetes, a number of major companies currently market products for the treatment of diabetes and are also engaged in the research and development of new therapies. Such companies include Eli Lilly, Novo Nordisk, J&J, Amylin, ViaCell, and Serono. Consequently, should we successfully develop a cell-based therapy for diabetes, we would expect to face severe competition from these and similar companies.

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.

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

Our research and development efforts, as well as any 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 is lengthy, expensive and uncertain. 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 fetal tissue. The federal and state governments and other jurisdictions impose restrictions on the use of fetal tissue. 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 guidelines for cell procurement. Further, we may not be able to obtain such cells in the quantity or quality sufficient to satisfy the commercial requirements of our potential products. As a result, we may be unable to develop or produce our products in a profitable manner.

Although we do not use embryonic stem cells, government regulation and threatened regulation of embryonic tissue may lead top researchers to leave the field of stem cell research, or the country, in order to assure that their careers will not be impeded by restrictions on their work. Similarly, these factors may induce the best graduate students to choose other fields less vulnerable to changes in regulatory oversight, thus exacerbating the risk, discussed below, that we may not be able to attract and retain the scientific personnel we need in face of the competition among pharmaceutical, biotechnology and health care companies, universities and research institutions for what may become a shrinking class of qualified individuals. In addition, we cannot assure you that constraints on the use of embryonic stem cells will not be extended to use of fetal stem cells. Moreover, it is possible that concerns regarding research using embryonic stem cells will impact our ability to attract collaborators and investors and our stock price.

We may apply for status under the Orphan Drug Act for some of our therapies to gain a seven-year period of marketing exclusivity for those therapies. The U.S. Congress in the past has considered, and in the future again may consider, legislation that would restrict the extent and duration of the market exclusivity of an orphan drug. If enacted, such legislation could prevent us from obtaining some or all of the benefits of the existing statute even if we were to apply for and be granted orphan drug status with respect to a potential product.

We are dependent on the services of key personnel.

We are highly dependent on the principal members of our management and scientific staff and some of our outside consultants, including the members of our scientific advisory board, our chief executive officer, our vice presidents and the directors of our neural stem cell and liver stem cell programs. 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.

We need to improve our financial control procedures.

Management's Annual Report on Internal Controls Over Financial Reporting found deficiencies in the operating effectiveness of our internal controls over financial reporting. Such deficiencies collectively constituted significant deficiencies and a material weakness under standards established by the American Institute of Certified Public Accountants, resulting in more than a remote likelihood that a material misstatement of the annual or interim financial statements of the Company would not be prevented or detected. In the opinion of Grant Thornton LLP, our independent auditors, management's assessment that we did not maintain effective internal control over financial reporting as of December 31, 2004, is fairly stated, in all material respects. It is also the opinion of Grant Thornton that because of the effect of the material weakness identified by management (i.e., instances where both the preparation and review of general journal entries were performed by the same individual) on the achievement of the objectives of the control criteria, we have not maintained effective internal control over financial reporting as of December 31, 2004, based on criteria established in Internal Control— Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission. We have already taken remedial steps, and will continue our on-going evaluation of internal controls and attempts to improve our internal controls over financial reporting as necessary to assure their effectiveness, but there can be no assurance that we will succeed or that other deficiencies will not be identified.

Since 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 reduced.

In both domestic and foreign markets, sales of potential 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, and 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 has not granted marketing approval. Significant uncertainty exists as to the reimbursement status of newly approved health care products or novel therapies such as ours. 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 stem cell technology. 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 at health care reform 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 payers for health care goods and services may take in response to health care reform proposals or legislation. We cannot predict the effect government control and other health care reforms may have on our business.

We have limited liquidity and capital resources and may not obtain the significant capital resources we will need to sustain our research and development efforts.

We have limited liquidity and capital resources and must obtain substantial additional capital to support our research and development programs, for acquisition of technology and intellectual property rights and, to the extent we decide to undertake these activities ourselves, for pre-clinical and

clinical testing of our anticipated products, pursuit of regulatory approvals, establishment of production capabilities, establishment of marketing and sales capabilities and distribution channels, and general administrative expenses. If we do not obtain the necessary capital resources, we may have to delay, reduce or eliminate some or all of our research and development programs or license our technology or any potential products to third parties rather than commercialize them ourselves. We intend to pursue our needed capital resources through equity and debt financings, corporate alliances, grants and collaborative research arrangements. We may fail to obtain the necessary capital resources from any such sources when needed or on terms acceptable to us. Our ability to complete successfully any such arrangements will depend upon market conditions and, more specifically, on continued progress in our research and development efforts.

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 of our stock has been and is likely to continue to be highly volatile due to the risks and uncertainties described in this section of the prospectus, as well as other factors, including:

Ø conditions and publicity regarding the industry in which we operate, as well as the specific areas our product candidates seek to address;

Ø price and volume fluctuations in the stock market at large that are unrelated to our operating performance; and

Ø comments by securities analysts, or our failure to meet market expectations.

Over the two-year period ended October 31, 2005, our common stock was listed on the Nasdaq Capital Market (previously known as the Nasdaq SmallCap Market) until September 30, 2005, when it began listing on the Nasdaq National Market. During such two-year period, the closing price of our common stock as reported on the Nasdaq Capital Market and the Nasdaq National Market ranged from a high of $6.26 to a low of $1.24. As a result of this volatility, your investment in our stock is subject to substantial risk. Furthermore, the volatility of our stock price could negatively impact our ability to raise capital in the future.

As of October 31, 2005, our common stock is listed on the Nasdaq National Market. To keep our listing on this market, we must meet Nasdaq's listing maintenance standards. If we are unable to continue to meet Nasdaq's listing maintenance standards, our common stock could be delisted from the Nasdaq National Market. If our common stock were delisted, we likely would seek to list the common stock on the Nasdaq Capital Market, the American Stock Exchange or a regional stock exchange. Listing on such other market or exchange could reduce the liquidity for our common stock. If were we unable to list our common stock on such other market or exchange, trading of our common stock likely would be conducted in the over-the-counter market on an electronic bulletin board established for unlisted securities or directly through market makers in our common stock. If our common stock were to trade in the over-the-counter market, an investor would find it more difficult to dispose of, or to obtain accurate quotations for the price of, the common stock.

We are contractually obligated to issue shares in the future, diluting your interest in us.

As of September 30, 2005, there were outstanding and exercisable warrants to purchase 3,341,212 shares of our common stock, at a weighted average exercise price of $2.10 per share. As of September 30, 2005, there were also outstanding options to purchase 6,641,401 shares of our common stock, at a weighted average exercise price of $3.00 per share. Moreover, we expect to issue additional options 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 further diluting the interest of the purchasers of the securities being sold in this offering.

Note regarding forward-looking statements

This prospectus and the documents incorporated in this prospectus by reference may contain “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). These statements may be identified by the use of forward-looking words or phrases such as “anticipate,” “believe,” “could,” “expect,” “intend,” “look forward,” “may,” “planned,” “potential,” “should,” “will,” and “would.” These forward-looking statements reflect our current expectations and are based upon currently available data. The Private Securities Litigation Reform Act of 1995 provides a “safe harbor” for such forward-looking statements. In order to comply with the terms of the safe harbor, we note that a variety of factors could cause actual results and experience to differ materially from the anticipated results or other expectations expressed in the forward-looking statements. 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 the risks to which we are subject, including those listed above.

Use of proceeds

Unless otherwise indicated in the applicable prospectus supplement, we anticipate that the net proceeds from the sale of the securities offered under this prospectus will be used for working capital and general corporate purposes, as well as in connection with selected acquisitions that may be considered in the future or for other strategic purposes. Pending the application of the net proceeds, we expect to invest the proceeds in investment-grade, interest-bearing instruments or other securities.

Plan of distribution

General. We may sell the securities offered hereby to or through underwriters, through agents or dealers, directly to one or more purchasers, or through a combination of such methods. A prospectus supplement or supplements will describe the terms of the offering of these securities, including:

Ø the name or names of any underwriters, agents or dealers, if any;

Ø the number of securities involved;

Ø the purchase price of the securities and the proceeds we will receive from the sale;

Ø any over-allotment options under which underwriters may purchase additional securities from us;

Ø any agency fees or underwriting discounts and other items constituting underwriters', agents' or dealers' compensation;

Ø any public offering price;

Ø any discounts or concessions allowed or reallowed or paid to dealers; and

Ø other information material to the transaction.

Underwriters. If underwriters are used in the sale of the securities, we will execute an underwriting agreement relating to the securities that we will offer. The obligations of the underwriters to purchase the securities will be subject to the conditions set forth in the applicable underwriting agreement. Unless otherwise set forth in the applicable prospectus supplement, the underwriting agreement will provide that the obligations of the underwriters will be subject to certain conditions precedent and that the underwriters with respect to a sale of the securities will be obligated to purchase all the securities if any are purchased.

The securities subject to the underwriting agreement will be acquired by the underwriters for their own account and may be resold by them from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. Underwriters may be deemed to have received compensation from us in the form of underwriting discounts or commissions and may also receive commissions from the purchasers of these securities for whom they may act as agent. Underwriters may sell these securities to or through dealers. These dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters or commissions from the purchasers for whom they may act as agent. Any initial public offering price and any discounts or concessions allowed or reallowed or paid to dealers may be changed from time to time.

We also may sell the securities in connection with a remarketing upon their purchase, in connection with a redemption or repayment, by a remarketing firm acting as principal for its own account or as our agent. Remarketing firms may be deemed to be underwriters in connection with the securities that they remarket.

During and after an offering through underwriters, the underwriters may purchase and sell the securities in the open market. These transactions may include over-allotment and stabilizing transactions and purchases to convey syndicate short positions created in connection with the offering. The underwriters may also impose a penalty bid, which means that selling concessions allowed to syndicate members or other broker-dealers for the offered securities sold for their account may be reclaimed by the syndicate if the offered securities are repurchased by the syndicate in stabilizing or covering transactions. These activities may stabilize, maintain or otherwise affect the market price of the offered securities, which may be higher than the price that might otherwise prevail in the open market. If commenced, the underwriters may discontinue these activities at any time.

Plan of distribution

Agents. We may also sell any of the securities through agents designated by us from time to time. We will name any agent involved in the offer or sale of these securities and will list commissions payable by us to these agents in the prospectus supplement. These agents will be acting on a best efforts basis to solicit purchases for the period of their appointment, unless we state otherwise in the applicable prospectus supplement.

Direct Sales. We may sell any of the securities directly to purchasers. In this case, we will not engage underwriters or agents in the offer and sale of these securities.

Indemnification. We may indemnify underwriters, dealers or agents who participate in the distribution of the securities against certain liabilities, including liabilities under the Securities Act of 1933, as amended, and agree to contribute to payments which these underwriters, dealers or agents may be required to make.

Listing. Our common stock is currently listed on the Nasdaq National Market under the symbol “STEM”. No underwriters will be obligated to make a market in our securities. We cannot predict the activity or liquidity of any trading in our securities.

Where you can find more information

We file annual, quarterly and special reports, proxy statements and other information with the SEC. Our SEC filings are available over the Internet at the SEC's web site at http://www.sec.gov. You may also read and copy any document we file with the SEC at its public reference facility:

Public Reference Room
100 F Street, N.E.
Washington, D.C. 20549

You may also obtain copies of the documents at prescribed rates by writing to the Public Reference Section of the SEC, 100 F Street, N.E., Washington, DC 20549. Please call 1-800-SEC-0330 for further information on the operations of the public reference facility and copying charges.

Incorporation of certain documents by reference

The SEC allows us to "incorporate by reference" the information we file with them, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus, and the information that we file later with the SEC will automatically update and supersede this information. We incorporate by reference in this prospectus the following documents filed by us with the SEC:

Ø Our Annual Report on Form 10-K for the year ended December 31, 2004, including any amendment filed for the purpose of updating such Annual Report;

Ø Our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2005, June 30, 2005 and September 30, 2005 including any amendment filed for the purpose of updating such Quarterly Reports;

Ø A Proxy Statement for Annual Meeting of Stockholders on Schedule 14A filed with the SEC on March 23, 2005;

Ø The description of our common stock contained in our registration statements on Form 8-A (File No. 1- 19871) filed under the Exchange Act, including any amendment or report filed for the purpose of updating such description; and

Ø Our Current Reports on Form 8-K filed with the SEC on November 1, 2005, October 20, 2005, September 27, 2005, September 8, 2005, September 1, 2005, August 3, 2005, July 6, 2005, April 27, 2005, March 15, 2005, March 4, 2005, February 1, 2005 and January 11, 2005.

Any statement made in a document incorporated by reference or deemed incorporated herein by reference is deemed to be modified or superseded for purposes of this prospectus if a statement contained in this prospectus or in any other subsequently filed document which is also incorporated or deemed incorporated by reference herein modifies or supersedes that statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus. We also incorporate by reference all documents filed pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus and prior to the termination of this offering; provided, however, that we are not incorporating any information furnished under any of Item 2.02 or Item 7.01 of any current report on Form 8-K.

Statements made in this prospectus or in any document incorporated by reference in this prospectus as to the contents of any contract or other document referred to herein or therein are not necessarily complete, and in each instance reference is made to the copy of such contract or other document filed as an exhibit to the documents incorporated by reference, each such statement being qualified in all material respects by such reference.

You may request a copy of these filings, at no cost, by writing or telephoning us at the following address:

StemCells, Inc.
3155 Porter Drive
Palo Alto, Ca 94304
Attention: Investor Relations
Phone: (650) 475-3100
email: irpr@stemcellsinc.com

Copies of these filings are also available, without charge, on our Internet website at www.stemcellsinc.com as soon as reasonably practicable after they are filed electronically with the SEC.

Legal opinion

For the purpose of this offering, Ropes & Gray LLP, Boston, Massachusetts, is giving its opinion on the validity of the securities offered hereby.

Experts

The financial statements incorporated in this prospectus by reference from the Company's Annual Report on Form 10-K for each of the two years ended December 31, 2003 and 2004 have been audited by Grant Thornton LLP, independent registered public accounting firm, as stated in their reports, each of which is incorporated herein by reference and has been so incorporated in reliance upon such reports given upon their authority as experts in accounting and auditing.

The financial statements of StemCells, Inc. for the year ended December 31, 2002 appearing in the Company's Annual Report on Form 10-K for the year ended December 31, 2004, have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report thereon, included therein, and incorporated herein by reference. Such financial statements are incorporated herein by reference in reliance upon such report given upon the authority of such firm as experts in accounting and auditing.


STEMCELLS
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