AS FILED WITH THE SECURITIES AND EXCHANGE COMMISSION ON JANUARY 9, 2002

REGISTRATION NO. 333-75806

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SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

PRE-EFFECTIVE
AMENDMENT NO. 1
TO
FORM S-3
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

STEMCELLS, INC.
(Exact name of registrant as specified in its charter)

DELAWARE	2836	94-3078125
(State or other Jurisdiction of Incorporation or Organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification No.)

3155 PORTER DRIVE
PALO ALTO, CA 94304
(650) 475-3100
(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

IRIS BREST, ESQ.
STEMCELLS, INC.
3155 PORTER DRIVE
PALO ALTO, CA 94304
(650) 475-3100
(Name, address, including zip code, and telephone number, including area code, of agent for service)

COPIES TO:
GEOFFREY B. DAVIS, ESQ.
Ropes & Gray
One International Place
Boston, Massachusetts 02110
(617) 951-7000
(617) 951-7050 (fax)

APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC: As soon as practicable after this Registration Statement becomes effective.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. /X/

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. / /

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. / /

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. / /

If delivery of the prospectus is expected to be made pursuant to Rule 434, please check the following box. / /

CALCULATION OF REGISTRATION FEE

TITLE OF EACH CLASS OF SECURITIES TO BE REGISTERED	AMOUNT TO BE REGISTERED	PROPOSED MAXIMUM OFFERING PRICE PER SHARE(1)	PROPOSED MAXIMUM AGGREGATE OFFERING PRICE(1)	AMOUNT OF REGISTRATION FEE
Common Stock, par value $.01 per share.....	3,997,201 shares	$3.65	$14,589,783	$ 3,487(2)

(1) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(c) of the Securities Act of 1933, based on the average of the high and low prices as reported on the Nasdaq National Market on December 14, 2001.

(2) Paid as of December 21, 2001

THE REGISTRANT HEREBY AMENDS THIS REGISTRATION STATEMENT ON SUCH DATE OR DATES AS MAY BE NECESSARY TO DELAY ITS EFFECTIVE DATE UNTIL THE REGISTRANT SHALL FILE A FURTHER AMENDMENT WHICH SPECIFICALLY STATES THAT THIS REGISTRATION STATEMENT SHALL THEREAFTER BECOME EFFECTIVE IN ACCORDANCE WITH SECTION 8(a) OF THE SECURITIES ACT OF 1933 OR UNTIL THE REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE COMMISSION, ACTING PURSUANT TO SAID SECTION 8(a), MAY DETERMINE.

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PROSPECTUS

STEMCELLS, INC.

3,997,201 SHARES OF COMMON STOCK

The selling stockholders listed on page 7 of this prospectus or in an accompanying supplement to this prospectus are offering to sell up to 3,997,201 shares of our common stock.

Our common stock is listed on the Nasdaq National Market under the symbol

"STEM." The last reported sale price for our common stock on the Nasdaq National Market on January 8, 2002 was $3.80 per share.

THE SECURITIES OFFERED HEREBY INVOLVE A HIGH DEGREE OF RISK.
SEE "RISK FACTORS" BEGINNING ON PAGE 1.

THESE SECURITIES HAVE NOT BEEN APPROVED OR DISAPPROVED BY THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION NOR HAS THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION PASSED UPON THE ACCURACY OR ADEQUACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

THE DATE OF THIS PROSPECTUS IS JANUARY 10, 2002.

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EXECUTIVE OFFICE

Our principal executive office is located at 3155 Porter Drive, Palo Alto, California 94304 and our telephone number is (650) 475-3100. We maintain a website on the Internet at WWW.STEMCELLSINC.COM. Our website, and the information contained therein, is not a part of this prospectus.

RISK FACTORS

THE OFFERING INVOLVES A HIGH DEGREE OF RISK. YOU SHOULD CAREFULLY CONSIDER THE RISKS DESCRIBED BELOW AND THE OTHER INFORMATION IN THIS PROSPECTUS BEFORE MAKING AN INVESTMENT DECISION REGARDING STEMCELLS, INC. OUR BUSINESS, FINANCIAL CONDITION OR RESULTS OF OPERATIONS COULD BE MATERIALLY ADVERSELY AFFECTED IF ANY OF THESE RISKS ACTUALLY OCCUR. CONSEQUENTIALLY, THE TRADING PRICE OF OUR COMMON STOCK COULD DECLINE, RESULTING IN THE LOSS OF ALL OR PART OF YOUR INVESTMENT.

OUR TECHNOLOGY IS AT AN EARLY STAGE OF DISCOVERY AND DEVELOPMENT, AND WE MAY FAIL TO DEVELOP ANY COMMERCIALLY ACCEPTABLE PRODUCTS.

Our stem cell technology is at the early pre-clinical stage for the brain stem cell and at the discovery phase for the liver and pancreas stem cells and has not yet led to the development of any product. 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:

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

In addition, our 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.

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 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 $1,200,000 per year 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 $1,000,000 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, but cannot be sure that we will be able to do so for the entire duration of our obligation. We are seeking to sublease the remaining portion of the science

and administrative facility. We have currently subleased the entire pilot manufacturing facility, 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.

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 and we have received only two research grants 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 OPERATION WILL BE HARMED.

We own or license a number of patents and pending patent applications covering human nerve stem cell cultures, central nervous system stem cell cultures, neuroblast cultures, peripheral nervous system stem cell cultures, and an animal model for liver failure. 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, or 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 make 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 patents are issued in the United States or until the applications are published in foreign countries, 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, or may not afford us adequate protection from competing products. In addition, 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.

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 and keep them secret. 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 inventions.

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.

WE MAY BE UNABLE TO OBTAIN NECESSARY LICENSES TO THIRD PARTY PATENTS AND OTHER RIGHTS.

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 claims infringed by our technology and these claims are valid, 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. Licensors 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 that address degenerative diseases is large and competition is intense. We expect competition to increase. We believe that our most significant competitors will be fully integrated pharmaceutical companies and more established biotechnology companies, such as Biogen, Inc. and Genzyme, an Elan Corporation. These companies already produce or are developing treatments for degenerative diseases that are not stem cell-based, and they have significantly greater capital resources and expertise in research and development, manufacturing, testing, obtaining

regulatory approvals and marketing than we do. Many of these potential competitors have significant products approved or in development that could be competitive with our potential products, and also operate large, well-funded research and development programs. In addition, we expect to compete with smaller companies such as NeuralStem and Layton Bioscience and with universities and other research institutions who are developing treatments for degenerative diseases that are stem cell-based.

Our competitors may succeed in developing technologies and products that are more effective than the ones we are developing, or that would render our technology obsolete or non-competitive.

The relative speed with which we and our competitors can develop products, complete the clinical testing and approval processes, and supply commercial quantities of a product to market will affect our ability to gather market acceptance and market share. With respect to clinical testing, competition may delay progress by limiting the number of clinical investigators and patients available to test our potential products.

DEVELOPMENT OF OUR TECHNOLOGY IS SUBJECT TO AND RESTRICTED BY EXTENSIVE GOVERNMENT REGULATION.

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 U.S. 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 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.

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 DEPEND ON A LIMITED NUMBER 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 president 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. We currently have outside consultants and interim personnel, rather than permanent employees, in key management and scientific positions. Loss of services of any of these individuals could have a material adverse effect on our operations because these individuals possess management experience or specialized scientific skills that we do not otherwise have and that we may not be able to replace. 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. If we lose the services of these key personnel or are unable to attract and retain additional qualified personnel, we may have to delay, reduce or eliminate some or all of our research and development programs.

HEALTH CARE INSURERS AND OTHER ORGANIZATIONS MAY NOT PAY FOR OUR PRODUCTS OR MAY IMPOSE LIMITS ON REIMBURSEMENTS.

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 U.S. Food and Drug Administration has not granted marketing approval. Significant uncertainty exists as to the reimbursement status of newly approved health care 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 policy 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 commercializing them ourselves.

If we are unable to draw down on our existing equity line or choose not to do so, 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 any such arrangements successfully will depend upon market conditions and, more specifically, on continued progress in our research and development efforts. We are prohibited from entering into other stand-by equity based credit facilities during the term of the common stock purchase agreement that governs our existing equity line.

IF OUR COMMON STOCK PRICE DROPS SIGNIFICANTLY, WE MAY BE DELISTED FROM THE NASDAQ NATIONAL MARKET, WHICH COULD ELIMINATE THE TRADING MARKET FOR OUR COMMON STOCK.

Our common stock is quoted on the Nasdaq National Market. In order to continue to be included in the Nasdaq National Market, a company must meet Nasdaq's maintenance criteria. The maintenance criteria most applicable to us requires a minimum bid price of $1.00 per share and $5,000,000 market value of publicly held shares. Additionally, we must maintain either $10 million in

stockholders' equity or $4 million in net tangible assets. After November 1, 2002, the net tangible asset maintenance criterion will no longer apply and we must satisfy the stockholders' equity maintenance criterion. Failure to meet these maintenance criteria may result in the delisting of our common stock from the Nasdaq National Market. If our common stock were delisted, in order to have our common stock relisted on the Nasdaq National Market we would be required to meet the criteria for initial listing, which are more stringent than the maintenance criteria. Accordingly, we cannot assure you that if we were delisted we would be able to have our common stock relisted on the Nasdaq National Market.

If our common stock were delisted from the Nasdaq National Market, we would not be able to draw down any additional funds on our existing equity line, and we also may be required to pay damages to holders of our common stock under agreements we previously entered into with them in connection with equity financings. Finally, if our common stock were removed from listing on the Nasdaq National Market, it might become more difficult for us to raise funds through the sale of our common stock or securities convertible into our common stock.

USE OF PROCEEDS

We will not receive any of the proceeds from the resale of shares offered by the selling stockholders under this prospectus.

SELLING STOCKHOLDERS

Riverview Group, L.L.C., a wholly owned subsidiary of Millennium Partners, L.P., will be selling shares in this offering. On December 4, 2001, we issued 5,000 shares of 3% Cumulative Convertible Preferred Stock to Riverview Group. This preferred stock is convertible into shares of our common stock at a conversion price of $2.00 per share of common stock. The conversion price is subject to adjustment for stock splits, dividends, distributions, reclassifications and similar events. The conversion price may be below the trading market price of the stock at the time of conversion. We also issued to Riverview Group a warrant to purchase 350,877 shares of our common stock at a price of $3.42 per share. The warrant expires on December 4, 2005. The final closing price on the NASDAQ National Market of our common stock on December 4, 2001 was $2.90 per share. For accounting purposes, the value of the conversion feature of the preferred stock and the warrant will be treated as a deemed dividend to holders as of December 4, 2001, and we will reflect the deemed dividend as an adjustment to net income (loss) applicable to common stockholders. We entered into a registration rights agreement with Riverview Group in which we agreed to register the resale of the shares of our common stock issuable upon conversion of the preferred stock and exercise of the warrant.

On December 4, 2001, we also entered into an agreement with Millennium under which we issued 176,101 shares of our common stock as a final cashless exercise of the two outstanding adjustable warrants that were previously issued to Millennium. Immediately following delivery of these shares, any further right to acquire common stock under these adjustable warrants was cancelled by the agreement. The resale of those shares of common stock was registered pursuant to an earlier registration statement and prospectus and those shares are not being sold as part of this offering.

Cantor Fitzgerald & Co. will also be selling shares in this offering. On December 4, 2001 we issued to Cantor Fitzgerald a warrant to purchase 146,199 shares of our common stock at a price of $3.42 per share. The warrant expires on December 4, 2006. The warrant was issued as part of an agreement between Cantor Fitzgerald and us pursuant to which they served as financial advisor to us in connection with the transactions described above.

The following table shows information regarding the beneficial ownership of our capital stock for the selling stockholders prior to and after this offering. We have determined beneficial ownership in the table in accordance with the rules of the Securities Exchange Commission as more specifically described in the notes below. In computing the number of shares beneficially owned by the selling stockholders, we have deemed to be outstanding shares of common stock issuable under warrants held by the selling stockholders which are currently exercisable or will become exercisable within 60 days of the date of this prospectus. In addition, when calculating the number of shares beneficially owned by Riverview Group, we have included shares of common stock issuable

following conversion of the 3% Cumulative Convertible Preferred Stock where such conversion is currently permissible or will become permissible within 60 days of the date of this prospectus. To our knowledge, the selling stockholders possess sole voting and investment power with respect to all shares of common stock shown as beneficially owned by them.

SELLING STOCKHOLDERS	SHARES OF COMMON STOCK BENEFICIALLY OWNED AFTER OFFERING (5)			SHARES OF COMMON STOCK BENEFICIALLY OWNED BEFORE THIS OFFERING		NUMBER OF SHARES OFFERED	
	NUMBER OF SHARES	PERCENTAGE		NUMBER OF SHARES	PERCENTAGE		
Riverview Group, L.L.C. (1)	2,863,835(3)	3,851,002(4)	--	--	Cantor Fitzgerald & Co. (2)	*	146,199	--	--

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* Indicates beneficial ownership of less than 1% of the class.

(1) The address of Riverview Group, L.L.C. is 666 Fifth Avenue, New York, New York 10103. Riverview Group is a wholly owned subsidiary of Millennium Partners, L.P. We previously entered into agreements with Millennium pursuant to which we issued common stock, callable warrants and adjustable warrants. Those transactions are described in our annual report on Form 10-K for the year ended December 31, 2000 and our quarterly report on Form 10-Q for the quarter ended June 30, 2001.

(2) The address of Cantor Fitzgerald & Co. is 299 Park Avenue, 29th Floor, New York, New York, 10171.

(3) Includes 350,877 shares of common stock issuable upon exercise of the warrant issued to Riverview Group on December 4, 2001; plus 500,125 shares of outstanding common stock issued upon conversion of 1,000 shares of 3% Cumulative Convertible Preferred Stock on December 7, 2001; plus 2,012,833 shares of common stock issuable upon conversion of the 3% Cumulative Convertible Preferred Stock. Millennium owns 882,728 shares of outstanding common stock according to information provided to us by Millennium as of December 19, 2001, and is the holder of three callable warrants exercisable for at least 171,839 shares of common stock. In determining how many shares of common stock are issuable upon conversion of the outstanding 3% Cumulative Convertible Preferred Stock and upon exercise of all of the outstanding warrants, we have not taken into consideration the application of the 9.99% limitations contained in such securities, which prevents Riverview Group and Millennium from exercising warrants or converting such preferred stock if such exercise or conversion would result in Millennium and/or Riverview Group having aggregate beneficial ownership in excess of 9.99%. Millennium and Riverview Group expressly disclaim beneficial ownership of any number of shares exceeding 9.99% of the outstanding shares of common stock for purposes of Rule 13d-3 of the Securities Exchange Act of 1934.

(4) Includes 2,012,833 shares of common stock issuable upon conversion of the 3% Cumulative Convertible Preferred Stock; plus 500,125 shares of common stock issued upon conversion of 1,000 shares of 3% Cumulative Convertible Preferred Stock on December 7, 2001; plus 350,877 shares of common stock issuable upon exercise of the warrant issued to Riverview Group on December 4, 2001. The remaining 987,167 shares are included based on an agreement between us and Riverview Group which requires us to register 150% of the number of common shares issuable upon conversion of the Preferred Stock at the current conversion price of $2.00.

(5) The table assumes that the selling stockholders sell all of the shares offered by this prospectus.

PLAN OF DISTRIBUTION

We will not receive any of the proceeds from the sale by the selling stockholders of the common stock offered hereby.

The shares of the common stock offered hereby may be sold from time to time by the selling stockholders, or by pledgees, donees, transferees or other successors in interest:

- to or through underwriters or dealers;
- directly to one or more other purchasers;
- through agents on a best-efforts basis;
- through a combination of any such methods of sale; or
- any other manner permitted by law.

Such sales may be made on one or more exchanges or in the over-the-counter market, or otherwise at prices and at terms then prevailing or at prices related to the then current market price, or in privately negotiated transactions. The shares may be sold by one or more of the following:

- a block trade in which the broker or dealer so engaged will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker or dealer as principal and resale by such broker or dealer for its account pursuant to this prospectus;
- an exchange distribution in accordance with the rules of such exchange;
- ordinary brokerage transactions and transactions in which the broker solicits purchasers;
- privately negotiated transactions without a broker or dealer; and
- any other manner permitted by law.

In effecting sales, brokers or dealers engaged by the selling stockholders may arrange for other brokers or dealers to participate. Brokers or dealers will receive commissions or discounts from the selling stockholders in amounts to be negotiated prior to the sale. In addition, any securities covered by this prospectus which qualify for sale pursuant to Rule 144 under the Securities Act of 1933 may be sold under Rule 144 rather than pursuant to this prospectus.

In addition, the selling stockholders may engage in short sales and other transactions in the common stock or derivatives thereof, and may pledge, sell, deliver or otherwise transfer the common stock offered under this prospectus in connection with such transactions.

If we are notified by a selling stockholder that a material arrangement has been entered into with a broker-dealer for the sale of shares through a block trade, special offering, exchange distribution or secondary distribution, or a purchase by a broker-dealer as a principal, a supplemental prospectus will be filed listing:

- the name of each selling stockholder and of the participating broker-dealer(s);
- the number of shares involved;
- the price at which such shares were sold;
- the commissions paid or discounts or concessions allowed to such broker-dealer(s), where applicable; and
- other facts material to the transaction.

We have agreed to pay the cost of registering the shares covered by this prospectus and the costs of preparing this prospectus and the registration statement under which it is filed.

We and the selling stockholders have agreed to indemnify one another against certain liabilities, including liabilities arising under the Securities Act.

LEGAL MATTERS

The validity of the shares of our common stock offered hereby will be passed upon for us by Ropes & Gray, Boston, Massachusetts.

EXPERTS

Ernst & Young LLP, independent auditors, have audited our consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2000, as set forth in their report, which is incorporated by reference in this prospectus and elsewhere in the registration statement. Our financial statements are incorporated by reference in reliance on Ernst & Young LLP's report, given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-3 under the Securities Act with respect to the common stock to be sold in this offering. This prospectus does not contain all the information included in the registration statement and the related exhibits and schedules. You will find additional information about us and our common stock in the registration statement. The registration statement and the related exhibits and schedules may be inspected and copied at the public reference facilities maintained by the SEC at Room 1024, Judiciary Plaza, 450 Fifth Street, N.W., Washington, D.C. 20549, and at the public reference facilities of the SEC's Regional Offices: New York Regional Office, Seven World Trade Center, Suite 1300, New York, New York 10048; and Chicago Regional Office, Citicorp Center, 500 West Madison Street, Chicago, Illinois 60661. Copies of this material may also be obtained from the Public Reference Section of the SEC at 450 Fifth Street, N.W., Washington, D.C. 20549 at prescribed rates. You can obtain information on the operation of the public reference facilities by calling 1-800-SEC-0330. The SEC also maintains a site on the World Wide Web (http://www.sec.gov) that contains reports, proxy and information statements and other information regarding registrants, including us, that file electronically with the SEC. Statements made in this prospectus about legal documents may not necessarily be complete and you should read the documents which are filed as exhibits or schedules to the registration statement or otherwise filed with the SEC.

INCORPORATION OF DOCUMENTS BY REFERENCE

The SEC allows us to incorporate by reference the information we file with it, which means that we can disclose information important to you by referring you to those documents. The information incorporated by reference is considered to be a part of this prospectus, and information that we later file with the SEC will automatically update and supersede this information. Accordingly, we incorporate by reference the following documents we filed with the SEC pursuant to Section 13 of the Securities Exchange Act of 1934:

- our Annual Report on Form 10-K for the year ended December 31, 2000 (filed April 2, 2001, as amended April 30, 2001);
- our Quarterly Report on Form 10-Q for the quarters ended September 30, 2001 (filed November 7, 2001), June 30, 2001 (filed August 10, 2001) and March 31, 2001 (filed May 9, 2001);
- our Proxy Statement for the Annual Meeting of Stockholders held on May 31, 2001 (filed April 30, 2001);
- our Current Reports on Form 8-K dated May 8, 2001 (filed May 8, 2001), May 14, 2001 (dated May 14, 2001) and December 4, 2001 (filed December 7, 2001);

- the description of our common stock contained in the registration statement on Form 8-A filed with the SEC pursuant to Section 12 of the Securities Exchange Act of 1934 and all amendments thereto and reports filed for the purpose of updating such description; and
- all documents filed by us with the SEC pursuant to the Securities Exchange Act of 1934 after the date of this prospectus and before the offering of common stock is completed (other than portions of such documents described in paragraphs (i), (k) and (l) of Item 402 of Regulation S-K promulgated by the SEC).

These documents are or will be available for inspection or copying at the locations identified above under the caption "Where You Can Find More Information." We will provide without charge to each person to whom this prospectus is delivered, upon written or oral request, a copy of any and all of the documents that have been incorporated by reference in this prospectus (other

than exhibits to those documents). You should direct requests for documents to:

StemCells, Inc.
3155 Porter Drive
Palo Alto, CA 94304
Attention: Investor Relations
Telephone number: (650) 475-3100

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 14. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION.

The following table sets forth the costs and expenses payable by the Registrant in connection with the sale of the securities being registered. All amounts shown are estimates except the SEC registration fee.

SEC registration fee	$ 3,487
Printing and engraving expenses	$ 2,000
Legal fees and expenses	$ 5,000
Accounting fees and expenses	$10,000
Miscellaneous	$ 2,000
Total	$22,487

ITEM 15. INDEMNIFICATION OF DIRECTORS AND OFFICERS.

Section 145 of the Delaware General Corporation Law provides that a corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, other than an action by or in the right of the corporation, by reason of the fact that the person is or was a director, officer, employee or agent of the corporation or is or was serving at the corporation's request as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses, including attorneys' fees, judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with the action, suit or proceeding if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe the person's conduct was unlawful. The power to indemnify applies to actions brought by or in the right of the corporation as well, but only to the extent of expenses, including attorneys' fees but excluding judgments, fines and amounts paid in settlement, actually and reasonably incurred by the person in connection with the defense or settlement of the action or suit and with the further limitation that in these actions no indemnification shall be made in the event of any adjudication of negligence or misconduct in the performance of his duties to the corporation, unless a court believes that in light of all the circumstances indemnification should apply.

Section Ten of our Restated Certificate of Incorporation provides that we shall, to the maximum extent legally permitted, indemnify and upon request advance expenses to each person who is or was a party or is threatened to be made a party to any threatened, pending or completed action, suit proceeding, or claim (civil, criminal, administrative or investigative) by reason of the fact that he is or was, or has agreed to become, a director or officer of the Company, or is or was serving, or has agreed to serve, at the request of the Company, as a director, officer, partner, employee, agent or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprises, provided, however, that the Company is not required to indemnify or advance expenses to any person in connection with any action, suit, proceeding, claim or counterclaim initiated by or on behalf of such person. The indemnification provided for in Section Ten is expressly not exclusive of any other rights to which those seeking indemnification may be entitled under any by-law, agreement or vote of directors or stockholders or otherwise, and shall inure to the benefit of the heirs and legal representatives of such persons.

Section 145(g) of the Delaware General Corporation Law provides that the Company shall have the power to purchase and maintain insurance on behalf of its officers, directors, employees and agents, against any liability asserted against and incurred by such persons in any such capacity.

We have obtained insurance covering our directors and officers against certain liabilities.

Section 102(b)(7) of the General Corporation Law of the State of Delaware provides that a corporation may eliminate or limit the personal liability of a director to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, provided that such provisions shall not eliminate or limit the liability of a director (i) for any breach of the director's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the General Corporation Law of the State of Delaware, or (iv) for any transaction from which the director derived an improper personal benefit. No such provision shall eliminate or limit the liability of a director for any act or omission occurring prior to the date when such provision becomes effective.

Pursuant to the Delaware General Corporation Law, Section Nine of the Company's Restated Certificate of Incorporation eliminates a director's personal liability for monetary damages for breach of fiduciary duty as a director, except in circumstances involving a breach of the director's duty of loyalty to StemCells, Inc. or its shareholders, acts or omissions not in good faith, intentional misconduct, knowing violations of the law, self-dealing or the unlawful payment of dividends or repurchase of stock.

ITEM 16. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) EXHIBITS. The following exhibits are filed as part of this registration statement:

NUMBER	DESCRIPTION
3.1*	Restated Certificate of Incorporation of the Registrant
3.2++	Amended and Restated By-Laws of the Registrant.
4.1*	Specimen Common Stock Certificate.
4.2++++	Form of Warrant Certificate issued to a certain purchaser of the Registrant's Common Stock in April 1995.
4.3X	Warrant to Purchase Common Stock--Mark Angelo.
4.4X	Warrant to Purchase Common Stock--Robert Farrell.
4.5X	Warrant to Purchase Common Stock--Joseph Donahue.
4.6X	Warrant to Purchase Common Stock--Hunter Singer.
4.7X	

Warrant to Purchase Common Stock--May Davis. 4.8X Common Stock Purchase Warrant. 4.9X Callable Warrant, dated July 31, 2000, issued to Millennium Partners, L.P. 4.10XXX Registration Rights Agreement dated as of May 10, 2001 between the Company and Sativum Investments Limited. 4.11XXX Warrant, dated May 10, 2001, to Purchase Common Stock issued to Sativum Investments Limited. 4.12XXX Warrant, dated May 10, 2001, to Purchase Common Stock issued to Pacific Crest Securities, Inc. 4.13XXX Warrant dated May 10, 2001, to Purchase Common Stock issued to Granite Financial Group, Inc. 4.14XXX Callable Warrant, dated June 21, 2001, issued to Millennium Partners, L.P. 4.15XXX Common Stock Purchase Warrant, Class A, dated June 21, 2001, issued to Millennium Partners, L.P. 4.16[**] Certificate of Designations of the Powers, Preferences and Relative, Participating, Optional and Other Special Rights of Preferred Stock and Qualifications, Limitations and Restrictions Thereof of 3% Cumulative

Convertible Preferred Stock for StemCells, Inc. 4.17[**] Warrant to Purchase Common Stock-- Riverview Group, L.L.C. 4.18 Warrant to Purchase Common Stock--Cantor Fitzgerald & Co. 5.1XXXX Opinion of Ropes & Gray. 10.1* Amendment to Registration Rights dated as of February 14, 1992 among the Registrant and certain of its stockholders. 10.2* Form of at-will Employment Agreement between the Registrant and most of its employees. 10.3* Form of Agreement for Consulting Services between the Registrant and members of its Scientific Advisory Board. 10.4* Form of Nondisclosure Agreement between the Registrant and its Contractors.

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Master Lease and Warrant Agreement dated April 23, 1991 between the Registrant and PacifiCorp Credit, Inc. 10.6* 1988 Stock Option Plan. 10.7* 1992 Equity Incentive Plan. 10.8* 1992 Stock Option Plan for Non-Employee Directors. 10.9**!!!! 1992

Employee Stock Purchase Plan.
10.12++ Research Agreement dated as of March 16, 1994 between NeuroSpheres, Ltd. and Registrant.
10.13++ Term Loan Agreement dated as of September 30, 1994 between The First National Bank of Boston and Registrant.
10.14++ Lease Agreement between the Registrant and Rhode Island Industrial Facilities Corporation, dated as of August 1, 1992.
10.15++ First Amendment to Lease Agreement between Registrant and The Rhode Island Industrial Facilities Corporation dated as of September 15, 1994.
10.17**++++ Development, Marketing and License Agreement, dated as of March 30, 1995 between Registrant and Astra AB.
10.18++++ Form of Unit Purchase Agreement to be executed by the purchasers of the Common Stock and Warrants offered in April 1995. 10.19+++ Form of Common Stock Purchase Agreement to be executed among the Registrant and certain purchasers of the Registrant's Common Stock.
10.22### Lease Agreement dated as of November 21, 1997 by and between Hub RI Properties Trust, as Landlord, and CytoTherapeutics, Inc., as Tenant.
10.24!! CTI individual stockholders option agreement dated as of July

10, 1996 among the Company and the individuals listed therein.

10.25!! CTI Valoria option agreement dated of July 10, 1996 between the Company and the Societe Financiere Valoria SA.

10.26!!! Term Loan Agreement dated as of October 22, 1996 between The First National Bank of Boston and the Registrant.

10.27*** Agreement and Plan of Merger dated as of August 13, 1997 among StemCells, Inc., the Registrant and CTI Acquisition Corp.

10.28*** Consulting Agreement dated as of September 25, 1997 between Dr. Irving Weissman and the Registrant.

10.29### Letter Agreement among each of Dr. Irving Weissman and Dr. Fred H. Gage and the Registrant.

10.32**** StemCells, Inc. 1996 Stock Option Plan.

10.33**** 1997 StemCells Research Stock Option Plan (the "1997 Plan").

10.34**** Form of Performance-Based Incentive Option Agreement issued under the 1997 Plan.

10.35### Employment Agreement dated as of September 25, 1997 between Dr. Richard M. Rose and the Registrant.

10.38[*] Rights Agreement, dated as of July 27, 1998 between Bank Boston, N.A. as Rights Agent and the Registrant.

NUMBER	DESCRIPTION
10.40%**	Consulting Services Agreement dated as of July 27, 1998, as amended December 19, 1998 between Dr. John J. Schwartz and the Registrant.
10.41%**	Letter Agreement dated as of December 19, 1998 between John J. Schwartz and the Registrant.
10.42%**	License Agreement dated as of October 27, 1998 between The Scripps Research Institute and the Registrant.
10.43%**	License Agreement dated as of October 27, 1998 between The Scripps Research Institute and the Registrant.
10.44%**	License Agreement dated as of November 20, 1998 between The Scripps Research Institute and the Registrant.
10.45%%**	Purchase Agreement and License Agreement

dated as of December 29, 1999 between Neurotech S.A. and the Registrant.

10.46** License Agreement, dated as of June 1999, between The Scripps Research Institute and the Registrant.

10.47** License Agreement, dated as of June 1999, between The Scripps Research Institute and the Registrant.

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10.52XX License Agreement, dated as of October 30, 2000, between the Company and Neuro Spheres Ltd.

10.53XX Letter Agreement, dated January 2, 2001, between the Company and Martin McGlynn.

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10.56XXX Subscription Agreement, dated as of June 21, 2001, by and between the Company and Millennium Partners, L.P.

10.57%%% 2001 Equity Incentive Plan.

10.58[**] Subscription Agreement dated as of December 4, 2001 between StemCells, Inc. and Riverview Group, L.L.C.

10.59[**] Registration Rights Agreement dated as of December 4, 2001

between StemCells, Inc. and Riverview Group, L.L.C.

10.60[**] Agreement dated as of December 4, 2001 between StemCells, Inc. and Millennium Partners, L.P.

10.61[**] Agreement dated as of December 4, 2001 among StemCells, Inc., Millennium Partners, L.P. and Riverview Group, L.L.C.

NUMBER	DESCRIPTION
21.1X	Subsidiaries of the Registrant.
23.1	Consent of Ernst & Young LLP, Independent Auditors.
23.2XXXX	Consent of Ropes & Gray (included in the form of opinion filed as Exhibit 5.1).
24.1	Power of Attorney pursuant to which amendments to this registration statement may be filed (contained on page II-9 hereto).
99.2XX	Side

	Letter, dated March 17, 2001, between the Company and Oleh S. Hnatiuk regarding NeuroSpheres License Agreement, dated October 30, 2000.

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++ Previously filed with the Commission as Exhibits to, and incorporated herein by reference to, the Registrant's Registration Statement on Form S-1, File No. 333-85494.

+++ Previously filed with the Commission as Exhibits to, and incorporated herein by reference to, the Registrant's Registration Statement on Form S-3, File No. 333-97272.

++++ Previously filed with the Commission as Exhibits to, and incorporated herein by reference to, the Registrant's Registration Statement on Form S-1, File No. 333-91228.

* Previously filed with the Commission as Exhibits to, and incorporated herein by reference to, Registration Statement on Form S-1, File No. 333-45739.

Previously filed with the Commission as Exhibits to, and incorporated herein by reference to, the Registrant's Annual Report on Form 10-K for fiscal year ended December 31, 1992 and filed March 30, 1993.

** Confidential treatment requested as to certain portions. The term "confidential treatment" and the mark "**" as used throughout the indicated Exhibits mean that material has been omitted and separately filed with the Commission.

Previously filed with the Commission as Exhibits to, and incorporated herein by reference to, the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 1994 and filed on May 14, 1994.

+ Previously filed with the Commission as Exhibits to, and incorporated herein by reference to, the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 1993 and filed on March 30, 1994.

! Previously filed with the Commission as an Exhibit to and incorporated by reference to, the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 1996.

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**** Previously filed with the Commission as Exhibits to, and incorporated herein by reference to, the Registrant's Registration Statement on Form S-8, File No. 333-37313.

Previously filed with the Commission as an Exhibit to, and incorporated herein by reference to, the Registrant's annual report on Form 10-K for the fiscal year ended December 31, 1997 and filed on March 30, 1998.

[*] Previously filed with the Commission as an Exhibit to, and incorporated herein by reference to, the Registrant's current report on Form 8-K filed on August 3, 1998.

[**] Previously filed with the Commission as an Exhibit to, and incorporated herein by reference to, the Registrant's current report on Form 8-K filed on December 7, 2001.

% Previously filed with the Commission as an Exhibit to, and incorporated herein by reference to, the Registrant's annual report on Form 10-K for the fiscal year ended December 31, 1998 and filed on March 31, 1999.

%% Previously filed with the Commission as an Exhibit to, and incorporated herein by reference to, the Registrant's current report on Form 8-K on January 14, 2000.

%%% Previously filed with the Commission as an Exhibit to, and incorporated herein by reference to, the Registrant's definitive proxy statement filed May 1, 2001.

X Previously filed with the Commission as an Exhibit to, and incorporated herein by reference to, the Registrant's Registration Statement on Form S-1, File No. 333-45496.

XX Previously filed with the Commission as an Exhibit to, and incorporated herein by reference to, the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2000 and filed on April 2, 2001.

XXX Previously filed with the Commission as an Exhibit to, and incorporated herein by reference to, the Registrant's Registration Statement filed on Form S-1 as amended to Form S-3, File No. 333-61726.

XXXX Previously filed with the Commission as a Exhibit to, and incorporated herein by reference to, the Registrant's Registration Statement filed on Form S-3, File No. 333-75806.

ITEM 17. UNDERTAKINGS.

(a) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the provisions described under Item 14 above, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

(b) The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing,

any increase or decrease in volume of securities offered (if the total dollar value of securities offered

would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement.

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.

(2) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial BONA FIDE offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) To file a post-effective amendment to the Registration Statement to include any financial statements required by section 10(a)(3) of the Securities Act.

(c) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial BONA FIDE offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant has duly caused this Pre-Effective Amendment No. 1 to the Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Palo Alto, State of California, on the 9th day of January, 2002.

STEMCELLS, INC.

BY: *

POWER OF ATTORNEY

Pursuant to the requirements of the Securities Act of 1933, this Pre-Effective Amendment No. 1 to the Registration Statement has been signed by the following persons in the capacities indicated on January 9, 2002.

SIGNATURE	TITLE
- Martin M. McGlynn,	President, Chief

Executive Officer * (Principal Executive Officer), Director -- George Koshy, Controller and Acting Chief Financial Officer (Principal Financial Officer and * Principal Accounting Officer) -- Mark J. Levin * Director -- Roger M. Perlmutter, M.D., Ph.D. * Director -- John J. Schwartz, Ph.D. * Director -- Irving Weissman, M.D. * Director -- Ricardo B. Levy, Ph.D. * Director --

* By executing her name hereto, Iris Brest is signing the document on behalf of the persons indicated above pursuant to the power of attorney duly executed by such persons and filed with the Securities and Exchange Commission.

* By: /s/ IRIS BREST

Iris Brest
ATTORNEY-IN-FACT

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10.60[**] Agreement dated as of December 4, 2001 between StemCells, Inc. and Millennium Partners, L.P.

10.61[**] Agreement dated as of December 4, 2001 among StemCells, Inc., Millennium Partners, L.P. and Riverview Group, L.L.C.

21.1X Subsidiaries of the Registrant.

23.1 Consent of Ernst &

Young LLP, Independent Auditors. 23.2XXXX Consent of Ropes & Gray (included in the form of opinion filed as Exhibit 5.1). 24.1 Power of Attorney pursuant to which amendments to this registration statement may be filed (contained on page II-9 hereto).

NUMBER	DESCRIPTION
99.2XX	Side Letter, dated March 17, 2001, between the Company and Oleh S. Hnatiuk regarding NeuroSpheres License Agreement, dated October 30, 2000.

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++ Previously filed with the Commission as Exhibits to, and incorporated herein by reference to, the Registrant's Registration Statement on Form S-1, File No. 333-85494.

+++ Previously filed with the Commission as Exhibits to, and incorporated herein by reference to, the Registrant's Registration Statement on Form S-3, File No. 333-97272.

++++ Previously filed with the Commission as Exhibits to, and incorporated herein by reference to, the Registrant's Registration Statement on Form S-1, File No. 333-91228.

* Previously filed with the Commission as Exhibits to, and incorporated herein by reference to, Registration Statement on Form S-1, File No. 333-45739.

Previously filed with the Commission as Exhibits to, and incorporated herein by reference to, the Registrant's Annual Report on Form 10-K for fiscal year ended December 31, 1992 and filed March 30, 1993.

** Confidential treatment requested as to certain portions. The term

"confidential treatment" and the mark "**" as used throughout the indicated Exhibits mean that material has been omitted and separately filed with the Commission.

Previously filed with the Commission as Exhibits to, and incorporated herein by reference to, the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 1994 and filed on May 14, 1994.

+ Previously filed with the Commission as Exhibits to, and incorporated herein by reference to, the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 1993 and filed on March 30, 1994.

! Previously filed with the Commission as an Exhibit to and incorporated by reference to, the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 1996.

!! Previously filed with the Commission as an Exhibit to and incorporated by reference to, the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 1996.

!!! Previously filed with the Commission as an Exhibit to, and incorporated herein by reference to, the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 1996 and filed on March 31, 1997.

!!!! Previously filed with the Commission as an Exhibit to, and incorporated herein by reference to, the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 1995.

*** Previously filed with the Commission as Exhibits to, and incorporated herein by reference to, the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 1997 and filed on November 14, 1997.

**** Previously filed with the Commission as Exhibits to, and incorporated herein by reference to, the Registrant's Registration Statement on Form S-8, File No. 333-37313.

Previously filed with the Commission as an Exhibit to, and incorporated herein by reference to, the Registrant's annual report on Form 10-K for the fiscal year ended December 31, 1997 and filed on March 30, 1998.

[*] Previously filed with the Commission as an Exhibit to, and incorporated herein by reference to, the Registrant's current report on Form 8-K filed on August 3, 1998.

[**] Previously filed with the Commission as an Exhibit to, and incorporated herein by reference to, the Registrant's current report on Form 8-K filed on December 7, 2001.

% Previously filed with the Commission as an Exhibit to, and incorporated herein by reference to, the Registrant's annual report on Form 10-K for the fiscal year ended December 31, 1998 and filed on March 31, 1999.

%% Previously filed with the Commission as an Exhibit to, and incorporated herein by reference to, the Registrant's current report on Form 8-K on January 14, 2000.

%%% Previously filed with the Commission as an Exhibit to, and incorporated herein by reference to, the Registrant's definitive proxy statement filed May 1, 2001.

X Previously filed with the Commission as an Exhibit to, and incorporated herein by reference to, the Registrant's Registration Statement on Form S-1, File No. 333-45496.

XX Previously filed with the Commission as an Exhibit to, and incorporated herein by reference to, the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2000 and filed on April 2, 2001.

XXX Previously filed with the Commission as an Exhibit to, and incorporated herein by reference to, the Registrant's Registration Statement filed on Form S-1 as amended to Form S-3, File No. 333-61726.

XXXX Previously filed with the Commission as a Exhibit to, and incorporated herein by reference to, the Registrant's Registration Statement filed on Form S-3, File No. 333-75806.

Exhibit 4.18

THIS WARRANT AND ANY SECURITIES ACQUIRED UPON THE EXERCISE OF THIS WARRANT HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR APPLICABLE STATE SECURITIES LAWS. THE SECURITIES HAVE BEEN ACQUIRED FOR INVESTMENT PURPOSES ONLY AND NOT WITH A VIEW TOWARD RESALE OR DISTRIBUTION. THIS WARRANT AND ANY SECURITIES ACQUIRED UPON THE EXERCISE OF THIS WARRANT MAY NOT BE OFFERED FOR SALE, SOLD, TRANSFERRED OR ASSIGNED IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT FOR THE SECURITIES UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR APPLICABLE STATE SECURITIES LAWS, OR AN OPINION OF COUNSEL IN FORM, SUBSTANCE AND SCOPE REASONABLY ACCEPTABLE TO THE ISSUER THAT REGISTRATION IS NOT REQUIRED UNDER SAID ACT, OR AS OTHERWISE PROVIDED FOR IN THIS WARRANT. IN ADDITION, THE HOLDER OF THIS WARRANT AND ANY SECURITIES ACQUIRED UPON THE EXERCISE OF THIS WARRANT IS ENTITLED TO CERTAIN REGISTRATION RIGHTS AS SET FORTH IN THIS WARRANT.

STEMCELLS, INC.

WARRANT TO PURCHASE COMMON STOCK

Warrant No.: CF-1 Number of Shares Issuable: 146,199

Date of Issuance: December 4, 2001

StemCells, Inc., a Delaware corporation (the "COMPANY"), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Cantor Fitzgerald & Co., the registered holder hereof or its permitted assigns (the "HOLDER"), is entitled, subject to the terms set forth below, to purchase from the Company upon surrender of this Warrant, at any time or times on or after the date hereof, but not after 5:00 P.M. Eastern Standard Time on the Expiration Date (as defined herein) 146,199 fully paid, nonassessable shares of Common Stock (as defined herein) of the Company (the "WARRANT SHARES") at the Warrant Exercise Price per share provided in Section l(a) below. This Warrant (the "WARRANT") is issued pursuant to Section 4(b) of the letter agreement between the Company and Cantor Fitzgerald & Co., dated as of December 3, 2001 (the "ENGAGEMENT AGREEMENT").

1. DEFINITIONS AND INTERPRETATION.

(a) DEFINITIONS. The following words and terms as used in this Warrant shall have the following meanings:

(i) "BUSINESS DAY" means any day on which commercial banks in New York City are required or permitted to be open for business.

(ii) "COMMON STOCK" means (i) the Company's common stock, par value .01 per share, and (ii) any capital stock into which such Common Stock shall have been changed or any capital stock resulting from a reclassification of such Common Stock.

(iii) "EXCHANGE ACT" means the Securities Exchange Act of 1934, as amended.

(iv) "EXPIRATION DATE" means the date four (4) years from the date of the issuance of the Warrant set forth above (unless otherwise extended by the Company) or, if such date falls on a Saturday, Sunday or other day on which banks are required or authorized to be closed in the City of New York or the State of New York (a "Holiday"), the next preceding date that is not a Holiday.

(v) "MARKET PRICE" shall mean, on any date specified herein, the amount per share of the Common Stock, equal to (a) if such Common Stock is then listed or admitted for trading on any national securities exchange, the last reported sale price of such Common Stock, regular way, on such date or, in case no such sale takes place on such date, the average of the closing bid and asked prices thereof, regular way, on such date, in either case as officially reported on the principal national securities exchange on which such Common Stock is then listed or admitted for trading, or (b) if such Common Stock is not then listed or admitted for trading on any national securities exchange but is designated as a national market system security by the NASD, the last reported trading price of the Common Stock on such date, or (c) if such Common Stock is not then listed or admitted for trading on any national securities exchange and (i) the Common Stock is not designated as a national market system security by the NASD or (ii) there shall have been no trading on such date, the average of the closing bid and asked prices of the Common Stock on such date as shown by the NASD automated quotation system or the Nasdaq SmallCap Market, or (d) if such Common Stock is not then listed or admitted for trading on any national exchange or quoted in the over-the-counter market, the fair value thereof (as of a date which is within 20 days of the date as of which the determination is to be made) determined in good faith by the Board of Directors of the Company.

(vi) "PERSON" means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization and a government or any department or agency thereof.

(vii) "SECURITIES ACT" means the Securities Act of 1933, as amended.

(viii) "WARRANT" shall mean this warrant and all warrants issued in exchange, transfer or replacement of any thereof.

(ix) "WARRANT EXERCISE PRICE" shall be equal to $3.42 per share of Common Stock, subject to adjustment as hereinafter provided.

(x) "WARRANT SHARES" means the shares of Common Stock issuable upon exercise of this Warrant.

(b) OTHER DEFINITIONAL PROVISIONS.

(i) Except as otherwise specified herein, all references herein (A) to the Company shall be deemed to include the Company's successors and (B) to any applicable law defined or referred to herein, shall be deemed references to such applicable law as the same may have been or may be amended or supplemented from time to time.

(ii) Unless the context of this Warrant otherwise requires: (1) the words "hereof", "herein" and "hereunder" and words of similar import when used in this Warrant shall refer to this Warrant as a whole and not to any particular provision of this Warrant, and Section and paragraph references are to the Sections and paragraphs of this Warrant unless otherwise specified; and (2) the word "including" and words of similar import when used in this Warrant shall mean "including, without limitation," unless otherwise specified.

(iii) Whenever the context so requires, the neuter gender includes the masculine or feminine, and the singular number includes the plural, and vice versa.

2. EXERCISE OF WARRANT.

(a) Subject to the terms and conditions hereof, this Warrant may be exercised by the holder hereof then registered on the books of the Company, in whole or in part, at any time on any Business Day after the opening of business on the date hereof and prior to 5:00 P.M. Eastern Standard Time on the Expiration Date by:

(i) delivery of a written notice, in the form of the exercise notice attached as Exhibit A hereto (a "EXERCISE NOTICE"), of such holder's election to exercise this Warrant, which notice shall specify the number of Warrant Shares to be purchased;

(ii) payment to the Company (X) of an amount equal to the Warrant Exercise Price multiplied by the number of Warrant Shares as to which the Warrant is being exercised (plus any applicable issue or transfer taxes) (the "AGGREGATE WARRANT EXERCISE PRICE") in cash or by check or wire transfer, or (Y) by means of direction to the Company to cancel such number of the shares of Common Stock otherwise issuable to the holder upon such exercise equal to the number of shares specified in the Exercise Notice MULTIPLIED BY the Warrant Exercise Price DIVIDED BY the Market Price on the date of exercise, or (Z) by surrender to the Company for cancellation certificates representing shares of Common Stock of the Company owned by the Holder (properly endorsed for transfer in blank) having an aggregate Market Price on the date of the exercise of the Warrant equal to some or all of the Aggregate Warrant Exercise Price (either subclause (Y) or (Z) immediately preceding, a "CASHLESS EXERCISE"); and

(iii) the surrender of this Warrant, to a common carrier for delivery to the Company as soon as practicable following such date (but in any case prior to 5:00 P.M. Eastern Standard Time on the Expiration Date), this Warrant

(or an indemnification undertaking with respect to this Warrant in the case of its loss, theft, or destruction); PROVIDED that if such Warrant Shares are to be issued in any name other than that of the registered holder of this Warrant, such issuance shall be deemed a transfer and the provisions of Section 7 shall be applicable.

In the event of any exercise of the rights represented by this Warrant in compliance with this Section 2, a certificate or certificates for the Warrant Shares so purchased, in such denominations as may be requested by the holder hereof and registered in the name of, or as directed by, the Holder, shall be delivered at the Company's expense to, or as directed by, such holder as soon as practicable after such rights shall have been so exercised, and in any event no later than three (3) Business Days after the Company's receipt of the materials and payments specified above in this Section 2(a). Upon the Company's receipt of the materials and payments specified above in this Section 2(a), the Holder shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date of delivery of the certificates evidencing such Warrant Shares. In the case of a dispute as to the determination of the Warrant Exercise Price or the Market Price or the arithmetic calculation of the Warrant Shares, the Company shall promptly issue to the Holder the number of shares of Common Stock that is not disputed and shall submit the disputed determinations or arithmetic calculations to the Holder via facsimile within three (3) Business Days of receipt of the Holder's Exercise Notice. If the Holder and the Company are unable to agree upon the determination of the Warrant Exercise Price or Market Price or arithmetic calculation of the Warrant Shares within three (3) Business Days of such disputed determination or arithmetic calculation being submitted to the holder, then the Company shall immediately submit via facsimile (i) the disputed determination of the Warrant Exercise Price or the Market Price to an independent, reputable investment banking firm which has not (and whose affiliates have not) performed any investment banking services for, or had any other material relationship with, the Company during the immediately preceding two (2) year period, or (ii) the disputed arithmetic calculation of the Warrant Shares to an independent, national public accounting firm which has not (and whose affiliates have not) performed any accounting or consulting services for, or had any other material relationship with, the Company during the immediately preceding two (2) year period. The Company shall cause the investment banking firm, or the accounting firm, as the case may be, to perform the determinations or calculations and notify the Company and the Holder of the results no later than five Business Days from the time it receives the disputed determinations or calculations. Such investment bank's or accounting firm's determination or calculation, as the case may be, shall be deemed conclusive absent manifest error and the Company shall be liable for the costs and expenses related to such determination or calculation.

(b) Unless the rights represented by this Warrant shall have expired or shall have been fully exercised, the Company shall, as soon as practicable and in any event no later than three (3) Business Days after any exercise and at its own expense, issue a new Warrant identical in all respects to the Warrant exercised except it shall represent rights to purchase the number of Warrant Shares purchasable immediately prior to such exercise under the Warrant exercised, less the number of Warrant Shares with respect to which such Warrant is exercised. Upon presentation of a duly executed Exercise Notice, the Holder shall be entitled to exercise this Warrant in whole or in part, if the Holder shall have previously exercised and surrendered

this Warrant and the Company shall not have issued a new Warrant representing the number of shares issuable following such prior exercise.

(c) No fractional shares of Common Stock are to be issued upon the exercise of this Warrant, but rather the number of shares of Common Stock issued upon exercise of this Warrant shall be rounded down to the nearest whole number and the Company shall pay to the Holder in lieu of such fractional share cash in an amount in proportion to the Market Price of a share of Common Stock on the date of exercise.

(d) If the Company shall have failed for any reason (other than pursuant to a dispute as described in Section 2(a)) or for no reason to issue to Holder, on or before the day which is five (5) Business Days after the Company's receipt of the materials and payments described in Section 2(a) hereof, a certificate for the number of shares of Common Stock to which the Holder is entitled upon the Holder's exercise of this Warrant, the Company shall, upon notice from the Holder and in lieu of any other remedies under this Agreement or otherwise available to such Holder pay as liquidated damages, in cash, to such holder, for each day after such fifth Business Day until the date of delivery, an amount equal to one-quarter of one percent (0.25%) of the product of (A) the number of shares of Common Stock not issued to the Holder on a timely basis and to which the Holder is entitled, and (B) the difference between (1) the Warrant Exercise Price then in effect and (2) the Market Price of the Common Stock on the date on which the holder exercised the Warrant with respect to which the Company has failed to make timely delivery hereunder. Any sums due to holder pursuant to this Section 2(d) shall be paid by certified funds or wire transfer simultaneously upon and no later than the delivery to holder of the shares of Common Stock which have not been delivered to holder on a timely basis and which gives rise to the Company's obligation to make the payments required by this Section 2(d).

3. COVENANTS AS TO COMMON STOCK. As of the date of this Warrant as set forth in Section 12 below, the Company and, where applicable, the Holder, hereby represents, warrants, covenants and agrees as follows:

(a) This Warrant has been duly and validly authorized, executed and delivered by the Company and constitutes a valid and legally binding agreement of the Company, enforceable in accordance with its terms, subject, as to enforcement, to bankruptcy, insolvency, reorganization and other laws of general applicability relating to or affecting creditors' rights and to general equity principles. The execution and delivery by the Company of this Warrant does not, and the delivery of any Warrant Shares upon the valid exercise of this Warrant will not, except as would not have a material adverse effect on the business of the Company: (i) violate any provision of the Certificate of Incorporation or By-Laws of the Company; (ii) violate any provision of, or result in the termination or acceleration of, or default under, or entitle any party to accelerate (whether after the filing of notice or lapse of time or both) any obligation under, or result in the creation or imposition of any lien, charge, pledge, security interest or other encumbrance upon any of the assets of the Company pursuant to any provision of any mortgage, lien, lease, agreement, license, or instrument, or violate any law, regulation, order, arbitration award, judgment or decree to which the Company is a party or by which its property is bound; or (iii) require any governmental consent, authorization, filing, approval, or exemption.

(b) The Company is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware. The Company has the power to own its property and to carry on its business as it is now being conducted. The Company is duly qualified to do business and is in good standing in the jurisdictions in which the character or location of the properties owned or leased by the Company or the nature of the business conducted by the Company makes such qualification necessary, except where the failure to qualify individually or in the aggregate will not have a material adverse effect on the business of the Company.

(c) When issued upon exercise, each Warrant Share will be duly and validly issued, fully paid, non-assessable and free of preemptive rights. Based in part upon the representations of the Holder in this Warrant, this Warrant and any Warrant Shares will be issued in compliance with all applicable federal and state securities laws, rules and regulations, and the offer, sale and issuance of this Warrant and the Warrant Shares will constitute transactions exempt from the registration requirements of Section 5 of the Securities Act.

(d) A Warrant issued in substitution for or replacement of this Warrant will upon issuance be duly authorized and validly issued.

(e) All Warrant Shares which may be issued upon the exercise as set forth herein of the rights represented by this Warrant will, upon issuance, be validly issued, fully paid and nonassessable and free from all taxes, liens and charges with respect to the issue thereof.

(f) During the period within which the rights represented by this Warrant may be exercised, the Company will at all times have authorized and reserved at least the number of shares of Common Stock needed to provide for the exercise of the rights then represented by this Warrant and the par value of said shares will at all times be less than or equal to the applicable Warrant Exercise Price.

(g) The Warrant Shares have been listed upon each national securities exchange or automated quotation system, if any, or over-the-counter-bulletin board upon which shares of the Company's Common Stock are currently listed or quoted (subject to official notice of the over-the-counter bulletin board of issuance upon exercise of this Warrant) and the Company shall maintain, so long as any other shares of Common Stock shall be so listed or quoted, such listing or quotation of all shares of Common Stock from time to time issuable upon the exercise of this Warrant; and the Company shall so list or obtain quotation on each such national securities exchange, automated quotation system or over-the-counter bulletin board, as the case may be, and shall maintain such listing in quotation of, any other shares of capital stock of the Company issuable upon the exercise of this Warrant if and so long as any shares of the same class shall be listed on such national securities exchange, automated quotation system or over-the-counter bulletin board.

(h) The Company will not, by amendment of its Certificate of Incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities, or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be observed or performed by it hereunder, but will at all times in good faith assist in the carrying out of all the provisions of this Warrant and in the taking of all such

action as may reasonably be requested by the holder of this Warrant in order to protect the exercise privilege of the holder of this Warrant against dilution or other impairment, consistent with the tenor and purpose of this Warrant. Without limiting the generality of the foregoing, the Company (i) will not increase the par value of any shares of Common Stock receivable upon the exercise of this Warrant above the Warrant Exercise Price then in effect, and (ii) will take all such actions as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable shares of Common Stock upon the exercise of this Warrant.

(i) This Warrant will be binding upon any entity succeeding to the Company by merger, consolidation or acquisition of all or substantially all of the Company's assets.

(j) The Warrant Shares shall be registered with the Securities and Exchange Commission ("SEC") by their inclusion, and the inclusion of the Holder as a selling stockholder, in the registration statement on Form S-3 to be filed with the SEC by the Company with respect to the shares issued on or about the date hereof to the Riverview Group, L.L.C. The Company and the Holder further agree as follows:

(i) If at any time the number of shares of Common Stock included in such registration statement shall be insufficient to cover all of the Warrant Shares issuable upon exercise of the unexercised portion of the Warrant, then promptly, but in no event later than 30 days after such insufficiency shall occur, the Company shall file with the SEC an additional registration statement on Form S-3 (or, if the Company is not eligible to use such form at the time of filing with the SEC, Form S-1) (together with the initial registration statement, the "REGISTRATION STATEMENTS"), covering such number of shares of Common Stock as shall be sufficient to permit such exercise.

(ii) The Company shall use its best efforts to cause the Registration Statements to become effective as soon as possible after the filing of each, and to keep the Registration Statements effective pursuant to Rule 415 under the Securities Act at all times until the earliest of (A) the date on which all Warrant Shares have been sold by the Holder, (B) the date on which all Warrant Shares can be sold (other than by a Cashless Exercise) without restriction under Rule 144 under the Securities Act, or (C) December 4, 2006 or, if the Holder shall have been prohibited from disposing of Warrant Shares pursuant to Section 3(j)(xi) hereof, the date which is the number of days such prohibition applied after December 4, 2006 (the period beginning on the date hereof and ending on the earliest of such dates, the "REGISTRATION PERIOD").

(iii) The Company shall notify the Holder of the effectiveness of the Registration Statements on the date each Registration Statement is declared effective. The Company shall prepare and file with the SEC such amendments (including post-effective amendments) and supplements to the Registration Statements and the prospectus used in connection with the Registration Statements as may be necessary to keep the Registration Statements effective at all times during the Registration Period, and, during the Registration Period,

comply with the provisions of the Securities Act with respect to the disposition of all Warrant Shares until such time as all of such Warrant Shares have been disposed of in accordance with the intended methods of disposition by the seller or sellers thereof as set forth in the Registration Statement.

(iv) The Company shall furnish to each Holder whose Warrant Shares are included in any Registration Statement and its legal counsel, (i) promptly after the same is prepared and publicly distributed, filed with the SEC or received by the Company, one copy of the Registration Statement and any amendment thereto, each preliminary prospectus and prospectus and each amendment or supplement thereto, each letter written by or on behalf of the Company to the SEC or the staff of the SEC and each item of correspondence from the SEC or the staff of the SEC relating to such Registration Statement, and (ii) such number of copies of a prospectus, including a preliminary prospectus, and all amendments and supplements thereto and such other documents, as such Holder may reasonably request in order to facilitate the disposition of the Warrant Shares registered on behalf of the Holder.

(v) The Company shall notify the Holder of the existence of any event or circumstance of which the Company has knowledge, as promptly as practicable after becoming aware of such event or circumstance, as a result of which the prospectus included in a Registration Statement, as then in effect, includes an untrue statement of a material fact or omits to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading, and use its commercially reasonable efforts promptly to prepare a supplement or amendment to such Registration Statement to correct such untrue statement or omission, file such supplement or amendment with the SEC at such time as shall permit the Holder to sell Warrant Shares pursuant to such Registration Statement as promptly as practicable, and deliver a number of copies of such supplement or amendment to the Holder as the Holder may reasonably request.

(vi) As promptly as practicable after becoming aware of such event, the Company shall notify the Holder of the issuance by the SEC of any stop order or other suspension of effectiveness of a Registration Statement at the earliest possible time.

(vii) The Company shall use its commercially reasonable efforts (i) to cause all the Warrant Shares covered by the Registration Statements to be listed on the Nasdaq National Market or such other principal securities market on which securities of the same class or series issued by the Company are then listed or traded or (ii) if securities of the same class or series as the Warrant Shares are not then listed on the Nasdaq National Market or any such other securities market, to cause all of the Warrant Shares covered by the Registration Statements to be listed on the New York Stock Exchange, the American Stock Exchange or the Nasdaq SmallCap Market.

(viii) As of the date hereof, the Company is eligible to file the Registration Statement on Form S-3. The Company shall file all reports required to be filed by the Company with the SEC in a timely manner so as to obtain and/or maintain eligibility for the use of Form S-3.

(ix) It shall be a condition precedent to the obligations of the Company to complete the registration pursuant to this Warrant with respect to the Shares that the Holder shall furnish to the Company such information regarding itself, the Warrant Shares held by it or to which it is entitled to receive upon exercise of the Warrant and the intended method of disposition of the Warrant Shares held by it as shall be reasonably required to effect the registration of such Warrant Shares.

(x) The Holder, by its acceptance of the Warrant, agrees to cooperate with the Company as reasonably requested by the Company in connection with the preparation and filing of the Registration Statements hereunder, unless the Holder has notified the Company in writing of its election to exclude all of its Warrant Shares from the Registration Statement.

(xi) The Holder agrees that, upon receipt of any notice from the Company of the existence of any event of the kind described in clauses (v) or (vi) above, the Holder will immediately discontinue disposition of Warrant Shares pursuant to the Registration Statement covering such Warrant Shares until the Holder's receipt of the copies of the supplemented or amended prospectus contemplated by clauses (v) or (vi) above and, if so directed by the Company, the Holder shall deliver to the Company (at the expense of the Company) or destroy (and deliver to the Company a certificate of destruction) all copies in such Holder's possession of the prospectus covering such Warrant Shares current at the time of receipt of such notice.

(xii) The Holder agrees to take all reasonable actions necessary to comply with the prospectus delivery requirements of the Securities Act applicable to its sales of Warrant Shares and to assist the Company in carrying out its obligations hereunder.

(xiii) All reasonable expenses (other than underwriting discounts and commissions and other fees and expenses of investment bankers engaged by the Holder and other than brokerage commissions), incurred in connection with registrations, filings or qualifications pursuant to this Section 3(j), including, without limitation, all registration, listing and qualifications fees, printers and accounting fees and the fees and disbursements of counsel for the Company, shall be borne by the Company.

(xiv) The provisions of this Section 3(j) shall survive the exercise of the Warrant by the Holder.

4. TAXES. The Company shall not be required to pay any tax or taxes attributable to the initial issuance of the Warrant Shares or any permitted transfer involved in the issue or

delivery of any certificates for Warrant Shares in a name other than that of the registered holder hereof or upon any permitted transfer of this Warrant.

5. WARRANT HOLDER NOT DEEMED A STOCKHOLDER. Except as otherwise specifically provided herein, no Holder, as such, of this Warrant shall be entitled to vote or receive dividends or be deemed the holder of shares of the Company for any purpose, nor shall anything contained in this Warrant be construed to confer upon the Holder hereof, as such, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent to any corporate action (whether any reorganization, issue of stock, reclassification of stock, consolidation, merger, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the holder of this Warrant of the Warrant Shares which he or she is then entitled to receive upon the due exercise of this Warrant.

In addition, nothing contained in this Warrant shall be construed as imposing any liabilities on such Holder to purchase any securities or as a stockholder of the Company, whether such liabilities are asserted by the Company or by creditors of the Company. Notwithstanding this Section 5, the Company will provide the Holder of this Warrant with copies of the same notices and other information given to the stockholders of the Company generally, contemporaneously with the giving thereof to the stockholders.

6. REPRESENTATIONS OF HOLDER. The Holder of this Warrant, by the acceptance hereof, represents (and any assignor shall represent) that it is acquiring this Warrant and the Warrant Shares for its own account for investment purposes and not with a view to, or for sale in connection with, any distribution hereof, and not with any present intention of distributing any of the same. The Holder of this Warrant further represents (and any assignor shall represent), by acceptance hereof, that, as of this date, such holder is an "accredited investor" as such term is defined in Rule 501(a)(1) of Regulation D promulgated by the Securities and Exchange Commission under the Securities Act (an "ACCREDITED INVESTOR"). Upon exercise of this Warrant, the Holder shall, if requested by the Company, confirm in writing, in a form reasonably satisfactory to the Company, that the Warrant Shares so purchased are being acquired solely for the Holder's own account and not as a nominee for any other party, for investment, and not with a view toward distribution or resale and that such Holder is an Accredited Investor. If such Holder cannot make such representations because they would be factually incorrect, it shall be a condition to such Holder's exercise of the Warrant that the Company receive such other representations as the Company considers reasonably necessary to assure the Company that the issuance of its securities upon exercise of the Warrant shall not violate any United States Federal or state securities laws.

7. OWNERSHIP AND TRANSFER.

(a) The Company shall maintain at its principal executive offices (or such other office or agency of the Company as it may designate by notice to the holder hereof), a register for this Warrant, in which the Company shall record the name and address of the person in whose name this Warrant has been issued, as well as the name and address of each permissible transferee. The Company may treat the person in whose name any Warrant is registered on the register as the owner and holder thereof for all purposes, notwithstanding any notice to the

contrary, but in all events recognizing any transfers made in accordance with the terms of this Warrant.

(b) This Warrant and the rights granted to the Holder hereof are transferable, in whole or in part, upon surrender of this Warrant, together with a properly executed warrant power in the form of EXHIBIT B attached hereto; provided, however, that any transfer or assignment shall subject to the conditions set forth in Sections 3(j) and 6 above and Sections 7(c) and 11 below.

(c) Except as set forth in Section 3(j), the Holder of this Warrant understands that this Warrant and the Warrant Shares have not been and are not expected to be, registered under the Securities Act or any state securities laws, and may not be offered for sale, sold, assigned or transferred unless (a) subsequently registered thereunder, or (b) such Holder shall have delivered to the Company an opinion of counsel, reasonably satisfactory in form, scope and substance to the Company, to the effect that the securities to be sold, assigned or transferred may be sold, assigned or transferred pursuant to an exemption from such registration. Notwithstanding anything set forth herein to the contrary, the Company shall not require an opinion of counsel with respect to any and all transfers, assignments or sales by and between Cantor Fitzgerald & Co. ("CANTOR"), on the one hand, and any affiliate or affiliated person (as such terms are defined in Rule 405 under the Securities Act) of Cantor, on the other hand (it being expressly understood and agreed that such transfers, assignments or sales shall be conducted in accordance with applicable federal and state securities laws), and, upon due notice from Cantor or any affiliate of Cantor of any such transfer, sale or assignment, and delivery to the Company of the duly executed warrant power in the form of EXHIBIT B attached hereto, the Company shall immediately direct its transfer agent effect any such transfer, sale or assignment, provided that in no event shall the legend required by this Section 7(c) be removed as a result of such a transfer without opinion of counsel reasonably acceptable to the Company. Any sale of such securities made in reliance on Rule 144 promulgated under the Securities Act may be made only in accordance with the terms of said Rule and further, if said Rule is not applicable, any resale of such securities under circumstances in which the seller (or the person through whom the sale is made) may be deemed to be an underwriter (as that term is defined in the Securities Act) may require compliance with some other exemption under the Securities Act or the rules and regulations of the Securities and Exchange Commission thereunder; and neither the Company nor any other person is under any obligation to register this Warrant and the Warrant Shares under the Securities Act or any state securities laws or to comply with the terms and conditions of any exemption thereunder except as set forth in Section 3(j) hereof. All Warrants and Warrant Shares shall bear a legend in substantially the form set forth below:

> THIS WARRANT AND ANY SECURITIES ACQUIRED UPON THE EXERCISE OF THIS WARRANT HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR APPLICABLE STATE SECURITIES LAWS. THE SECURITIES HAVE BEEN ACQUIRED FOR INVESTMENT PURPOSES ONLY AND NOT WITH A VIEW TOWARD RESALE OR DISTRIBUTION. THIS WARRANT AND ANY SECURITIES ACQUIRED UPON THE EXERCISE OF THIS WARRANT MAY NOT BE OFFERED FOR SALE, SOLD, TRANSFERRED OR ASSIGNED IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT FOR THE SECURITIES UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR APPLICABLE STATE SECURITIES LAWS, OR AN OPINION OF COUNSEL

IN FORM, SUBSTANCE AND SCOPE REASONABLY ACCEPTABLE TO THE ISSUER THAT REGISTRATION IS NOT REQUIRED UNDER SAID ACT, OR AS OTHERWISE PROVIDED FOR IN THIS WARRANT. IN ADDITION, THE HOLDER OF THIS WARRANT AND ANY SECURITIES ACQUIRED UPON THE EXERCISE OF THIS WARRANT IS ENTITLED TO CERTAIN REGISTRATION RIGHTS AS SET FORTH IN THIS WARRANT.

8. ADJUSTMENT OF WARRANT EXERCISE PRICE. The Warrant Exercise Price shall be adjusted from time to time as follows:

(a) ADJUSTMENT OF WARRANT EXERCISE PRICE UPON SUBDIVISION OR COMBINATION OF COMMON STOCK. If the Company at any time after the date of issuance of this Warrant, subdivides (by any stock split, stock dividend, re-capitalization or otherwise) one or more classes of its outstanding shares of Common Stock into a greater number of shares, the Warrant Exercise Price in effect immediately prior to such subdivision will be proportionately reduced and the number of shares of Common Stock obtainable upon exercise of this Warrant will be proportionately increased. If the Company at any time after the date of issuance of this Warrant combines (by combination, reverse stock split or otherwise) one or more classes of its outstanding shares of Common Stock into a smaller number of shares, the Warrant Exercise Price in effect immediately prior to such combination will be proportionately increased and the number of shares of Common Stock obtainable upon exercise of this Warrant will be proportionately decreased.

(b) DE MINIMIS ADJUSTMENTS. If the amount of any adjustment of the Warrant Exercise Price per share required pursuant to Section 8(a) would be less than one tenth of one percent (0.1%) of the Warrant Exercise Price, such amount shall be carried forward and adjustment with respect thereto made at the time of and together with any subsequent adjustment which, together with such amount and any other amount or amounts so carried forward, shall aggregate a change in the Warrant Exercise Price of at least one tenth of one percent (0.1%) of such Purchase Price. All calculations under this Warrant shall be made to the nearest 0.1 of a cent or to the nearest one-tenth of a share, as the case may be.

(c) ABANDONED DIVIDEND OR DISTRIBUTION. If the Company shall take a record of the holders of its Common Stock for the purpose of entitling them to receive a dividend or other distribution (which results in an adjustment to the Warrant Exercise Price under the terms of this Warrant) and shall, thereafter, and before such dividend or distribution is paid or delivered to shareholders entitled thereto, legally abandon its plan to pay or deliver such dividend or distribution, then any adjustment made to the Warrant Exercise Price and number of shares of Common Stock purchasable upon Warrant exercise by reason of the taking of such record shall be reversed, and any subsequent adjustments, based thereon, shall be recomputed.

(d) ADJUSTMENTS FOR CONSOLIDATION, MERGER, SALE OF ASSETS, REORGANIZATION, ETC. In case the Company, on one or more occasions, (i) shall consolidate with or merge into any other Person and shall not be the continuing or surviving corporation of such consolidation or merger, or (ii) shall permit any other Person to consolidate with or merge into the Company and the Company shall be the continuing or surviving Person but, in connection with such consolidation or merger, the Common Stock shall be changed into or exchanged for stock or

other securities of any other Person or cash or any other property, or (iii) shall transfer all or substantially all of its properties or assets to any other Person, or (iv) shall effect a capital reorganization or reclassification of the Common Stock, then, and in the case of each such transaction, proper provision shall be made so that, upon the basis and the terms and in the manner provided in this Warrant, the Holder of this Warrant, upon the exercise hereof at any time after the consummation of such transaction, shall be entitled to receive (at the Aggregate Warrant Exercise Price in effect at the time of such consummation for all Common Stock issuable upon such exercise immediately prior to such consummation), in lieu of the Common Stock issuable upon such exercise prior to such consummation, the highest amount of securities, cash or other property to which such Holder would actually have been entitled as a shareholder upon such consummation if such holder had exercised this Warrant immediately prior thereto, subject to adjustments (subsequent to such consummation) as nearly equivalent as possible to the adjustments provided for in this Section 8, PROVIDED that if a purchase, tender or exchange offer shall have been made to and accepted by the holders of more than 50% of the outstanding shares of the Company's Common Stock, and if the Holder of this Warrant so designates in a notice given to the Company on or before the date immediately preceding the date of the consummation of such transaction, the Holder of this Warrant shall be entitled to receive the highest amount of securities, cash or other property to which it would actually have been entitled as a shareholder if the Holder of this Warrant had exercised such Warrants prior to the expiration of such purchase, tender or exchange offer and accepted such offer, subject to adjustments (from and after the consummation of such purchase, tender or exchange offer) as nearly equivalent as possible to the adjustments provided for elsewhere in this Section 8. Notwithstanding anything contained in this Warrant to the contrary, the Company shall not effect any of the transactions described in subclauses (i) through (iv) of this Section 8(d) unless, prior to the consummation thereof, each Person (other than the Company) which may be required to deliver any stock, securities, cash or property upon the exercise of this Warrant as provided herein shall assume, by written instrument delivered to the holder of this Warrant, (x) the obligations of the Company under this Warrant, and (y) the obligation to deliver to the Holder of this Warrant such shares of stock, securities, cash or property as, in accordance with the foregoing provisions of this Section 8, the Holder may be entitled to receive.

(e) NOTICES.

(i) In each case of any adjustment or readjustment in the shares of Common Stock issuable upon the exercise of this Warrant, the Company at its expense shall promptly compute such adjustment or readjustment in accordance with the terms of this Warrant and prepare a certificate, signed by the Chairman of the Board, President or one of the Vice Presidents of the Company setting forth such adjustment or readjustment and showing in reasonable detail the method of calculation thereof and the facts upon which such adjustment or readjustment is based, including a statement of (a) the consideration received or to be received by the Company for any additional shares of Common Stock issued or sold or deemed to have been issued, (b) the number of shares of Common Stock outstanding or deemed to be outstanding, and (c) the Warrant Exercise Price in effect immediately prior to such adjustment and as adjusted and readjusted (if required by Section 8) on account thereof. The Company shall forthwith mail a copy of each such certificate to each Holder of a Warrant and shall, upon the

written request at any time of any Holder of a Warrant, furnish to such Holder a like certificate setting forth the Warrant Exercise Price at the time in effect and showing in reasonable detail how it was calculated. The Company shall also keep copies of all such certificates at its principal office and shall cause the same to be available for inspection at such office during normal business hours by any Holder of a Warrant or any prospective purchaser of a Warrant designated by the Holder thereof. The Company shall, upon the request in writing of the Holder (at the Company's expense) retain independent public accountants of recognized national standing in accordance with the provisions of Section 2(a) above, and a certificate signed by such accounting firm shall be conclusive evidence of the correctness of such adjustment, which shall be binding on the Holder and the Company.

(ii) The Company shall provide notice at least five (5) Business Days prior to each Holder of a Warrant specifying the date or expected date on which any of the events described in subclauses (i) through (iv) of Section 8(d) hereof is to take place and the time, if any such time is to be fixed, as of which the holders of record of Common Stock shall be entitled to exchange their shares of Common Stock for the securities or other property deliverable upon event.

9. LOST, STOLEN, MUTILATED OR DESTROYED WARRANT. If this Warrant is lost, stolen, mutilated or destroyed, the Company shall, on receipt of an indemnification undertaking, issue a new Warrant of like denomination and tenor as the Warrant so lost, stolen, mutilated or destroyed.

10. NOTICE. Any notices, consents, waivers, or other communications required or permitted to be given under the terms of this Warrant must be in writing and will be deemed to have been delivered (i) upon receipt, when delivered personally; (ii) upon receipt, when sent by facsimile, provided a copy is mailed by U.S. certified mail, return receipt requested; (iii) three (3) days after being sent by U.S. certified mail, return receipt requested; or (iv) one (1) day after deposit with a nationally recognized overnight delivery service, in each case properly addressed to the party to receive the same. The addresses and facsimile numbers for such communications shall be:

If to the Company: StemCells, Inc.
3155 Porter Drive
Palo Alto, CA 94304
Attention: Martin McGlynn, President & CEO
Telephone: (650) 475-3100
Facsimile: (650) 475-3101

With a copy simultaneously by like means to:

Ropes & Gray
One International Place
Boston, MA 02110
Attention: Geoffrey B. Davis, Esq.
Telephone: (617) 951-7000
Facsimile: (617) 951-7050

If to a holder of this Warrant, to it at the address set forth below such holder's signature on the signature page hereof, with a copy simultaneously by like means to each of: (i) Cantor Fitzgerald & Co., 299 Park Avenue, New York, NY 10171, Attention: Stephen Merkel, Esq., Telephone: (212) 281-6969, Facsimile: (212) 751-7050, and (ii) Zukerman Gore & Brandeis, LLP, 900 Third Avenue, New York, NY 10022, Attention: Clifford A. Brandeis, Esq., Telephone: (212) 223-6700, Facsimile: (212) 223-6433. Each party shall provide written notice to the other party of any change in address or facsimile number.

11. INDEMNIFICATION AND CONTRIBUTION WITH RESPECT TO REGISTRATION RIGHTS. If any Warrant Shares are included in any Registration Statement under the Securities Act pursuant to this Warrant:

(a) To the extent permitted by law, the Company will indemnify and hold harmless each Holder, the directors, officers and partners, if any, of such Holder, each person, if any, who controls any Holder within the meaning of the Securities Act or the Exchange Act, any underwriter (as defined in the Securities Act) for the Holders, the directors, officers and partners, if any, of such underwriter, and each person, if any, who controls any such underwriter within the meaning of the Securities Act or the Exchange Act, against any losses, claims, damages, liabilities or expenses (joint or several) incurred (collectively, "CLAIMS") to which any of them may become subject under the Securities Act, the Exchange Act or otherwise, insofar as such Claims (or actions or proceedings, whether commenced or threatened, in respect thereof) arise out of or are based upon any of the following: (i) any untrue statement or alleged untrue statement of a material fact contained in any Registration Statement or any post-effective amendment thereof or the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, (ii) any untrue statement or alleged untrue statement of a material fact contained in any preliminary prospectus if used prior to the effective date of such Registration Statement, or contained in the final prospectus (as amended or supplemented, if the Company files any amendment thereof or supplement thereto with the SEC) or the omission or alleged omission to state therein any material fact necessary to make the statements made therein, in light of the circumstances under which the statements therein were made, not misleading or (iii) any violation or alleged violation by the Company of the Securities Act, the Exchange Act, any state securities law or any rule or regulation under the Securities Act, the Exchange Act or any state securities law (the matters in the foregoing clauses (i) through (iii) being, collectively, "VIOLATIONS"). Notwithstanding anything to the contrary contained herein, the indemnification agreement contained in this Section 11(a): (I) shall not apply to a Claim arising out of or based upon a Violation which occurs in reliance upon and in conformity with information furnished in writing to the Company by any person indemnified under this Section 11(a) or expressly for use in connection with the

preparation of any Registration Statement, the prospectus or any such amendment thereof or supplement thereto; (II) with respect to any preliminary prospectus shall not inure to the benefit of any person indemnified under this Section 11(a) if the untrue statement or omission of material fact contained in the preliminary prospectus was corrected in the prospectus, as then amended or supplemented; and (III) shall not apply to amounts paid in settlement of any Claim if such settlement is effected without the prior written consent of the Company, which consent shall not be unreasonably withheld. Such indemnity shall remain in full force and effect regardless of any investigation made by or on behalf of the indemnified person referred to in this Section 11(a).

(b) In connection with any Registration Statement in which a Holder is participating, each such Holder agrees to indemnify and hold harmless, to the same extent and in the same manner set forth in Section 11(a), the Company, each of its directors, officers and partners who signs the Registration Statement, each person, if any, who controls the Company within the meaning of the Securities Act or the Exchange Act, any underwriter and any other stockholder selling securities pursuant to the Registration Statement or any of its directors, officers, partners or any person who controls such stockholder or underwriter within the meaning of the Securities Act or the Exchange Act, against any Claim to which any of them may become subject, under the Securities Act, the Exchange Act or otherwise, insofar as such Claim arises out of or is based upon any Violation, in each case to the extent (and only to the extent) that such Violation occurs in reliance upon and in conformity with written information furnished to the Company by such Holder expressly for use in connection with such Registration Statement or any post-effective amendment thereof, or any prospectus included therein; and such Holder will reimburse any legal or other expenses reasonably incurred by any indemnified person under this Section 11(b), promptly as such expenses are incurred and are due and payable, in connection with investigating or defending any such Claim; provided, however, that the indemnity agreement contained in this Section 11(b) shall not apply to amounts paid in settlement of any Claim if such settlement is effected without the prior written consent of such Holder, which consent shall not be unreasonably withheld; provided, further, however, that each Holder shall be liable under this Section 11(b) for only that amount of a Claim as does not exceed the amount of the proceeds to such Holder from the sale of the Registrable Securities pursuant to such Registration Statement that resulted in such Claim. Such indemnity shall remain in full force and effect regardless of any investigation made by or on behalf of any indemnified person under this Section 11(b) and shall survive the transfer of the Registrable Securities by the Holders pursuant to Section 7. Notwithstanding anything to the contrary contained herein, the indemnification agreement contained in this Section 11(b) with respect to any preliminary prospectus shall not inure to the benefit of any indemnified person under this Section 11(b) if the untrue statement or omission of material fact contained in the preliminary prospectus was corrected on a timely basis in the prospectus, as then amended or supplemented.

(c) The Company shall be entitled to receive indemnities from underwriters, selling brokers, dealer managers and similar securities industry professionals participating in any distribution, to the same extent as provided above, with respect to information so furnished in writing by such persons expressly for inclusion in any Registration Statement.

(d) Each party entitled to indemnification under this Section 11 (the "INDEMNIFIED PARTY") shall give notice to the party required to provide indemnification (the "INDEMNIFYING PARTY") promptly after such Indemnified Party has actual knowledge of any such Claim as to which indemnity may be sought and the Indemnifying Party shall have the right to participate in, and, to the extent the Indemnifying Party so desires, jointly with any other indemnifying party similarly noticed, to assume control of the defense thereof with counsel selected by the Indemnifying Party but reasonably acceptable to the Indemnified Party; provided, however, that an Indemnified Party shall have the right to retain its own counsel with the fees and expenses to be paid by the Indemnifying Party, if, in the reasonable opinion of counsel retained by the Indemnifying Party, the representation by such counsel of the Indemnified Party and the Indemnifying Party would be inappropriate due to actual or potential differing interests between such Indemnified Party and any other party represented by such counsel in such proceeding. The failure to deliver written notice to the Indemnifying Party within a reasonable time of the commencement of any such action shall not relieve such Indemnifying Party of any liability to the Indemnified Party under this Section 11, except to the extent that the Indemnifying Party is prejudiced in its ability to defend such action. The indemnification required by this Section 11 shall be made by periodic payments of the amount thereof during the course of the investigation or defense, as such expense, loss, damage or liability is incurred and is due and payable.

(e) To the extent any indemnification by an Indemnifying Party is prohibited or limited by law, the Indemnifying Party agrees to make the maximum contribution with respect to any amounts for which it would otherwise be liable under this Section 11 to the fullest extent permitted by law; provided, however, that (i) no contribution shall be made under circumstances where the maker would not have been liable for indemnification under the fault standards set forth in Section 11, (ii) no seller of Warrant Shares guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any seller of Warrant Shares who was not guilty of such fraudulent misrepresentation and (iii) contribution by any Holder shall be limited in amount to the amount by which the net amount of proceeds received by such Holder (if any) from the sale of such Warrant Shares that resulted in such Claim exceeds the purchase price paid by such Holder for such Warrant Shares.

12. DATE. This Warrant, in all events, shall be wholly void and of no effect after 5:00 P.M. Eastern Standard Time on the Expiration Date, except that notwithstanding any other provisions hereof, the provisions of Sections 3(j), 7 and 11 shall continue in full force and effect after such date as to any Warrant Shares or other securities issued upon the exercise of this Warrant.

13. AMENDMENT AND WAIVER. Except as otherwise provided herein, the provisions of the Warrants may be amended and the Company may take any action herein prohibited, or omitted to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the Holders of Warrants representing a majority of the shares of Common Stock obtainable upon exercise of the Warrants then outstanding, provided that no such action may increase the Warrant Exercise Price of the Warrants or decrease the number of shares or class of stock obtainable upon exercise of any warrants with out the written consent of the Holder of such warrant.

14. DESCRIPTIVE HEADINGS; GOVERNING LAW. The descriptive headings of the several sections of this Warrant are for convenience of reference only and shall not limit or otherwise affect the meaning hereof. This Warrant shall be governed by and interpreted under the laws of the State of New York, without giving effect to any choice of law or conflict of laws principles thereof.

15. JUDICIAL PROCEEDINGS. Any legal action, suit or proceeding brought against the Company or the Holder with respect to this Warrant may be brought in any federal court of the Southern District of New York or any state court located in New York County, State of New York, and by execution and delivery of this Warrant, the Company and the Holder hereby irrevocably and unconditionally waives any claim (by way of motion, as a defense or otherwise) of improper venue, that it is not subject personally to the jurisdiction of such court, that such courts are an inconvenient forum or that this Warrant or the subject matter may not be enforced in or by such court. Each of the Company and the Holder hereby irrevocably and unconditionally consents to the process of any of the aforementioned courts in any such action, suit or proceeding by the mailing of copies thereof by registered or certified mail, postage prepaid, at its address set forth or provided for in Section 10 hereof, such service to become effective 10 days after such mailing. Nothing herein contained shall be deemed to affect the right of any party to serve process in any manner permitted by law or commence legal proceedings or otherwise proceed against any other party in any other jurisdiction to enforce judgment obtained in any action, suit or proceeding brought pursuant to this Section.

16. WAIVER OF TRIAL BY JURY. EACH OF THE COMPANY AND THE HOLDER WAIVES ANY RIGHT TO A TRIAL BY JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM CONCERNING ANY RIGHTS UNDER THIS WARRANT OR UNDER ANY AMENDMENT, WAIVER, CONSENT, INSTRUMENT, DOCUMENT OR OTHER AGREEMENT DELIVERED OR WHICH IN THE FUTURE MAY BE DELIVERED IN CONNECTION WITH THIS WARRANT, AND AGREES THAT ANY SUCH ACTION, PROCEEDING OR COUNTERCLAIM SHALL BE TRIED BEFORE A COURT AND NOT BEFORE A JURY.

This Warrant has been duly executed by the Company and the Holder as of the date first set forth above.

StemCells, Inc.

By: /s/ Iris Brest

Name: Iris Brest
Title: General Counsel and Secretary

Cantor Fitzgerald & Co.

By: /s/ Phil Marber

Name: Phil Marber

Title: President

EXHIBIT A

FORM OF EXERCISE NOTICE

(Complete and sign only exercise of the Warrant in whole or in part.)

TO: StemCells, Inc.

The undersigned, the holder of the attached Warrant to which this Exercise Notice applies, hereby irrevocably elects to exercise the purchase rights represented by such warrant for and to purchase thereunder _____ shares of Common Stock, par value $.01 per share (the "Shares"), from StemCells, Inc. (or such other securities issuable pursuant to the terms of the Warrant) and:

_____ (i) herewith makes payment of $_____ therefor (equal to the Aggregate Warrant Exercise Price) in cash or by certified or official bank check; or

_____ (ii) elects to make payment upon a Cashless Exercise pursuant to Section 2(a)(Y) of the Warrant and authorizes the Company to cancel such number of shares as calculated in accordance with such Section 2(a)(Y) of the Warrant; or

_____ (iii) elects to make payment upon a Cashless Exercise pursuant to Section 2(a)(Z) of the Warrant and surrenders herewith certificates representing the number of shares of Common Stock of the Company as calculated pursuant to Section 2(a)(Z) of the Warrant.

The undersigned hereby requests that the certificate(s) representing such securities be issued in the name(s) and delivered to the address(es) as follows:

Name:

Address:

Social Security Number (if applicable):

Deliver to:

Address:

If the foregoing exercise notice evidences an exercise of the Warrant to purchase fewer than all of the Shares (or other securities issuable pursuant to the terms of the Warrant) to which the undersigned is entitled under such warrant, please issue a new warrant, of like tenor, relating to the remaining portion of the securities issuable upon exercise of such warrant (or other securities issuable pursuant to the terms of such warrant) in the name(s), and deliver the same to the address(es), as follow:

Name:

Address:

Dated:

- ----------
(Name of holder)

(Social Security or Taxpayer Identification Number of holder, if applicable)

- ----------------------------------
(Signature of holder or Authorized
Signatory)

Signature Guaranteed:

EXHIBIT B

FORM OF WARRANT POWER

FOR VALUE RECEIVED, the undersigned does hereby assign and transfer to _____ Federal Identification No._____, a warrant to purchase shares of the capital stock of StemCells, Inc. a Delaware corporation, represented by warrant certificate No._____, standing in the name of the undersigned on the books of said corporation. The undersigned does hereby irrevocably constitute and appoint _____, attorney to transfer the warrants of said corporation, with full power of substitution in the premises.

Dated:

By:

Its:

EXHIBIT 23.1

CONSENT OF ERNST & YOUNG LLP, INDEPENDENT AUDITORS

We consent to the reference to our firm under the caption "Experts" in the Registration Statement (Form S-3 No. 333-75806) and related Prospectus of StemCells, Inc. for the registration of 3,997,201 shares of its common stock and to the incorporation by reference therein of our report dated February 23, 2001, with respect to the consolidated financial statements of StemCells, Inc. included in its Annual Report (Form 10-K) for the year ended December 31, 2000, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Palo Alto, California
January 9, 2002