AS FILED WITH THE SECURITIES AND EXCHANGE COMMISSION ON SEPTEMBER 8, 2000

REGISTRATION NO. 333-

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM S-1
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.)

525 DEL REY AVENUE, SUITE C
SUNNYVALE, CA 94085
(408)731-8670
(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

IRIS BREST, ESQ.
STEMCELLS, INC.
525 DEL REY AVENUE, SUITE C
SUNNYVALE, CA 94085
(408)731-8670
(Name, address, including zip code, and telephone number, including area code, of agent for service)

COPIES TO:
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Ropes & Gray
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(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.....	3,205,486 Shares	$8.22	$26,349,094	$6,956.16

(1) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(c) under the Securities Act of 1933. The maximum price per share information is based on the average of the high and low sale prices on the Nasdaq National Market on September 7, 2000.

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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SUBJECT TO COMPLETION--SEPTEMBER 8, 2000

PROSPECTUS
, 2000

STEMCELLS, INC.
SHARES OF COMMON STOCK

This prospectus relates to the resale of 3,205,486 shares of our common stock acquired by the selling stockholders listed on page 39 of this prospectus or in an accompanying supplement to this prospectus.

The selling stockholders identified in this prospectus, or their pledgees, donees, transferees or other successors-in-interest, may offer the shares from time to time through public or private transactions at prevailing market prices, at prices related to prevailing market prices or at privately negotiated prices.

Our common stock is traded on the Nasdaq National Market under the symbol "STEM."

We will not receive any proceeds from the sale of the shares.

THIS INVESTMENT INVOLVES RISKS. SEE "RISK FACTORS" BEGINNING ON PAGE 4.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

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PROSPECTUS SUMMARY

THIS SUMMARY HIGHLIGHTS IMPORTANT INFORMATION REGARDING OUR BUSINESS AND THIS OFFERING. BECAUSE THIS IS ONLY A SUMMARY, IT DOES NOT CONTAIN ALL THE INFORMATION THAT MAY BE IMPORTANT TO YOU. YOU SHOULD READ THE ENTIRE PROSPECTUS CAREFULLY, INCLUDING "RISK FACTORS" AND OUR FINANCIAL STATEMENTS AND RELATED NOTES, BEFORE DECIDING TO INVEST IN OUR COMMON STOCK.

STEMCELLS, INC.

We are a leader in the development of therapies that use stem cells to treat degenerative human diseases and disorders. Stem cells are the key cells in the body that produce all the functional mature cell types found in normal, healthy individuals. Our research and development efforts focus on the identification, isolation and expansion of stem cells as the underlying technology for developing potential cell transplant therapies. These stem cell based therapies could be used to repopulate or repair tissues, such as the brain, pancreas or liver, that have been damaged or lost as a result of disease or injury.

Many diseases result from organ failure in situations where whole organs cannot be transplanted to cure the disease (e.g., Alzheimer's, Parkinson's and other degenerative diseases of the nervous system) or where there are constraints due to a short supply of organs for transplant (e.g., liver failure from hepatitis or other causes and pancreatic failure from diabetes). These conditions, many of which cannot be treated effectively, affect more than 18 million people in the United States and account for more than $160 billion annually in health care costs according to associations for the various diseases and government sources.

We believe our stem cell technologies can provide the basis for effective therapies for these and other conditions. Our aim is to replace lost or damaged cells or regenerate organs, returning patients to productive lives and significantly reducing health care costs. Our current leadership position is a result of fundamental advances we have made in stem cell therapy for the nervous system through our research and development program for the isolation, purification and transplantation of neural stem cells. We also have made significant advances in our search for the stem cells of the pancreas and of the liver.

We have established a broad intellectual property position with respect to stem cell therapies in all three areas by patenting our discoveries and entering into exclusive licensing arrangements. Our portfolio of issued patents includes a method of culturing normal human neural stem cells in our proprietary medium, and our published studies show that our cultured and expanded cells give rise to all three major cell types of the central nervous system (i.e., neurons, astrocytes and oligodendrocytes). In addition, the Company recently announced the results of a new study that showed that human brain stem cells can be successfully isolated with the use of markers present on the surface of freshly obtained brain cells. We believe this is the first reproducible process for isolating highly purified populations of well-characterized normal human neural stem cells, and we have applied for a composition of matter patent. We also have filed an improved process patent for the growth and expansion of these purified normal human neural cells.

Historical Note: StemCells was formerly known as CytoTherapeutics and was incorporated in Delaware in 1988. We currently have one subsidiary, StemCells California, Inc., a California corporation we acquired in September 1997. Until mid-1999, we had programs in encapsulated cell therapy as well as stem cell programs. In 1999, we embarked on a major restructuring of our research and development operations and sold the encapsulated cell therapy technology. We now focus exclusively on the discovery, development and commercialization of our proprietary platform stem cell technologies.

SUMMARY CONSOLIDATED FINANCIAL AND OTHER DATA
(IN THOUSANDS, EXCEPT PER SHARE DATA)

The following table summarizes the consolidated financial data for our business. This table should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and notes thereto included elsewhere in this prospectus.

	YEAR ENDED DECEMBER 31					SIX MONTHS ENDED JUNE 30	
	1995	1996	1997	1998	1999	1999	2000
STATEMENT OF OPERATIONS DATA							
Revenue from collaborative agreements	$11,761	$ 7,104	$ 10,617	$ 8,803	$ 5,022	$ 5,022	$ --
Research and development expenses	14,730	17,130	18,604	17,659	9,991	6,847	1,660
Acquired research and development			8,344				
ECT wind-down expenses					6,048		
Net loss	$(8,891)	$(13,759)	$(18,114)	$(12,628)	$(15,709)	$(3,773)	$(2,326)
Basic and diluted net loss per share	$ (0.69)	$ (0.89)	$ (1.08)	$ (0.69)	$ (0.84)	$ (0.20)	$ (0.12)
Shares used in computing basic and diluted net loss per share	12,799	15,430	16,704	18,291	18,706	18,483	19,419

The following table provides a summary of our consolidated balance sheets. The pro-forma column is based on our historical unaudited financial statements and also reflects our August 3, 2000 sale of 923,521 shares of common stock to Millennium Partners, L.P for $4,000,000 and the sale as of August 30, 2000 of 180,914 shares of common stock to Millennium Partners, L.P., for $1,000,000, net of a stock subscription receivable of $1,250,000.

	AS OF DECEMBER 31					AS OF JUNE 30	
	1995	1996	1997	1998	1999	2000 ACTUAL	2000 PRO-FORMA
BALANCE SHEET DATA							
Cash, cash equivalents and marketable securities	$44,192	$42,607	$29,050	$17,386	$4,760	$5,535	$9,285
Restricted investments						19,220	19,220
Total assets	56,808	58,397	44,301	32,866	16,081	32,388	36,138
Long-term debt, including capitalized leases	5,441	8,223	4,108	3,762	2,937	2,775	2,775
Redeemable common stock		8,159	5,583	5,249	5,249		
Stockholders' equity	45,391	34,747	28,900	17,897	3,506	27,606	31,356

The results shown at, and for the six months ended, June 30, 2000 reflect a restructuring of the Company to focus solely on our stem cell technology which was implemented by terminating all activities related to its former encapsulated cell technology and relocating all activities to Sunnyvale, California. For more information on this restructuring see "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and notes thereto included elsewhere in this prospectus.

During the second quarter 2000 the Company realized a $1,427,686 gain and recognized an increase in value related to its remaining holdings of $19,220,165 in connection with its investment in Modex Therapeutics Ltd. ("Modex"), a Swiss biotechnology company that completed an initial public offering on June 23, 2000. For more information on Modex see "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and notes thereto included elsewhere in this prospectus.

RISK FACTORS

You should carefully consider the risks described below before making an investment decision regarding StemCells, Inc. (the "Company" or "we" or "us"). Furthermore, the risks described are not the only ones facing the Company. Additional risks not presently known to us or that we currently deem immaterial may also impair our business operations.

Our business, financial condition or results of operations could be materially adversely affected by any of these risks. 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 PRODUCTS.

Our stem cells technology is at the early pre-clinical stage for the neural stem cell and at the discovery phase for the liver and pancreas stem cells and has not yet led to the development of any proposed 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 utilizing stem cell technology may fail to (i) survive and persist in the desired location, (ii) provide the intended therapeutic benefits, (iii) properly differentiate and integrate into existing tissue in the desired manner, or (iv) achieve benefits therapeutically equal to or better than the standard of treatment at the time of testing. In addition, any such product may cause undesirable side effects. Results obtained in early pre-clinical research may not be indicative of the results that will be obtained in later stages of preclinical or clinical research. If any products we develop do not receive regulatory approval, or if we are unable to maintain regulatory compliance, we will be limited in our ability to commercialize them, and our business and results of operations would be harmed. Furthermore, since stem cells represent a novel 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 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.

Even though we owned 126,193 shares of Modex Therapeutics Ltd., stock with an estimated fair market value of $19,220,165 based on the share price of $247.50 Swiss francs on June 30, 2000, we are restricted from selling them until January 2001, and the value of our holdings is subject to change. The performance of Modex stock since Modex's initial public offering does not predict its future value.

We intend to pursue our needed capital resources through equity and debt financings, corporate alliances, grants and collaborative research arrangements. 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 may fail to obtain the necessary capital resources from any such sources when needed or on terms acceptable to us. Lack of necessary funds may require us to delay, reduce or eliminate some or all of our research and development program or to license our technology or any potential products resulting therefrom to third parties rather than commercializing it ourselves.

WE MAY NEED BUT FAIL TO OBTAIN A PARTNER OR PARTNERS TO SUPPORT OUR STEM CELL DEVELOPMENT EFFORTS.

Equity and other funds alone may not be sufficient to fund the cost of developing our stem cell technologies and we may be dependent on our ability to reach partnering arrangements that will provide support for our stem cell discovery and development efforts. While we have engaged, and expect to continue to engage, in discussions regarding such arrangements, we have not reached any agreement regarding any such arrangement and we may fail to obtain any such agreement on terms acceptable to us, if at all.

WE HAVE A HISTORY OF OPERATING LOSSES AND THERE CAN BE NO ASSURANCE THAT WE WILL DEVELOP PRODUCTS, OBTAIN PRODUCT REVENUES OR BECOME PROFITABLE.

We have incurred substantial operating losses and expect to continue to incur substantial operating losses in the future in order to conduct our research and development activities, and if those are successful, to fund clinical trials and other expenses. We have not earned any revenue from sales of any product. Substantially all of our past revenues have been derived from, and any future 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 have no cooperative agreements and only one research grant currently in place 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.

WE HAVE SUBSTANTIAL PAYMENT OBLIGATIONS RESULTING FROM REAL PROPERTY OWNED OR LEASED BY US IN RHODE ISLAND, WHICH ADVERSELY AFFECT OUR ABILITY TO FUND OUR STEM CELL RESEARCH AND DEVELOPMENT.

Prior to our reorganization in 1999 and the resulting consolidation of all functions in California, we carried out our former encapsulated cell therapy programs at facilities in Lincoln, Rhode Island, where our administrative offices were also located. Although we have vacated these facilities, we have continuing obligations for lease payments and operating costs of approximately $950,000 per year for our former Science and Administrative Facility ("SAF") and debt service payments and operating costs of approximately $1,000,000 per year for our former encapsulated cell therapy pilot manufacturing facility. We are currently seeking to sublease the SAF and to sell the pilot manufacturing facility, but may not be able to do so. These continuing costs significantly reduce our cash resources and adversely affect our ability to fund further development of our stem cell technology.

WE DO NOT ANTICIPATE RECEIVING FUTURE REVENUES FROM THE SALE OF OUR ENCAPSULATED CELL TECHNOLOGY.

In December 1999, we sold our encapsulated cell therapy technology to Neurotech S.A. While under the terms of the sale, we may receive royalty and other payments from Neurotech under certain circumstances, we do not anticipate receiving any material payments from Neurotech in the near future, if at all.

FOUNDERS OF STEMCELLS CALIFORNIA, INC. HAVE THE RIGHT TO CONTROL OUR STEM CELL RESEARCH AND TO REACQUIRE OUR STEM CELL TECHNOLOGY UNDER CERTAIN CIRCUMSTANCES.

The agreement by which StemCells, Inc. acquired StemCells California in September 1997, provides for our stem cell research to be conducted in accordance with the provisions of an agreement between StemCells, Inc. and Drs. Irving Weissman and Fred Gage, founders of StemCells California, pursuant to a research plan. As long as the goals of the research plan are accomplished, the stem cell research will continue to be conducted under an extension of such research plan approved by a Research Committee. Increases in stem cell research funding of not more than 25% a year approved by the Committee must be funded by StemCells, Inc. as long as the goals of the research plan are being met, but StemCells, Inc. has the option of ceasing or reducing neural stem cell research even if all research plan goals are being met. Under those circumstances all unvested but still-achievable performance-based options granted to Drs. Weissman and Gage in connection with the acquisition of StemCells California would vest. However, if we do cease or reduce non-neural stem cell research

although all research plan goals are being met, Drs. Weissman and Gage would have the right to continue development of the non-neural stem cell research by licensing the technology related to such research in exchange for a payment to StemCells, Inc. equal to all prior funding for such research plus royalty payments, which might not reflect fair market value for such technology at such time.

WE DEPEND ON PATENTS AND PROPRIETARY RIGHTS TO PROTECT OUR INTELLECTUAL PROPERTY FROM INFRINGEMENT. NEVERTHELESS, SUCH PROTECTION IS UNCERTAIN AND, IF GAINED, MAY OFFER ONLY LIMITED PROTECTION. IF WE ARE UNABLE TO PROTECT OUR PATENTS AND PROPRIETARY RIGHTS, OUR BUSINESS, FINANCIAL CONDITION AND RESULTS OF OPERATION WILL BE HARMED.

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 coverage sought in a patent application can be denied or significantly reduced before or after the patent is issued. 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 a) will provide significant protection or commercial advantage or b) will be circumvented by others. Since patent applications are secret until patents are issued in the United States or until the applications are published in foreign countries, and since publication of discoveries in the scientific or patent literature often lags behind actual discoveries, 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. Our patents may not issue from our pending or future patent applications or, if issued, may not be of commercial benefit to us, afford us adequate protection from competing products or may be challenged or declared 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 interference proceedings declared by the United States Patent and Trademark Office 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 it might not be. Even if our patent issues, a court of competent jurisdiction could hold the patent to be issued.

IF OTHERS ARE FIRST TO DISCOVER AND PATENT ANY STEM CELLS WE ARE SEEKING TO DISCOVER, WE COULD BE BLOCKED FROM FURTHER WORK ON THAT STEM CELL, AND OUR BUSINESS WOULD BE HARMED.

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 to our development efforts for us or our collaborators to be the first to discover any stem cell that we are seeking; failure to do so could prevent us from commercializing all of our research and development related to such stem cell and have a material adverse effect on the Company.

WE MAY NEED TO OBTAIN LICENSES TO THIRD PARTY PATENTS, AND MAY NOT BE ABLE TO GET THEM.

A number of pharmaceutical, biotechnology and other companies, universities and research institutions have filed patent applications or have been issued patents relating to cell therapy, stem cells and other technologies potentially relevant to or required by our expected products. We cannot predict which, if any, of such applications will issue as patents or the claims that might be allowed. We are aware that a number of companies have filed applications relating to stem cells. We are also aware of a number of patent applications and patents claiming use of genetically modified cells to treat disease, disorder or injury. We are aware of two patents issued to a competitor claiming certain methods for enriching central nervous system (CNS) stem cells through gene modification of in vitro cultured cells. These genetically modified cells can then be used to treat defective, diseased or damaged CNS tissue.

If third party patents or patent applications contain claims infringed by our technology and such claims or claims in issued patents are ultimately determined to be 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 could be obligated to defend ourselves in court against allegations of

infringement of third party patents. Patent litigation is very expensive and could consume substantial resources and create significant uncertainties. An adverse outcome in such a suit could subject us to significant liabilities to third parties, require disputed rights to be licensed from third parties, or require us to cease using such technology.

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, 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.

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. Our licenses may be canceled or converted to non-exclusive licenses if we fail to use the relevant technology or otherwise breach these agreements. Loss of such licenses could expose us to the risks of third party patents and/or technology. There can be no assurance that any of these licenses will provide effective protection against our competitors.

WE COMPETE WITH SUBSTANTIAL COMPANIES THAT HAVE SIGNIFICANT ADVANTAGES OVER US.

The market for therapeutic products that address degenerative diseases is large, and competition is intense and is expected to increase. Our most significant competitors are expected to be fully integrated pharmaceutical companies and more established biotechnology companies with significantly greater capital resources and expertise in research and development, manufacturing, testing, obtaining regulatory approvals and marketing. 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.

Our competitors may succeed in developing technologies and products that a) are more effective than those being developed by us, or that b) 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 WILL BE SUBJECT TO 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 extensive regulation by governmental authorities in the United States and other countries. The process of obtaining FDA and other required 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 United States 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 may apply for status under the Orphan Drug Act for certain of our therapies, in order to gain a seven year period of marketing exclusivity for those therapies. Legislation has been introduced in the U.S. Congress in the past, and is likely to be introduced again in the future, 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 offered under the existing statute even if we were to apply for and be granted orphan drug status with respect to a potential product.

ACQUISITION OF CELLS AND OTHER MATERIALS CRITICAL TO OUR BUSINESS MAY BE DIFFICULT.

Our research and development is based on the use of human stem and progenitor cells that are currently 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 there can be no assurance that they will not become more onerous. Additionally, there can be no assurance that we will successfully identify or develop reliable and ethical sources of the cells required for our potential products and obtain such cells in quantity or quality sufficient to satisfy the commercial requirements of our potential products.

WE ARE SIGNIFICANTLY DEPENDENT ON A LIMITED NUMBER OF KEY PERSONNEL.

We are highly dependent on the principal members of our management and scientific staff and certain of our outside consultants. We currently have outside consultants and interim personnel in key management and scientific positions who are not permanent employees. Loss of services of any of these individuals could have a material adverse effect on our operations. 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 personnel we need on acceptable terms given the competition for experienced personnel among pharmaceutical, biotechnology and health care companies, universities and research institutions.

WE MAY BE SIGNIFICANTLY DEPENDENT ON THIRD PARTIES.

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. We may not be able to establish and maintain such arrangements on terms acceptable to us, or to successfully perform our obligations under such arrangements. Furthermore, these arrangements may require us to grant certain rights to third parties, including exclusive marketing rights to one or more products, or may have other terms that are burdensome to us, and may involve the acquisition of our securities. 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 any product candidates we may develop may be adversely affected.

WE MAY NOT BE ABLE TO KEEP PACE WITH TECHNOLOGICAL CHANGE OR WITH THE ADVANCES OF OUR COMPETITORS.

Competitors of the Company are numerous and include major pharmaceutical and chemical companies, biotechnology companies, universities and other research institutions. In addition, we have competitors with substantially greater capital resources, experience in obtaining regulatory approvals and, in the case of commercial entities, experience in manufacturing and marketing pharmaceutical products. There can be no assurance that our competitors will not succeed in developing technologies and products that are more effective than those we are developing or that would render our technology and products obsolete or non-competitive.

HEALTHCARE 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 FDA has not granted marketing approval. Significant uncertainty exists as to the reimbursement status of newly approved health care products. There can be 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 provide sufficient funds to enable us to sell products we may develop on a profitable basis. Changes in reimbursement policy could also adversely affect the willingness of pharmaceutical companies to collaborate with the Company on the development of our stem cell technology.

In certain foreign markets, pricing or profitability of prescription pharmaceuticals is subject to government control. We expect that there will continue to be a number of Federal and state proposals to implement government control over health care costs. Efforts at healthcare reform are likely to continue in future legislative sessions. We do not know what legislative proposals will be adopted or what actions Federal, state or private payers for healthcare goods and services may take in response to healthcare reform proposals or legislation. We cannot predict the effect government control and other healthcare reforms may have on our .

OUR QUARTERLY OPERATING RESULTS MAY FLUCTUATE.

Our operating results have varied, and may in the future continue to vary, significantly from quarter to quarter due to a variety of factors. These factors include the receipt of one-time license or milestone payments under collaborative agreements, costs associated with winddown of our encapsulated cell therapy programs, variation in the level of expenses related to our research and development efforts, receipt of grants or other support for our research and development efforts, and other factors. Quarterly comparisons of our financial results are not necessarily meaningful and should not be relied upon as an indication of future performance.

OUR STOCK PRICE MAY BE VOLATILE.

The market price for our Common Stock has been volatile and could decline below the offering price for the shares. We believe that the market price for our common stock could fluctuate substantially due to some or all of the risk factors enumerated above.

The stock market has recently experienced extreme price and volume fluctuations. These fluctuations have especially affected the market price of the stock of many high technology and health care-related companies. Such fluctuations have often been unrelated to the operating performance of these companies. Nonetheless, these broad market fluctuations may negatively affect the market price of our Common Stock.

EVENTS WITH RESPECT TO OUR SHARE CAPITAL COULD CAUSE THE PRICE OF OUR COMMON STOCK TO DECLINE.

Sales of substantial amounts of our Common Stock on the open market, or the availability of such shares for sale, could adversely affect the price of our Common Stock. In particular, as of August 15, 2000, stock options to purchase approximately 2,556,486 shares of Common Stock were outstanding, at an average exercise price of approximately $4.209 per share (subject to adjustment in certain circumstances); of this total, options covering approximately 608,976 shares are currently exercisable at an average exercise price of approximately $4.693 per share.

FORWARD-LOOKING STATEMENTS

This prospectus includes forward-looking statements. You can identify these statements by forward-looking words such as "may," "will," "possibly," "expect," "anticipate," "project," "believe," "estimate" and "continue" or similar words. You should read statements that contain these words carefully because they discuss our future expectations, contain projections of our future results of operations or of our financial condition, or state other "forward-looking" information. We believe that it is important to communicate our future expectations to our investors. However, there will be events in the future that we have not been able to accurately predict or control and that may cause our actual results to differ materially from those discussed. For example, contaminations at our facilities, changes in the pharmaceutical or biotechnology industries, competition and changes in government regulations or general economic or market conditions could all have significant effects on our results. These factors should be considered carefully and readers should not place undue reliance on our forward-looking statements. Before you invest in our common stock, you should be aware that the occurrence of the events described in the "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Business" sections and elsewhere in this prospectus could harm our business, operating results and financial condition. All forward looking statements attributable to us or persons acting on our behalf are expressly qualified in their entirety by the cautionary statements and risk factors contained throughout this prospectus. We are under no duty to update any of the forward-looking statements after the date of this prospectus or to conform these statements to actual results.

INDUSTRY AND MARKET DATA

In this prospectus, we rely on and refer to information and statistics regarding disease occurrences, costs of treatment, biotechnology, and the market sectors in which we may compete in the future. We obtained this information and statistics from various third party sources, discussions with our consultants and/or our own internal estimates. We believe that these sources and estimates are reliable, but we have not independently verified them.

USE OF PROCEEDS

We will not receive any proceeds from the sale of the shares offered pursuant to this prospectus.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our common stock. We currently intend to retain any future earnings to fund the development and growth of our business. We do not, therefore, anticipate paying any cash dividends in the foreseeable future. Any future determination to pay dividends will be at the discretion of our board of directors and will be dependent on then existing conditions, including our financial stability, results of operations, contractual restrictions, capital requirements, business prospects and other factors our board of directors deems relevant.

CAPITALIZATION

The following table presents our consolidated capitalization as of June 30, 2000 on a historical basis and as adjusted to reflect the $4,000,000 aggregate proceeds from our August 3, 2000 sale of 923,521 shares of common stock and $1,000,000 aggregate proceeds from our sale as of August 30, 2000 of 180,914 shares to Millennium Partners, L.P., net of a stock subscription receivable of $1,250,000. This table excludes

- 2,852,973 shares of common stock issuable upon the exercise of outstanding stock options and warrants as follows:

  a) as of August 15, 2000, 2,556,486 shares of common stock upon the exercise of stock options pursuant to our stock option plans at a weighted average price of $4.209 per share.

  b) 101,587 shares of common stock upon the exercise of a warrant held by Millennium Partners, L.P in conjunction with the aforementioned August 3, 2000 financing at an exercise price of $4.725 per share.

  c) 19,900 shares of common stock upon the exercise of a warrant held by Millennium Partners, L.P. in conjunction with the aforementioned August 30, 2000 financing at an exercise price of $6.03 per share.

  d) 100,000 shares of common stock upon the exercise of warrants granted to May Davis Group, Inc. and four of its affiliates in connection with the aforementioned financing at an exercise price of $5.0375 per share.

  e) 75,000 shares of common stock upon the exercise of warrants at $6.58125 per share held by holders of our 6% cumulative convertible preferred stock purchased on April 13, 2000 for $1,500,000.

- the right under certain circumstances for holders of our 6% cumulative convertible preferred stock to acquire up to a total of 1,126 additional shares of our 6% cumulative convertible preferred stock, which is convertible at the option of the holders into common stock at $6.33 per share subject to customary antidilution protection.

- Millennium Partners, L.P. option to purchase up to an additional $2,000,000 of common stock through August 3, 2001.

This table should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and notes thereto included elsewhere in this prospectus.

	AS OF JUNE 30, 2000	
	ACTUAL	AS ADJUSTED
Stockholders' equity:		
Convertible Preferred Stock, par value $0.01 per share, 1,000,000 shares authorized, 2,626 designated as 6% Cumulative Convertible Preferred Stock, 1,500 shares issued	$ 1,500,000	$ 1,500,000
Common stock, par value $0.01 per share, 45,000,000 shares authorized, 19,612,677 (actual) and 20,717,112 (as adjusted) shares issued	196,127	207,171
Additional paid-in-capital	129,525,509	134,514,465
Stock subscription receivable		(1,250,000)
Accumulated deficit	(121,698,674)	(121,698,674)
Accumulated other comprehensive income	19,220,165	19,220,165
Deferred compensation	(1,137,500)	(1,137,500)
Total stockholders' equity	$ 27,605,627	$ 31,355,627

DILUTION

This offering is for sales of stock by existing StemCells, Inc. stockholders on a continuous or delayed basis in the future. Sales of common stock by stockholders will not result in any substantial change to the net tangible book value per share before and after the distribution of shares by the selling stockholders. There will be no change in net tangible book value per share attributable to cash payments made by purchasers of the shares being offered. Prospective investors should be aware, however, that the price of StemCells, Inc. shares may not bear any rational relationship to net tangible book value per share.

SELECTED CONSOLIDATED FINANCIAL DATA

The following selected consolidated financial data should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and notes to those statements and other financial information included elsewhere in this prospectus.

The consolidated historical financial data presented below as of December 31, 1995, 1996, 1997, 1998, and 1999 and for the years then ended are derived from StemCells, Inc. (formerly CytoTherapeutics, Inc.) consolidated financial statements, which have been audited by Ernst & Young LLP, our independent auditors. The selected consolidated financial data as of June 30, 1999 and 2000, and for the six months then ended are derived from the unaudited financial statements of StemCells, Inc. In the opinion of management, the unaudited financial statements have been prepared on the same basis as the audited consolidated financial statements and include all adjustments (consisting only of normal recurring adjustments) necessary for a fair presentation of the financial position and results of operations for such periods. The selected consolidated financial data for the six months ended June 30, 2000 are not necessarily indicative of the results that may be expected for the year ended December 31, 2000 or any other future period.

	YEAR ENDED DECEMBER 31,					SIX MONTHS ENDED JUNE 30,	
	1995	1996	1997	1998	1999	1999	2000
STATEMENT OF OPERATIONS DATA							
Revenue from collaborative agreements	$11,761	$ 7,104	$ 10,617	$ 8,803	$ 5,022	$ 5,022	$ --
Research and development expenses	14,730	17,130	18,604	17,659	9,991	6,847	1,660
Acquired research and development			8,344				
ECT wind-down expenses					6,048		
Net loss	$(8,891)	$(13,759)	$(18,114)	$(12,628)	$(15,709)	$(3,773)	$(2,326)
Basic and diluted net loss per share	$ (0.69)	$ (0.89)	$ (1.08)	$ (0.69)	$ (0.84)	$ (0.20)	$ (0.12)
Shares used in computing basic and diluted net loss per share	12,799	15,430	16,704	18,291	18,706	18,483	19,419

The following table provides a summary of our consolidated balance sheets. The pro-forma column is based on our historical unaudited financial statements and also reflects our August 3, 2000 sale of 923,521 shares of common stock to Millennium Partners, L.P for $4,000,000 and the August 30, 2000 sale of 180,914 shares of common stock to Millennium Partners L.P. for $1,000,000, net of a stock subscription receivable of $1,250,000.

	AS OF DECEMBER 31,					AS OF JUNE 30,	
	1995	1996	1997	1998	1999	2000 ACTUAL	2000 PRO-FORMA
BALANCE SHEET DATA							
Cash, cash equivalents and marketable securities	$44,192	$42,607	$29,050	$17,386	$ 4,760	$ 5,535	$ 9,285
Restricted investments						19,220	19,220
Total assets	56,808	58,397	44,301	32,866	16,081	32,388	36,138
Long-term debt, including capitalized leases	5,441	8,223	4,108	3,762	2,937	2,775	2,775
Redeemable common stock		8,159	5,583	5,249	5,249		
Stockholders' equity	45,391	34,747	28,900	17,897	3,506	27,606	31,356

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion of our financial condition and results of operations for the six months ended June 30, 2000 and 1999 and the years ended December 31, 1999, 1998, and 1997 should be read in conjunction with our consolidated financial statements and notes to those statements and other financial information included elsewhere in this prospectus.

RESULTS OF OPERATIONS

OVERVIEW

Since our inception in 1988, we have been primarily engaged in research and development of human therapeutic products. As a result of a restructuring in the second half of 1999, our sole focus is now on our stem cell technology. At the beginning of last year, by contrast, our corporate headquarters, most of our employees, and main focus of our operations were primarily devoted to a different technology (encapsulated cell technology, or "ECT"). Since that time, we terminated a clinical trial of the ECT then in progress, we wound down our other operations relating to the ECT, we terminated the employment of those who worked on the ECT, we sold the ECT and we relocated from Rhode Island to Sunnyvale, California. Comparisons with last year's results are correspondingly less meaningful than they may be under other circumstances.

We have not derived any revenues from the sale of any products, and we do not expect to receive revenues from product sales for at least several years. We have not commercialized any product and in order to do so we must, among other things, substantially increase our research and development expenditures as research and product development efforts accelerate and clinical trials are initiated. We have incurred annual operating losses since inception and expect to incur substantial operating losses in the future. As a result, we are dependent upon external financing from equity and debt offerings and revenues from collaborative research arrangements with corporate sponsors to finance its operations. There presently are no such collaborative research arrangements and there can be no assurance that such financing or partnering revenues will be available when needed or on terms acceptable to us.

Our results of operations have varied significantly from year to year and quarter to quarter and may vary significantly in the future due to the occurrence of material, nonrecurring events, including without limitation the receipt of one-time, nonrecurring licensing payments, and the initiation or termination of research collaborations, in addition to the winding-down of terminated research and development programs referred to above.

SIX MONTHS ENDED JUNE 30, 2000 AND 1999

For the six months ended June 30, 2000 and 1999, revenues from collaborative agreements totaled $0 and $5,021,707, respectively. The decrease in revenues resulted from the June 1999 termination of a Development, Marketing and License Agreement related to our former encapsulated cell technology. We have not yet entered into revenue-producing collaborations with respect to our platform stem cell technology. During the second quarter 2000 we realized a $1,427,686 gain in connection with its investment in Modex Therapeutics Ltd. ("Modex"), a Swiss biotechnology company that completed an initial public offering on June 23, 2000. At June 30, 2000, we owned 126,193 shares with an estimated fair value of $19,220,165 based on the share price of $247.50 Swiss francs on that date.

Research and development expenses totaled $1,659,932 for the six months ended June 30, 2000, compared with $6,847,383 for the same period in 1999. The decrease of $5,187,451, or 76%, from 1999 to 2000 was primarily attributable to the wind-down of research activities relating to the ECT. General and administrative expenses were $2,078,286 for the six months ended June 30, 2000, compared with $2,168,315 for the same period in 1999. The decrease of $90,029, or 4%, from 1999 to 2000 was

primarily attributable to the establishment of a smaller corporate office in California. Interest income for the six months ended June 30, 2000 and 1999 was $138,232 and $406,331, respectively. The decrease in interest income in 2000 was attributable to the lower average investment balances during such period. Interest expense was $142,566 for the six months ended June 30, 2000, compared with $185,054 for the same period in 1999. The decrease in 2000 was attributable to lower outstanding debt and capital lease balances in 2000 compared to 1999.

Net loss for the six months ended June 30, 2000 was $2,325,964, or ($0.12) per share, as compared to net loss of $3,772,714, or ($0.20) per share, for the comparable period in 1999. The decrease in net loss of $1,446,750 from the same period in 1999 primarily reflects a gain from the sale of certain shares of our stock in Modex, as the reductions in expenses were offset by the decrease in revenues from collaboration agreements. The Company (then known as CytoTherapeutics, Inc.) was one of the founders of Modex, a Swiss biotherapeutics company established in 1996 to pursue encapsulated cell technologies related to former programs of the Company. After Modex' initial public offering on the Swiss Neue Market in late June, we own 126,193 shares of Modex common stock. The IPO price was 168.00 Swiss Francs, and the share price on June 30 was 247.50 Swiss Francs. The shares are subject to a lockup for 6 months from the date of the IPO.

YEARS ENDED DECEMBER 31, 1999, 1998 AND 1997

Revenues from collaborative agreements totaled $5,022,000, $8,803,000 and $10,617,000 for the years ending December 31, 1999, 1998 and 1997, respectively. We earned revenues primarily from a Development, Marketing and License Agreement with AstraZeneca Group plc, which we signed in March 1995 (the "Astra Agreement"). The decrease in revenues from 1998 to 1999 resulted primarily from the June 1999 termination of the Astra Agreement. 1997 revenues included a $3,000,000 milestone payment from Astra related to the Phase II clinical program for our pain control implant.

Research and development expenses totaled $9,984,000 in 1999, as compared to $17,659,000 in 1998 and $18,604,000 in 1997. The decrease of $7,668,000, or 43%, from 1998 to 1999 was primarily attributable to the wind-down of research activities relating to our encapsulated cell technology, precipitated by termination of the Astra Agreement. The decrease of $945,000, or 5%, from 1997 to 1998 was primarily attributable to a reduction in spending on research agreements and a reduction in research and development personnel.

Acquired research and development consists of a one-time charge of $8,344,000 related to the acquisition of StemCells California, Inc., in 1997. Commercialization of this technology will require significant incremental research and development expenses over a number of years. With the recent completion of the restructuring of our research operations, we are now focused solely on the research and development of its platform stem cell technology, which encompasses the technology acquired upon the acquisition of StemCells California, Inc. and related technology developed or licensed in by us.

General and administrative expenses were $4,927,303 for the year ended December 31, 1999, compared with $4,603,000 in 1998 and $6,158,000 in 1997. Due to the wind-down of the Company's encapsulated cell technology and relocation of our headquarters in October, the 1999 expenses are less than they would have been had these events not occurred. The reduction of $1,555,000, or 25%, from 1997 to 1998 was primarily attributable to a reduction in legal fees, recruiting and relocation expenses, as well as a reduction in employees.

Wind-down expenses totaled $6,047,806 for the year ended December 31, 1999; no such expenses were incurred in 1998 and 1997. These expenses relate to the wind-down of our encapsulated cell technology research and our other Rhode Island operations, the transfer of our corporate headquarters to Sunnyvale, California and an accrual for our estimate of the costs of settlement of a 1989 funding agreement with the Rhode Island Partnership for Science and Technology ("RIPSAT").

Interest income for the years ended December 31, 1999, 1998 and 1997 totaled $564,000, $1,254,000 and $1,931,000, respectively. The average cash and investment balances were $10,663,000, $21,795,000 and $33,343,000 in 1999, 1998 and 1997, respectively. The decrease in interest income from 1997 to 1998 to 1999 was attributable to lower average balances.

In 1999, interest expense was $335,000, compared with $472,000 in 1998 and $438,000 in 1997. The decrease from 1998 to 1999 was attributable to lower outstanding debt and capital lease balances. The increase from 1997 to 1998 was primarily attributable to capitalization of $210,000 of interest on the new facility in 1997.

In October 1997, we recognized a gain in the amount of $3,387,000 related to the sale of 50 percent of our interest in Modex Therapeutiques.

The net loss in 1999, 1998 and 1997 was $15,709,000, $12,628,000, and $18,114,000, respectively. The loss per share was $0.84, $.69 and $1.08 in 1999, 1998 and 1997, respectively. The increase from 1998 to 1999 is primarily attributable to the elimination of revenue from the Astra Agreement, which was terminated in June 1999, as well as expenses related to the wind-down of our encapsulated cell technology research and our other Rhode Island operations, the transfer of our corporate headquarters to Sunnyvale, California and an accrual for our estimate of the costs of settlement of a funding agreement with RIPSAT. The decrease from 1997 to 1998 was attributable to a one-time charge of $8,344,000 for acquired research and development related to the purchase of StemCells California, Inc. offset by a $3,387,000 gain on a partial sale of our interest in Modex in 1997.

LIQUIDITY AND CAPITAL RESOURCES

Since its inception, we have financed our operations through the sale of common and preferred stock, the issuance of long-term debt and capitalized lease obligations, revenues from collaborative agreements, research grants and interest income.

We had unrestricted cash and cash equivalents totaling $5,535,264 at June 30, 2000. Cash equivalents are invested in money market funds.

Our 126,193 shares of Modex stock are subject to a lock-up agreement for six months in connection with Modex' initial public offering. The actual sale price for the shares may vary significantly from the initial public offering price of 168.00 Swiss francs and the share price at June 30, 2000 of 247.50 Swiss francs.

Our liquidity and capital resources were, in the past, significantly affected by its relationships with corporate partners, which were related to our former ECT. These relationships are now terminated, and we have not yet established corporate partnerships with respect to its stem cell technology.

In March 1995, we signed a collaborative research and development agreement with AstraZeneca for the development and marketing of certain encapsulated-cell products to treat pain. AstraZeneca made an initial, nonrefundable payment of $5,000,000, included in revenue from collaborative agreements in 1995, a milestone payment of $3,000,000 in 1997 and was to remit up to an additional $13,000,000 subject to achievement of certain development milestones. Under the agreement, we were obligated to conduct certain research and development pursuant to a four-year research plan agreed upon by the parties. Over the term of the research plan, we originally expected to receive annual payments of $5 million to $7 million from AstraZeneca, which was to approximate the research and development costs incurred by us under the plan. Subject to the successful development of such products and obtaining necessary regulatory approvals, AstraZeneca was obligated to conduct all clinical trials of products arising from the collaboration and to seek approval for their sale and use. AstraZeneca had the exclusive worldwide right to market products covered by the agreement. Until the later of either the expiration of all patents included in the licensed technology or a specified fixed term, we were entitled to a royalty on the worldwide net sales of such products in return for the marketing

license granted to AstraZeneca and our obligation to manufacture and supply products. AstraZeneca had the right to terminate the original agreement beginning April 1, 1998. On June 24, 1999, AstraZeneca informed us of the results of AstraZeneca's analysis of the double-blind, placebo-controlled trial of our encapsulated bovine cell implant for the treatment of severe, chronic pain in cancer patients. AstraZeneca determined that, based on criteria it established, the results from the 85-patient trial did not meet the minimum statistical significance for efficacy established as a basis for continuing worldwide trials for the therapy. AstraZeneca therefore indicated that it did not intend to further develop the bovine cell-containing implant therapy and exercised its right to terminate the agreement. (SEE ALSO NOTE 17--"RESEARCH AGREEMENTS" TO THE ACCOMPANYING FINANCIAL STATEMENTS)

In the third quarter of 1999, we announced restructuring plans for the wind-down of operations relating to its encapsulated cell technology and to focus its resources on the research and development of its proprietary stem cell technology platform. We terminated approximately 68 full time employees and, in October 1999, relocated its corporate headquarters to Sunnyvale, California. We recorded approximately $5.7 million of wind-down expenses including employee separation and relocation costs during 1999.

On December 30, 1999 we sold our encapsulated cell technology ("ECT") to Neurotech S.A. for a payment of $3,000,000, royalties on future product sales, and a portion of certain Neurotech revenues from third parties in return for the assignment to Neurotech of intellectual property assets relating to ECT. In addition, we retained certain non-exclusive rights to use ECT in combination with its proprietary stem cell technology and in the field of vaccines for prevention and treatment of infectious diseases. We received $2,800,000 of the initial payment on January 3, 2000 with a remaining balance of $200,000 placed in escrow, to be received by us upon demonstration satisfactory to Neurotech that certain intellectual property is not subject to other claims.

As part of our restructuring of operations and relocation of corporate headquarters to Sunnyvale, California, we identified a significant amount of excess fixed assets. In December of 1999, we completed the disposition of those excess fixed assets, from which we received more than $746,000. The proceeds are being used to fund our continuing operations.

In July 1999, the Rhode Island Partnership for Science and Technology ("RIPSAT") alleged that we were in default under a June, 1989 Funding Agreement (the "Funding Agreement"), and demanded payment of approximately $2.6 million. While we believe we were not in default under the Funding Agreement, we deemed it best to resolve the dispute without litigation and, on March 3, 2000, entered into a settlement agreement with RIPSAT, the Rhode Island Industrial Recreational Building Authority ("IRBA") and the Rhode Island Industrial Facilities Corporation ("RIIFC"). We agreed to pay RIPSAT $1,172,000 in full satisfaction of all of our obligations to RIPSAT under the Funding Agreement. At the same time, IRBA agreed to return to us the full amount of our debt service reserve ("Reserve Funds"), comprising approximately $610,000 of principal and interest, relating to the bonds we have with IRBA and RIIFC. The Reserve Funds were transferred directly to RIPSAT, so the net cash paid by us was approximately $562,000. We made this payment in March of 2000.

Our liquidity and capital resources could have also been affected by a claim by Genentech, Inc., arising out of the their collaborative development and licensing agreement relating to the development of products for the treatment of Parkinson's disease; however, the claim was resolved with no effect on our resources. On May 21, 1998, Genentech exercised its right to terminate the Parkinson's collaboration and demanded that we redeem, for approximately $3,100,000, certain shares of our redeemable Common Stock held by Genentech. Genentech's claim was based on provisions in the agreement requiring us to redeem, at the price of $10.01 per share, the shares representing the difference between the funds invested by Genentech to acquire such stock and the amount expended by us on the terminated program less an additional $1,000,000. In March 2000, we and Genentech entered into a Settlement Agreement under which Genentech released the Company from any obligation to

redeem any shares of our Common Stock held by Genentech, without cost to us. Accordingly, the $5.2 million of redeemable common stock shown as a liability in our December 31, 1999 balance sheet was transferred to equity in March, 2000, and use of our liquidity and capital resources was not necessary. We and Genentech also agreed that all collaborations between us were terminated, and that neither of us had any rights to the intellectual property of the other.

In May 1996, we secured an equipment loan facility with a bank (the "Lender") in the amount of $2,000,000 (the "Credit Facility"). On August 5, 1999 we made a payment of approximately $752,000 of principal and interest to the Lender to retire the Credit Facility rather than seek a waiver by the Lender of our violation of a loan covenant requiring us to maintain unrestricted liquidity in an amount equal to or in excess of $10 million.

We continue to have substantial outstanding obligations in regard to its facilities in Lincoln, Rhode Island, including lease payments and operating costs of approximately $950,000 per year associated with its former research laboratory and corporate headquarters building, and debt service payments and operating costs of approximately $1,000,000 per year with respect to the its pilot manufacturing and cell processing facility. We are actively seeking to sublease, assign or sell its interests in these facilities. Failure to do so within a reasonable period of time will have a material adverse effect on our liquidity and capital resources.

On April 13, 2000, we sold 1,500 shares of 6% cumulative convertible preferred stock plus warrants for a total of 75,000 shares of our common stock to two members of our Board of Directors for $1,500,000, on terms more favorable to us than it was then able to obtain from outside investors. The shares of preferred stock are convertible at the option of the holders into common stock at $3.77 per share. The holders of the preferred stock have liquidation rights equal to their original investments plus accrued but unpaid dividends. The investors would be entitled to make additional investments in the Company on the same terms as those on which we complete offerings of its securities with third parties within 6 months, if any such offerings are completed. They have waived that right with respect to the common stock transaction described below. If offerings totaling at least $6 million are not completed during the 6 months, the investors have the right to acquire up to a total of 1,126 additional shares of convertible preferred stock which are convertible at the option of the holders into common stock at $6.33 per share. Any unconverted preferred stock is converted, at the applicable conversion price, on April 13, 2002 in the case of the original stock and two years after the first acquisition of any of the additional 1,126 shares, if any are acquired. The warrants expire on April 13, 2005.

On August 3, 2000, we completed a $4 million common stock financing transaction with Millennium Partners, LP, or the Fund, an investment fund with more than a billion dollars in assets under management. StemCells received $3 million of the purchase price at the closing and will receive the remaining $1 million upon effectiveness of a registration statement covering the shares purchased by the Fund. The Fund purchased our common stock at $4.33 per share. The Fund may be entitled to receive additional shares of common stock on eight dates beginning six months from the closing and every three months thereafter. The number of additional shares the Fund will be entitled to on each date will be based on the number of shares of common stock the Fund continues to hold on each date and the market price of our common stock over a period prior to each date. We will have the right, under certain circumstances, to cap the number of additional shares by purchasing part of the entitlement from the Fund. The Fund also received a warrant to purchase up to 101,587 shares of common stock at $4.725 per share.

This warrant is callable by us at $7.875 per underlying share. In addition, the Fund had the option for twelve months to purchase up to $3 million of additional common stock. On August 30, 2000 the Fund exercised $1,000,000 of its option to purchase additional common stock at $5.53 per share. We received $750,000 of the purchase price at the closing, and will receive the remaining $250,000 upon effectiveness of a registration statement covering the shares owned by the Fund. The Fund may be

entitled to receive additional shares of common stock on eight dates beginning six months from the closing and every three months thereafter. The number of additional shares the Fund will be entitled to on each date will be based on the number of shares of common stock the Fund continues to hold on each date and the market price of our common stock over a period prior to each date. We will have the right, under certain circumstances, to cap the number of additional shares by purchasing part of the entitlement from the Fund. The Fund also received a warrant to purchase up to 19,900 shares of common stock at $6.03 per share. This warrant is callable by StemCells at $10.05 per underlying share.

We have limited liquidity and capital resources and must obtain significant additional capital resources in the future in order to sustain its product development efforts. Substantial additional funds will be required to support our research and development programs, for acquisition of technologies and intellectual property rights, for preclinical and clinical testing of its anticipated products, pursuit of regulatory approvals, acquisition of capital equipment, laboratory and office facilities, establishment of production capabilities and for general and administrative expenses. Our ability to obtain additional capital will be substantially dependent on its ability to obtain partnering support for its stem cell technology and, in the near term, on its ability to realize proceeds from the sale, assignment or sublease of its facilities in Rhode Island. Failure to do so will have a material effect on our liquidity and capital resources. Until our operations generate significant revenues from product sales, we must rely on cash reserves and proceeds from equity and debt offerings, proceeds from the transfer or sale of its intellectual property rights, equipment, facilities or investments, government grants and funding from collaborative arrangements, if obtainable, to fund its operations.

We intend to pursue opportunities to obtain additional financing in the future through equity and debt financings, grants and collaborative research arrangements. The source, timing and availability of any future financing will depend principally upon market conditions, interest rates and, more specifically, on our progress in its exploratory, preclinical and future clinical development programs. Lack of necessary funds may require us to delay, reduce or eliminate some or all of its research and product development programs or to license its potential products or technologies to third parties. Funding may not be available when needed--at all, or on terms acceptable to us.

While our cash requirements may vary, as noted above, we currently expect that our existing capital resources, including income earned on invested capital, will be sufficient to fund its operations into the first quarter of 2001. Our cash requirements may vary, however, depending on numerous factors. Lack of necessary funds may require us to delay, scale back or eliminate some or all of its research and product development programs and/or its capital expenditures or to license its potential products or technologies to third parties.

OVERVIEW

We are engaged in the development of therapies that use tissue-derived (that is, non-embryonic) stem and progenitor cells to treat, and possibly cure, human diseases and injuries such as Parkinson's disease, hepatitis, diabetes, and spinal cord injuries. Stem cells are the key cells that the body uses to produce all the functional mature cell types found in normal organs of healthy individuals. Progenitor cells are cells that have already developed from the stem cells, but can still give rise to one or more mature cell types within the organ.

Many diseases, such as Alzheimer's, Parkinson's, and other degenerative diseases of the nervous system, result from the destruction of particular types of mature cells or their failure to function adequately within an organ which, like the brain, cannot be transplanted to effect a cure. In other diseases caused by impaired cellular function (e.g., pancreatic failure from diabetes and liver failure from hepatitis or other causes), the scarcity of organs and other difficulties constrain treatment or cure by transplant. These conditions, many of which cannot be treated effectively by other means, affect more than 18 million people in the United States and account for more than $160 billion annually in health care costs according to associations for the various diseases and government sources.

Our therapies are based on the transplantation of healthy human stem and progenitor cells to repair or replace neural, pancreatic or liver tissue that has been damaged or lost as a result of disease or injury, potentially returning patients to productive lives and significantly reducing health care costs. We believe that we have achieved a leadership position in the neural stem cell therapy area through the advances we have made in the isolation, purification and transplantation of neural stem and progenitor cells. We have also made advances in our research programs to discover the stem cells of the pancreas and of the liver. We have established a broad intellectual property position with respect to stem and progenitor cell therapies in all three areas by patenting our discoveries and entering into exclusive licensing arrangements. Successful development and commercialization of our platform stem cell technologies may create the opportunity for therapies that address a number of conditions with significant unmet medical needs.

CELL THERAPY BACKGROUND

ROLE OF CELLS IN HUMAN HEALTH AND TRADITIONAL THERAPIES

Cells maintain normal physiological function in healthy individuals by secreting or metabolizing substances, such as sugars, amino acids, neurotransmitters and hormones, which are essential to life. When cells are damaged or destroyed, they no longer produce, metabolize or accurately regulate those substances. Impaired cellular function is associated with the progressive decline common to many neurodegenerative diseases, such as Parkinson's disease, Alzheimer's disease and amyotrophic lateral sclerosis ("ALS").

Recent advances in medical science have identified cell loss or impaired cellular function as leading causes of degenerative diseases. Biotechnology advances have led to the identification of some of these specific substances or proteins that are deficient. While administering these substances or proteins as medication does overcome some of the limitations of traditional pharmaceuticals (such as lack of specificity) there is no existing technology that can deliver them to the precise sites of action and in the appropriate physiological quantities or for the duration required to cure the degenerative condition.

Cells, however, do this naturally. As a result, investigators have considered replacing failing cells that are no longer producing the needed substances or proteins by implanting stem or progenitor cells capable of regenerating the cell that the degenerative condition has damaged or destroyed. Where there has been irreversible tissue damage or organ failure, transplantation of stem cells offers the

possibility of generating new and healthy tissue, thus potentially restoring the organ function and the patient's health.

THE POTENTIAL OF OUR STEM CELL-BASED THERAPY

Stem cell-based therapy--the use of stem or progenitor cells to treat diseases--has the potential to provide a broad therapeutic approach comparable in importance to traditional pharmaceuticals and genetically engineered biologics.

Stem cells are rare and only available in limited supply, whether from the patients themselves (autologous) or from donors (allogeneic). Since autologous cells are obtained from the same person who will receive them, they may be abnormal if the patient is ill or the tissue is contaminated with disease-causing cells. Also, the cells can often be obtained only through significant surgical procedures. The challenge, therefore, has been three-fold:

1) to identify the stem cells;

2) to create techniques and processes that can be used to expand these rare cells in sufficient quantities for effective transplants; and

3) to establish a bank of normal human stem or progenitor cells that can be used for allogeneic transplants into individuals whose own cells are not suitable because of disease or other reasons.

We have developed and demonstrated a process, based on a proprietary IN VITRO culture system in chemically defined media, that reproducibly grows normal human brain stem and progenitor cells. We believe this is the first reproducible process for growing normal human neural stem cells. More recently, we have discovered cell surface markers that identify the human neural stem cells. This allows us to purify them and eliminate other unwanted cell types. Together, these discoveries enable us to select normal human neural stem cells and to expand them in culture to produce a large number of pure stem cells.

Because these cells have not been genetically modified, they may be especially suitable for transplantation and may provide a safer and more effective alternative to therapies that are based on cells derived from cancer cells, from cells modified by a cancer gene to make them grow, from an unpurified mixture of many different cell types, or from animal derived cells (xenotransplants).

We believe our proprietary stem cell technologies may enable therapies to replace specific cells that have been damaged or destroyed, permitting the restoration of function through the replacement of normal cells where this has not been possible in the past. Recent advances in our research have shown that neural stem cells transplanted into hosts successfully engraft, migrate, and differentiate to produce mature neurons and glial cells.

Because the stem cell is the pivotal cell that produces all the functional mature cell types in an organ, we believe this cell serves as a platform for five major areas of regenerative medicine and biotechnology:

- tissue repair and replacement,

- correction of genetic disorders,

- drug discovery and screening,

- genomics, and

- diagnostics.

We will be pursuing key alliances in these areas.

OUR STEM CELL TECHNOLOGY PLATFORM

Stem cells have two defining characteristics:

- they are themselves undifferentiated, but some of their progeny are differentiated cells that give rise to successively more specialized cell types until all the kinds of mature cells making up the particular organ are produced; and

- they "self renew"--that is, some of their progeny are themselves new stem cells, thus permitting the process to continue again and again.

Stem cells are known to exist for many systems of the human body, including hematopoietic, neural (both central and peripheral), hepatic, pancreatic endocrine, and mesenchymal systems. These cells are responsible for organ regeneration during normal cell replacement and, to a more or less limited extent, after injury. We believe that they can be cultivated and administered in ways that enhance their natural function, so as to form the basis of therapies that will replace specific subsets of cells that have been damaged or lost through disease, injury or genetic defect.

We also believe that the person or entity that first identifies and isolates a stem cell and defines methods to culture of any of the finite number of different types of human stem cells will be able to obtain patent protection for the methods and the composition, making the commercial development of stem cell treatment and possible cure of currently intractable diseases financially feasible.

Our strategy is to be the first to identify, isolate and patent multiple types of human stem and progenitor cells with commercial importance. Our portfolio of issued patents includes a method of culturing normal human neural stem and progenitor cells in our proprietary chemically defined medium, and our published studies show that these cultured and expanded cells give rise to all three major cell types of the central nervous system (i.e., neurons, astrocytes, and oligodendrocytes). Also, a separate study sponsored by us using these cultured stem and progenitor cells showed that the cells are capable of transplantation into hosts, with successful engraftment, migration and differentiation to produce neurons and glial cells.

More recently, we announced the results of a new study that showed that human brain stem cells can be successfully isolated by cell surface markers present on freshly obtained brain cells. We believe this is the first reproducible process for isolating highly purified populations of well-characterized normal human neural stem cells, and have applied for a composition of matter patent. Because the cells are highly purified and have not been genetically modified, they may be especially suitable for transplantation and may provide a safer and more effective alternative than therapies that are based on cells derived from cancer cells, or from cells modified by a cancer gene to make them grow, or from an unpurified mixture of many different cell types or cells derived from animals (xenogeneic cells). We have also filed an improved process patent for the growth and expansion of these purified normal human neural cells.

Neurological disorders (such as Parkinson's disease, epilepsy, Alzheimer's disease, and the side effects of stroke) affect a significant portion of the U.S. population and there currently are no effective long-term therapies. We believe that therapies based on our process for identifying, isolating and culturing neural stem and progenitor cells may be useful in treating such diseases. We are continuing our research into, and have initiated the development of, human neural stem and progenitor cell-based therapies for these diseases.

We continue to advance our research programs to discover the human pancreatic islet stem cell and the liver stem cell. Pancreatic islet stem cells may be useful in the treatment of Type 1 diabetes and those cases of Type 2 diabetes where insulin secretion is defective. Liver stem cells may be useful in the treatment of diseases such as hepatitis, cirrhosis of the liver and liver cancer.

EXPECTED ADVANTAGES OF OUR STEM CELL TECHNOLOGY

NO OTHER TREATMENT

To the best of our knowledge, no one has developed an FDA-approved method for replacing lost or damaged tissues from the human nervous system. Replacement of tissues in other areas of the human body is limited to those few areas (such as bone marrow or peripheral blood cell transplants) where autologous transplantation is now feasible. In a few additional areas, including the liver, allogeneic transplantation is now used, but is limited by the scarcity of organs available through donation. We believe that our stem cell technologies have the potential to reestablish function in at least some of the patients who have suffered the losses referred to above.

REPLACED CELLS PROVIDE NORMAL FUNCTION

Because stem cells can duplicate themselves, or self-renew, and differentiate into the multiple kinds of cells that are commonly lost in various diseases, including neurodegenerative diseases, transplanted stem cells may be able to migrate limited distances to the proper location within the body, to expand and differentiate and to replace damaged or defective cells, facilitating the return to proper function. We believe that such replacement of damaged or defective cells by functional cells is unlikely to be achieved with any other treatment.

RESEARCH EFFORTS AND PRODUCT DEVELOPMENT PROGRAMS

OVERVIEW OF RESEARCH AND PRODUCT DEVELOPMENT STRATEGY

We have devoted substantial resources to our research programs to isolate and develop a series of stem and progenitor cells that we believe can serve as a basis for replacing diseased or injured cells. Our efforts to date have been directed at methods to identify, isolate and culture large varieties of stem and progenitor cells of the human nervous system, liver and pancreas and to develop therapies utilizing these stem and progenitor cells.

The following table lists the potential therapeutic indications for and current status of our primary research and product development programs and projects and is qualified in its entirety by reference to the more detailed descriptions of such programs and projects appearing elsewhere in this prospectus. We continually evaluate our research and product development efforts and reallocate resources among existing programs or to new programs in light of experimental results, commercial potential, availability of third party funding, likelihood of near-term efficacy, collaboration success or significant technology

enhancement, as well as other factors. Our research and product development programs are at relatively early stages of development and will require substantial resources to commercialize.

RESEARCH AND PRODUCT DEVELOPMENT PROGRAMS	
PROGRAM DESCRIPTION	STAGE/STATUS(1)
HUMAN NEURAL STEM CELL	PRECLINICAL
Repair or replace damaged CNS tissue (including degenerated retinas and tissue affected by certain genetic disorders)	- In vitro ability to initiate and expand stem cell-containing human neural cultures and differentiation into three types of CNS cells - Direct isolation of neurosphere-initiating stem cells from brain - In vivo demonstration of proper differentiation and engraftment of cultured human neural cell containing CNS stem cells in rodent CNS
PANCREATIC ISLET STEM CELL	RESEARCH
Repair or replace damaged pancreatic islet tissue	- Identified cell surface markers used to identify, isolate and culture pancreatic islet stem cells - Commenced small animal testing
LIVER STEM CELL	RESEARCH
Repair or replace damaged liver tissue (including the results of certain metabolic genetic diseases)	- Defined the generation of hepatocytes from purified mouse hematopoietic stem cells - Identified in vitro culture assay for growth of human bipotent liver cells

(1) "Research" refers to early stage research and product development activities IN VITRO, including the selection and characterization of product candidates for preclinical testing. "Preclinical" refers to further testing of a defined product candidate IN VITRO and in animals prior to clinical studies.

RESEARCH AND DEVELOPMENT PROGRAMS

Our portfolio of stem cell technology results from our exclusive licensing of neural, stem and progenitor cell technology, animal models for the identification and/or testing of stem and progenitor cells and our own research and development efforts to date. We believe that therapies using stem cells represent a fundamentally new approach to the treatment of diseases caused by lost or damaged tissue. We have assembled an experienced team of scientists and scientific advisors to consult with and advise our scientists on their continuing research and development of stem and progenitor cells. This team includes, among others, Irving L. Weissman, M.D., of Stanford University, Fred H. Gage, Ph.D., of The Salk Institute and David Anderson, Ph.D., of the California Institute of Technology.

NEURAL STEM AND PROGENITOR CELL RESEARCH AND DEVELOPMENT PROGRAM

We began our work with neural stem and progenitor cell cultures in collaboration with NeuroSpheres, Ltd., in 1992. We believe that NeuroSpheres was the first to invent these cultures. We are the exclusive, worldwide licensee from NeuroSpheres to such inventions and associated patents and patent applications for transplantation in the human body as embodied in these patents. See "License Agreements and Sponsored Research Agreements--NeuroSpheres, Ltd."

In 1997, our scientists invented a reproducible method for growing human neural stem and progenitor cells in cultures. In preclinical IN VITRO and early IN VIVO studies, we demonstrated that these

cells differentiate into all three of the cell types of the CNS. Based on these results, we believe that these cells may form the basis for replacement of cells lost in certain degenerative diseases. We are continuing research into, and have initiated the development of, our human neural stem and progenitor cell cultures. We have initiated the cultures and demonstrated that these cultures can be expanded for a number of generations IN VITRO in chemically defined media. In collaboration with us, Dr. Anders Bjorklund has shown that cells from these cultures can be successfully engrafted into the brains of rodents where they subsequently migrated and differentiated into the appropriate cell lineages for the site of the brain into which they were transplanted.

In 1998, we expanded our preclinical efforts in this area by initiating programs aimed at the discovery and use of specific monoclonal antibodies to facilitate identification and isolation of neural and other stem and progenitor cells or their differentiated progeny. Also in 1998, our researchers devised methods to advance the IN VITRO culture and passage of human neural stem cells that resulted in a 100-fold increase in neural stem and progenitor cell production after 6 passages. We are expanding our preclinical efforts toward the goal of selecting the proper indications to pursue.

In December 1998, we announced that the US Patent and Trademark Office had granted patent No. 5,851,832, covering our methods for the human neural cell cultures containing central nervous system stem cells, for compositions of human neural cells expanded by these methods, and for use of these cultures in, e.g., human transplantation. These human neural stem and progenitor cells expanded in culture may be useful for repairing or replacing damaged central nervous system tissue, including the brain and the spinal cord.

In October 1999, the US Patent and Trademark Office granted patent number 5,968,829 entitled "Human CNS Neural Stem Cells," covering our composition of matter patent for human CNS neural stem cells, and also allowed a separate patent application for our media for culturing human CNS neural stem cells.

Also in 1999, we announced the filing of a US patent application covering our proprietary process for the direct isolation of normal human neural stem cells based on the cell surface markers found to be present on freshly obtained brain cells. Since the filing of this patent application, our researchers have completed a study designed to identify, isolate and culture human neural stem cells utilizing this proprietary process. In November 1999, we announced the study's first results: Our researchers, by using our proprietary cell surface markers, had succeeded in identifying, isolating and purifying human neural stem cells from brain tissue, and were able to expand the number of these cells in culture.

We believe that this is the first study to show a reproducible process for isolating highly purified populations of well-characterized normal human neural stem cells. Because the cells are normal human neural stem cells and have not been genetically modified, they may be especially suitable for transplantation and may provide a safer and more effective alternative to therapies that are based on cells derived from cancer cells or from an unpurified mix of many different cell types, or from animal derived cells (xenogenic).

In January 2000, we reported what we regard as an even more important result: In long term animal studies, our researchers were able to take these purified and expanded stem cells and transplant them into normal mouse brain hosts, where they engraft and grow into neuronal and glial cells.

During the course of the study, the transplanted human neural stem cells survived for as long as one year and migrated to specific functional domains of the host brain, with no sign of tumor formation or adverse effects on the animal recipients; moreover, the cells were still dividing. These findings show that when neural stem cells isolated and cultured with our proprietary processes are transplanted, they adopt the characteristics of the host brain and act like normal stem cells. In other words, the study suggests the possibility of a continual replenishment of normal human neural cells.

As noted above, human neural stem and progenitor cells harvested and purified and expanded using our proprietary processes may be useful for creating therapies for the treatment of neurodegenerative diseases such as Parkinson's, Huntington's and Alzheimer's disease. These conditions affect more than 5 million people in the United States and there are no effective long-term therapies currently available. We believe the ability to purify human brain stem cells directly from fresh, tissue is important because:

- it provides an enriched source of normal stem cells, not contaminated by other unwanted or diseased cell types that can be expanded in culture without fear of expanding some unwanted cell type(s);

- it opens the way to a better understanding of the properties of these cells and how they might be manipulated to treat specific diseases. For example, in certain genetic diseases such as Tay Sachs and Gaucher's, a key metabolic enzyme required for normal development/function of the brain is absent; stem cell-derived neural cultures might be genetically modified to produce those proteins. The modified neural stem cells could be transplanted into patients with these genetic diseases;

- the efficient engraftment of these non-transformed normal human stem cells into host brains means that the cell product can be tested in animal models for its ability to correct deficiencies caused by various human neurological diseases. This technology could also provide a unique animal model for the testing of drugs that act on human brain cells either for effectiveness of the drug against the disease or its toxicity to human neural cells.

PANCREATIC STEM CELLS DISCOVERY RESEARCH PROGRAMS

Our discovery program directed to the identification, isolation and culturing of the pancreatic stem and progenitor cell is currently being conducted by Nora Sarvetnick, Ph.D., of The Scripps Research Institute, in collaboration with some of our senior researchers.

According to diabetes and juvenile diabetes foundations, between 800,000 and 1.5 million Americans have Type 1 diabetes (often called "juvenile diabetes" and most commonly diagnosed in childhood); and 30,000 new patients are diagnosed with the disease every year. It is a costly, serious, lifelong condition, requiring constant attention and insulin injections every day for survival.

About 15 million other people in the United States have Type 2 diabetes mellitus, which is also a chronic and potentially fatal condition; and more than 700,000 new patients are diagnosed annually.

Diabetes is widely recognized as one of the leading causes of death and disability in the United States and is associated with long term complications that affect almost every major part of the body. Diabetes-related treatment costs exceed $100 billion annually.

In 1998, we obtained an exclusive, worldwide license from The Scripps Research Institute to novel technology, developed by Dr. Sarvetnick which may facilitate the identification and isolation of pancreatic stem and progenitor cells by using a mouse model that continuously regenerates the pancreas. We believe that stem cells produce the regeneration, in which case this animal model may be useful for identifying specific cell surface markers unique to the stem cells. We believe this may lead to the development of cell-based treatments for Type 1 diabetes and that portion of Type 2 diabetes characterized by defective secretion of insulin.

In 1999, advances in the research sponsored by us resulted in our obtaining additional exclusive, worldwide licenses from The Scripps Research Institute to novel cell surface markers identified by Dr. Sarvetnick and her research team as being unique to the pancreatic islet stem cell for which we have now filed a US patent application. In collaboration with Dr. Sarvetnick, we continue to advance

the discovery program directed at the identification, isolation and culturing of the pancreatic stem and progenitor cell utilizing this technology.

LIVER STEM CELLS DISCOVERY RESEARCH PROGRAMS

We initiated our discovery work for the liver stem and progenitor cell through a sponsored research agreement with Markus Grompe, Ph.D., of Oregon Health Sciences University. Dr. Grompe's work focuses on the discovery and development of a suitable method for identifying and assessing liver stem and progenitor cells for use in transplantation. We have also obtained a worldwide exclusive license to a novel mouse model of liver failure for evaluating cell transplantation developed by Dr. Grompe.

Approximately 1 in 10 Americans suffers from diseases and disorders of the liver for which there are currently no effective, long-term treatments.

In 1998, our researchers continued to advance methods for establishing enriched cell populations suitable for transplantation in preclinical animal models. We are focused on discovering and utilizing our proprietary methods to identify, isolate and culture liver stem and progenitor cells and to evaluate these cells in preclinical animal models.

In 1999, the researchers devised a culture assay for facilitating the identification of a liver stem and progenitor cell. In addition to supporting the growth of an early human liver stem and progenitor cell, it is also possible to infect this culture with human hepatitis virus, providing a valuable system for study of the virus. This technology could also provide a unique animal model for the testing of drugs that act on, or are metabolized by, human liver cells.

An important element of our stem cell discovery program is the further development of intellectual property positions with respect to stem and progenitor cells. We have also obtained rights to certain inventions relating to stem cells from, and are conducting stem cell related research at, several academic institutions. We expect to expand our search for new stem and progenitor cells and to seek to acquire rights to additional inventions relating to stem and progenitor cells from third parties.

WIND-DOWN OF ENCAPSULATED CELL TECHNOLOGY RESEARCH AND DEVELOPMENT PROGRAMS

Until mid-1999, we engaged in research and development in encapsulated cell therapy technology, or ECT, including a pain control program funded by Astra (later AstraZeneca Group plc). The results from the 85-patient double-blind, placebo-controlled trial of our encapsulated bovine cell implant for the treatment of severe, chronic pain in cancer patients did not, however, meet the criteria AstraZeneca had established for continuing trials for the therapy. In June 1999, AstraZeneca terminated the collaboration.

Consequently, in July 1999, we announced plans for the restructuring of our research operations to abandon all further ECT research and to concentrate our resources on the research and development of our proprietary stem cell technology platform. We reduced our workforce by approximately 68 full-time employees who had been focused on ECT programs, wound down our research and manufacturing operations in Lincoln, Rhode Island, and relocated our remaining research and development activities, and our corporate headquarters, to the facilities of our wholly owned subsidiary, StemCells California, Inc., in Sunnyvale, California. We are actively marketing the facility we occupied in Rhode Island and seeking to sublease, assign or sell our interest in our former corporate headquarters building and our pilot manufacturing and cell processing facility there.

In December 1999 we sold our intellectual property assets related to our ECT to Neurotech S.A., a privately held French company, in exchange for a payment of $3 million, royalties on future product sales, and a portion of certain revenues Neurotech may in the future receive from third parties. We retained certain non-exclusive rights to use the ECT in combination with our proprietary stem cell technology, and in the field of vaccines for prevention and treatment of infectious diseases.

In a related development, by mutual consent we and the Advanced Technology Program of the National Institute of Standards and Technology terminated two grants previously awarded to us for our encapsulated cell therapy and stem cell-related research. The encapsulated cell therapy grant was obviated by the sale of the technology to Neurotech. The funding agency has invited us to resubmit a proposal consistent with the new directions we are taking in our research and development of our platform stem cell technology.

SUBSIDIARY

STEMCELLS CALIFORNIA, INC.

On September 26, 1997, we acquired by merger StemCells, Inc. (now StemCells California, Inc.), a California corporation. We acquired that corporation in exchange for 1,320,691 shares of our common stock and options and warrants for the purchase of 259,296 common shares. Simultaneously with the acquisition, its President, Richard M. Rose, M.D., became our President, Chief Executive Officer and a director, and Irving L. Weissman, M.D., a founder of the California corporation, became a member of our board of directors. We, as the sole stockholder of our subsidiary voted on February 23, 2000, to amend its Certificate of Incorporation to change its name to StemCells California, Inc.

CORPORATE INVESTMENT

In July 1996, we, together with certain founding scientists, established Modex Therapeutiques SA ("Modex"), a Swiss biotherapeutics company, to pursue extensions of our former technology of encapsulated-cell therapy for certain applications outside the central nervous system. Modex, headquartered in Lausanne, Switzerland, was formed to integrate technologies developed by us and by several other institutions to develop products to treat non-CNS diseases such as diabetes, obesity and anemia. After our disposition of the encapsulated cell technology in December 1999, we no longer had common research or development interests with Modex, but we held approximate 17% of its stock. Modex completed an initial public offering on June 23, 2000, in the course of which we realized a gain of approximately $1.4 million from the sale of certain shares. We now own 126,193 shares, or approximately 9% of Modex's equity, subject to a lockup until December 23, 2000. The closing market price of Modex stock on the Swiss New Market Exchange on August 15, 2000, was 298.5 Swiss Francs (or approximately $174) per share.

LICENSE AGREEMENTS AND SPONSORED RESEARCH AGREEMENTS

We have entered into a number of license agreements with commercial as well as non-profit institutions, as well as a number of research-plus-license agreements with academic organizations. The research agreements provide that we will fund certain research costs, and in return, will have a license or an option for a license to the resulting inventions. Under the license agreements, we will typically be subject to obligations of due diligence and the requirement to pay royalties on products that use patented technology licensed under such agreements.

NEUROSPHERES, LTD.

In March 1994, we entered into a Contract Research and License Agreement with NeuroSpheres, Ltd., which was clarified in License Agreement dated as of April 1, 1997. Under the agreement as clarified, we obtained an exclusive patent license from NeuroSpheres in the field of transplantation (subject to a limited right of NeuroSpheres to purchase a nonexclusive license from us, which right was not exercised and has expired). We have developed additional intellectual property relating to the subject matter of the license.

SIGNAL PHARMACEUTICALS, INC.

In December 1997, we entered into two license agreements with Signal Pharmaceuticals, Inc. under which each party licensed to the other certain patent rights and biological materials for use in defined fields. An initial disagreement as to the interpretation of the licensed rights was resolved by the parties, and the agreements are operating in accordance with their terms. Signal has now been acquired by Celgene.

SPONSORED RESEARCH AGREEMENTS

Under Sponsored Research Agreements with The Scripps Research Institute and Oregon Health Sciences University, we funded certain research in return for licenses or options to license the inventions resulting from the research. We have also entered into license agreements with the California Institute of Technology. All of these agreements relate largely to stem or progenitor cells and or to processes and methods for the isolation, identification, expansion or culturing of stem or progenitor cells.

MANUFACTURING

The keys to successful commercialization of neural stem/progenitor cells are efficacy, safety, consistency of the product, and economy of the process. We expect to address these issues by appropriate testing and banking representative vials of large-scale cultures. Commercial production is expected to involve expansion of banked cells and packaging them in appropriate containers after formulating the cells in an effective carrier (which may also be used to affect the stability and engrafting of the stem cells or their progeny). Because of the early stage of our stem and progenitor cell programs, all of the issues that will affect manufacture of stem and progenitor cell products are not yet clear.

MARKETING

We expect to market and sell our products primarily through co-marketing, licensing or other arrangements with third parties. There are a number of substantial companies with existing distribution channels and large marketing resources who are well equipped to market and sell our products. It is our intent to have the marketing of our products undertaken by such partners, although we may seek to retain limited marketing rights in specific narrow markets where the product may be addressed by a specialty or niche sales force.

PATENTS, PROPRIETARY RIGHTS AND LICENSES

We believe that proprietary protection of our inventions will be of major importance to our future business. We have an aggressive program of vigorously seeking and protecting our intellectual property which we believe might be useful in connection with our products. We believe that our know-how will also provide a significant competitive advantage, and we intend to continue to develop and protect our proprietary know-how. We may also from time to time seek to acquire licenses to important externally developed technologies.

We have exclusive or non-exclusive rights to a portfolio of patents and patent applications related to various stem and progenitor cells and methods of deriving and using them. These patents and patent applications relate mainly to compositions of matter, methods of obtaining such cells, and methods for preparing, transplanting and utilizing such cells. Currently, our U.S. patent portfolio in the stem cell therapy area includes nineteen issued U.S. patents, six of which have issued within the last year. An additional ten patent applications are pending, one of which has been allowed.

We also rely upon trade-secret protection for our confidential and proprietary information and take active measures to control access to that information.

Our policy is to 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 generally provide that all confidential information developed or made known to the individual by us during the course of the individual's relationship with us is to be kept confidential and not disclosed to third parties except in specific circumstances. In the case of employees and consultants, the agreements generally provide that all inventions conceived by the individual in the course of rendering services to us shall be our exclusive property.

We have obtained rights from universities and research institutions to technologies, processes and compounds that we believe may be important to the development of our products. These agreements typically require us to pay license fees, meet certain diligence obligations and, upon commercial introduction of certain products, pay royalties. These include exclusive license agreements, with NeuroSpheres, The Scripps Institute, the California Institute of Technology and the Oregon Health Sciences University, to certain patents and know-how regarding present and certain future developments in neural and pancreatic stem cells.

COMPETITION

The targeted disease states for our initial products in some instances currently have no effective long-term therapies. However, we do expect that our initial products will have to compete with a variety of therapeutic products and procedures. Major pharmaceutical companies currently offer a number of pharmaceutical products to treat neurodegenerative, pancreatic and liver diseases, and other diseases for which our technologies may be applicable. Many pharmaceutical and biotechnology companies are investigating new drugs and therapeutic approaches for the same purposes, which may achieve new efficacy profiles, extend the therapeutic window for such products, alter the prognosis of these diseases, or prevent their onset. We believe that our products, when successfully developed, will compete with these products principally on the basis of improved and extended efficacy and safety and their overall economic benefit to the health care system.

The market for therapeutic products that address degenerative diseases is large, and competition is intense and is expected to increase. Our most significant competitors are expected to be fully integrated pharmaceutical companies and more established biotechnology companies. Smaller companies may also be significant competitors, particularly through collaborative arrangements with large pharmaceutical or biotechnology companies. Many of these competitors have significant products approved or in development that could be competitive with our potential products.

Competition for our stem and progenitor cell products may be in the form of existing and new drugs, other forms of cell transplantation, ablative and simulative procedures, and gene therapy. We believe that some of our competitors are also trying to develop stem and progenitor cell-based technologies. We expect that all of these products will compete with our potential stem and progenitor cell products based on efficacy, safety, cost and intellectual property positions.

We may also face competition from companies that have filed patent applications relating to the use of genetically modified cells to treat disease, disorder or injury. We may be required to seek licenses from these competitors in order to commercialize certain of our proposed products.

Once our products are developed and receive regulatory approval, they must then compete for market acceptance and market share. For certain of our potential products, an important success factor will be the timing of market introduction of competitive products. This is a function of the relative speed with which we and our competitors can develop products, complete the clinical testing and

approval processes, and supply commercial quantities of a product to market. These competitive products may also impact the timing of clinical testing and approval processes by limiting the number of clinical investigators and patients available to test our potential products.

While we believe that the primary competitive factors will be product efficacy, safety, and the timing and scope of regulatory approvals, other factors include, in certain instances, obtaining marketing exclusivity under the Orphan Drug Act, availability of supply, marketing and sales capability, reimbursement coverage, price, and patent and technology position.

GOVERNMENT REGULATION

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

In the United States, pharmaceuticals, biologicals and medical devices are subject to rigorous FDA regulation. The Federal Food, Drug and Cosmetic Act, as amended, and the Public Health Service Act, as amended, the regulations promulgated thereunder, and other Federal and state statutes and regulations govern, among other things, the testing, manufacture, safety, efficacy, labeling, storage, export, record keeping, approval, marketing, advertising and promotion of our potential products.

Product development and approval within this regulatory framework takes a number of years and involves significant uncertainty combined with the expenditure of substantial resources. In addition, the federal, state, and other jurisdictions have restrictions on the use of fetal tissue.

FDA APPROVAL

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

STEPS	CONSIDERATIONS
1. Preclinical laboratory and animal tests	Preclinical tests include laboratory evaluation of the product and animal studies to assess the potential safety and efficacy of the product and our formulation as well as the quality and consistency of the manufacturing process.
2. Submission to the FDA of an application for an Investigational New Drug Exemption, or IND, which must become effective before U.S. human clinical trials may commence	The results of the preclinical tests are submitted to the FDA as part of an IND, and the IND becomes effective 30 days following our receipt by the FDA, absent questions, requests for delay or objections from the FDA.

3. Adequate and well-controlled human clinical trials to establish the safety and efficacy of the product	Clinical trials involve the evaluation of the product in healthy volunteers or, as may be the case with our potential products, in a small number of patients under the supervision of a qualified physician. Clinical trials are conducted in accordance with protocols that detail the objectives of the study, the parameters to be used to monitor safety and the efficacy criteria to be evaluated. Any product administered in a U.S. clinical trial must be manufactured in accordance with clinical Good Manufacturing Practices, cGMP, determined by the FDA. Each protocol is submitted to the FDA as part of the IND. The protocol for each clinical study must be approved by an independent Institutional Review Board, or IRB, at the institution at which the study is conducted and the informed consent of all participants must be obtained. The IRB will consider, among other things, the existing information on the product, ethical factors, the safety of human subjects, the potential benefits of the therapy and the possible liability of the institution. Clinical development is traditionally conducted in three sequential phases, which may overlap: - In Phase I, products are typically introduced into healthy human subjects or into selected patient populations to test for safety (adverse reactions), dosage tolerance, absorption and distribution, metabolism, excretion and clinical pharmacology. - Phase II involves studies in a limited patient population to (i) determine the efficacy of the product for specific targeted indications and populations, (ii) determine optimal dosage and dosage tolerance and (iii) identify possible adverse effects and safety risks. When a dose is chose and a candidate product is found to be effective and to have an acceptable safety profile in Phase II evaluations. - Phase III trials are undertaken to conclusively demonstrate clinical efficacy and to test further for safety within an expanded patient population, generally at multiple study sites. The FDA continually reviews the clinical trial plans and results and may suggest changes or may require discontinuance of the trials at any time if significant safety issues arise.
4. Submission to the FDA of a marketing authorization applications(s)	The results of the preclinical studies and clinical studies are submitted to the FDA in the form of a marketing approval authorization application.

5. FDA approval of the application(s) prior to any commercial sale or shipment of the drug. Biologic product manufacturing establishments located in certain states also may be subject to separate regulatory and licensing requirement	The testing and approval process will require substantial time, effort and expense. The time for approval is affected by a number of factors, including relative risks and benefits demonstrated in clinical trials, the availability of alternative treatments and the severity of the disease. Additional animal studies or clinical trials may be requested during the FDA review period which might add to that time.

After FDA approval for the initial indications and requisite approval of the manufacturing facility, further clinical trials may be required to gain approval for the use of the product for additional indications. The FDA may also require unusual or restrictive post-marketing testing and surveillance to monitor for adverse effects, which could involve significant expense, or may elect to grant only conditional approvals.

FDA MANUFACTURING REQUIREMENTS

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

ORPHAN DRUG ACT

The Orphan Drug Act provides incentives to drug manufacturers to develop and manufacture drugs for the treatment of diseases or conditions that affect fewer than 200,000 individuals in the United States. Orphan drug status can also be sought for treatments for diseases or conditions that affect more than 200,000 individuals in the United States if the sponsor does not realistically anticipate our product becoming profitable from sales in the United States. We may apply for orphan drug status for certain of our therapies.

Under the Orphan Drug Act, a manufacturer of a designated orphan product can seek tax benefits, and the holder of the first FDA approval of a designated orphan product will be granted a seven-year period of marketing exclusivity in the United States for that product for the orphan indication. While the marketing exclusivity of an orphan drug would prevent other sponsors from obtaining approval of the same compound for the same indication, it would not prevent other types of products from being approved for the same use including in some cases, slight variations on the originally designated orphan product.

PROPOSED FDA REGULATIONS

Proposed regulations of the FDA and other governmental agencies would place restrictions, including disclosure requirements, on researchers who have a financial interest in the outcome of their research. Under the proposed regulations, the FDA could also apply heightened scrutiny to, or exclude the results of, studies conducted by such researchers when reviewing applications to the FDA, which contain such research. Certain of our collaborators have stock options or other equity interests in us that could subject such collaborators and us to the proposed regulations.

Our research and development is based on the use of human stem and progenitor cells. The FDA has published a "Proposed Approach to Regulation of Cellular and Tissue-Based Products" which

relates to the use of human cells. We cannot now determine the effects of that approach or what regulatory actions might be taken from it. Restrictions exist on the testing or use of cells, whether human or non-human.

OTHER REGULATIONS

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

Outside the United States, we will be subject to regulations which govern the import of drug products from the United States or other manufacturing sites and foreign regulatory requirements governing human clinical trials and marketing approval for our products. The requirements governing the conduct of clinical trials, product licensing, pricing and reimbursements vary widely from country to country. In particular, the European Union, or EU, is revising its regulatory approach to high tech products, and representatives from the United States, Japan and the EU are in the process of harmonizing and making more uniform the regulations for the registration of pharmaceutical products in these three markets.

REIMBURSEMENT AND HEALTH CARE COST CONTROL

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

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

EMPLOYEES

As of August 15, 2000, we had twenty full-time employees, of whom five have Ph.D. degrees, as well as two half-time employees. The equivalent of fifteen full-time employees work in research and development and laboratory support services. A number of our employees have held positions with other biotechnology or pharmaceutical companies or have worked in university research programs. No employees are covered by collective bargaining agreements.

SCIENTIFIC ADVISORY BOARD

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

provide any services to any other entities which would conflict with the services the member provides to us. Members of the Scientific Advisory Board offer consultation on specific issues encountered by us as well as general advice on the directions of appropriate scientific inquiry for us. In addition, Scientific Advisory Board members assist us in assessing the appropriateness of moving our projects to more advanced stages. The following persons are members of our Scientific Advisory Board:

- Irving L. Weissman, M.D., is the Karel and Avice Beekhuis Professor of Cancer Biology, Professor of Pathology and Professor of Developmental Biology at Stanford University. Dr. Weissman was a cofounder of SyStemix, Inc., and Chairman of its Scientific Advisory Board. He has served on the Scientific Advisory Boards of Amgen Inc., DNAX and T-Cell Sciences, Inc. Dr. Weissman is Chairman of the Scientific Advisory Board of StemCells, Inc.

- David J. Anderson, Ph.D., is Professor of Biology, California Institute of Technology, Pasadena, California and Investigator, Howard Hughes Medical Institute.

- Fred H. Gage, Ph.D., is Professor, Laboratory of Genetics, The Salk Institute for Biological Studies, La Jolla, California and Adjunct Professor, Department of Neurosciences, University of California, San Diego, California.

The following table sets forth the name, age and position of each of our executive officers, key members of management, and directors.

NAME	AGE	POSITION
John J. Schwartz, Ph.D.	66	Director, Chairman of the Board
George W. Dunbar, Jr.	54	Acting President and Chief Executive Officer
Donald Kennedy, Ph.D.	69	Director
Mark J. Levin	50	Director
Irving L. Weissman, M.D.	60	Director

The Company's Restated Certificate of Incorporation and Amended and Restated By-laws provide for the classification of the Board of Directors into three classes, as nearly equal in number as possible, with the term of office of one class expiring each year. There are no family relationships between any of our directors or executive officers. Our executive officers are elected by, and serve at the discretion of, the Board of Directors.

COMMITTEES OF THE BOARD OF DIRECTORS

Our board of directors has an audit committee and compensation committee. The board may also establish other committees to assist in the discharge of its responsibilities.

The audit committee oversees the Company's financial reporting process on behalf of the Board of Directors, makes recommendations to the Board regarding the independent auditors to be nominated for election by the stockholders, reviews the independence of such auditors, approves the scope of their annual audit activities, reviews their audit results, assures that the Company's financial reporting is of high quality, and reviews the interim financial statements with Management and the independent auditors prior to the filing of the Company's Quarterly Report on Form 10-Q. The audit committee is currently comprised of Dr. Schwartz and Dr. Kennedy.

The duties of the compensation committee are to make recommendations to the Board and the Company's management concerning salaries in general, determine executive compensation, and approve incentive compensation for the Company. The compensation committee is currently comprised of Mr. Levin and Dr. Schwartz.

EXECUTIVE COMPENSATION

The following table sets forth the compensation paid by the Company to its Chief Executive Officer during the three most recent fiscal years ended December 31, and the two other most highly compensated executive officers who served in such capacities during the fiscal year ended December 31, 1999 but who were not serving in such capacities as of the end of such fiscal year. There were no other persons serving as executive officers at the end of such fiscal year.

SUMMARY COMPENSATION TABLE

		ANNUAL COMPENSATION			AWARDS		
					LONG TERM COMPENSATION		
NAME AND PRINCIPAL POSITION	YEAR	SALARY($)	BONUS($)	OTHER ANNUAL COMPENSATION ($)	RESTRICTED STOCK AWARDS($)	SECURITIES UNDERLYING OPTIONS (#)	ALL OTHER COMPENSATION
Richard M. Rose M.D.....	1999	279,974	0	0	0	0	4667(2)
Chief Executive	1998	286,553	0	0	0	150,000(3)	11,330(4)
Officer(1)	1997	68,750	0	0	0	300,000(5)	76,268(6)
Phillip K. Yachmetz.....	1999	406,731(8)	0	0	0	12,000	71,355(9)
Senior Vice President	1998	155,780	10,000	0	0	75,000	86,695(10)
And General Counsel Acting Chief Financial Officer and Treasurer(7)							
Moses Goddard, M.D.....	1999	195,176(2)	0	0	0	18,000	7,921(3)
Vice President, Chief	1998	188,957	0	0	0	67,875(4)	0
Technical Officer Cell Encapsulation (1)							

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(1) Dr. Rose became Chief Executive Officer on September 26, 1997. Dr. Rose resigned as a director and officer of the Company and its wholly owned subsidiary effective as of January 31, 2000.

(2) Represents the personal portion of the use of a Company vehicle, as well as$5,000 of fair market value of the Company matching contributions of Common Stock to Dr. Rose's account in the Company's 401(k) Plan.

(3) Represents the regrant of an option in the original amount of 200,000 shares which was reduced to 150,000 shares as a result of the employee equity incentive repricing plan approved by the Board of Directors on July 10,1998.

(4) Represents $4,666.56 of fair market value of the Company matching contributions of Common Stock to Dr. Rose's account in the Company's 401(k)Plan.

(5) One option grant for 200,000 shares was reduced to 150,000 shares upon there pricing of the grant effective as of July 10, 1998 at a price of $1.28 per share.

(6) Represents advance for relocation expenses of $75,000 and fair market value of $1,268 of Company matching contributions of Common Stock to Dr. Rose's account in the Company's 401(k) plan.

(7) Mr. Yachmetz was appointed Acting Chief Financial Officer and Treasurer effective as of April 2, 1999. The term of Mr. Yachmetz' Employment Agreement expired on October 31, 1999.

(8) Includes $204,807 of compensation and accrued and unused vacation paid upon the expiration of Mr. Yachmetz' Employment Agreement in accordance with the terms of such agreement.

(9) Represents $15,304 as the fair market value of 9,601 shares of the Company's Common Stock earned in 1998 and issued in 1999, $3,990 of fair market value of Company matching contributions of Common Stock to Mr. Yachmetz' account in the Company's 401(k) Plan and $52,061 of temporary living and relocation expenses adjusted for taxes.

(10) Represents $14,724 of temporary living and relocation expenses adjusted for taxes paid to Mr. Yachmetz and personal use of a Company vehicle. Also represents $1,827 of fair market value of Company matching contributions of Common Stock to Mr. Yachmetz' account in the Company's 401(k) Plan.

(11) Dr. Goddard resigned as a director and officer of the Company effective as of August 30, 1999 and served as a consultant to the Company through March 28, 2000.

(12) Includes $70,945 of compensation paid to Dr. Goddard in accordance with the severance agreement entered into with the Company.

(13) Represents the fair market value of 4,687 shares of the Company's Common Stock granted to Dr. Goddard through the Company's 1992 Equity Incentive Plan.

(14) Represents the regrant of options in the total original amount of 90,500 shares which was reduced to 67,875 shares as a result of the employee equity incentive repricing plan approved by the Board of Directors on July 10, 1998.

SELLING STOCKHOLDERS

SALES BY MEMBERS OF THE COMPANY'S BOARD

Dr. Irving Weissman and Mark J. Levin, two members of the Company's Board of Directors, will be selling shares of common stock in this offering. Dr. Weissman and Mr. Levin acquired their shares pursuant to a 6% cumulative convertible preferred stock financing in April, 2000, which is described in the section titled "Relationships and Transactions with Certain Related Parties." Both Dr. Weissman and Mr. Levin are party to a registration rights agreement in which we agreed to register their shares of Common Stock upon their request and to use our best efforts to keep the registration statement effective for five (5) years, or until all of their registered shares of StemCells, Inc. Common Stock are sold, whichever comes first. Registration of these shares does not necessarily mean that the selling stockholders will sell all or any of the shares.

The material relationships between Dr. Weissman, Mr. Levin and StemCells, Inc. are as follows: Mark J. Levin is a Class I Director of the Company, and from inception until January 1990 and from May 1990 until February 1991, he served as the Company's President and acting Chief Executive Officer. Irving L. Weissman, M.D. is a Class II Director of the Company. In addition, both Dr. Weissman and Mr. Levin may donate or transfer as gifts some or all of their StemCells, Inc. shares, or may transfer their shares for no value to other beneficial owners. The selling stockholders will include these donees or transferees as selling stockholders in a prospectus supplement if the donees or transferees wish to use this prospectus to re-offer the shares.

SALES BY MILLENNIUM PARTNERS, L.P.

Millennium Partners, L.P. and May Davis Group, Inc. and four of its affiliates also will be selling shares in this offering. On August 3, 2000, we issued 923,521 shares of Common Stock to Millennium Partners, L.P., or the Fund. At the same time we also issued to Millennium Partners a callable warrant to purchase 101,587 shares of Common Stock and an adjustable warrant for a number of shares, to be determined on eight dates beginning six months after the closing and then every three months thereafter. On August 30, 2000 we issued an additional 180,914 shares to the Fund, together with a callable warrant to purchase 19,900 shares of Common Stock and an adjustable warrant for a number of shares, to be determined on eight dates beginning six months after the closing and then every three months thereafter. In connection with the Millennium Partners transaction, we issued warrants for a total of 100,000 shares of Common Stock to May Davis Group, Inc., who acted as placement agent for the transaction, and four of its affiliates. These warrants expire on August 3, 2005.

We entered into a registration rights agreement with Millennium Partners in which we agreed to register the shares of Common Stock purchased by Millennium partners and issuable upon exercise of the warrants issued to Millennium Partners. We agreed to use commercially reasonable efforts to keep the registration statement in effect for five years, until all shares covered by the registration statement are eligible for resale pursuant to Rule 144(k), or until Millennium Partners and its transferees no longer hold the shares covered by the registration statement, whichever occurs first. We also agreed to include in this registration statement the shares issuable upon exercise of the warrants issued to May Davis and its affiliates.

SECURITY OWNERSHIP OF THE SELLING STOCKHOLDERS, CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table shows information regarding the beneficial ownership of our common stock as of August 30, 2000 for:

- each person or group of affiliated persons known by us to own beneficially more than 5% of the outstanding shares of common stock;

- each selling stockholder;

- each director and named executive officer; and

- all directors and executive officers as a group.

The address for each listed director and officer is c/o StemCells, Inc., 525 Del Rey Avenue, Suite C, Sunnyvale, CA 94085.

We have determined beneficial ownership in the table in accordance with the rules of the Securities and Exchange Commission. In computing the number of shares beneficially owned by a person and the percentage ownership of that person, we have deemed to be outstanding shares of common stock subject to options or warrants held by that person that are currently exercisable or will become exercisable within 60 days of August 15, 2000, assuming that this offering occurs in that 60-day period, but we have not deemed these shares to be outstanding for computing the percentage ownership of any other person. The shares listed below for the selling stockholders represent all of the shares that each selling stockholder currently beneficially owns, the number of shares each of them may offer and the number of shares each of them will own after the offering assuming they sell all of the shares. To our knowledge, except as set forth in the footnotes below, each stockholder identified in the table possesses sole voting and investment power with respect to all shares of common stock shown as beneficially owned by that stockholder. Beneficial ownership percentage is based on 20,538,742 shares of our common stock outstanding on August 15, 2000 and as adjusted for unexercised options and warrants as of that date as noted below and 180,914 shares and 19,900 warrants issued to one of the Selling Shareholders on August 30, 2000.

The number of shares of our Common Stock that will be issuable upon exercise of the warrants issued to Millennium Partners is based upon fluctuations in the market price and the number of shares of our Common Stock that will be issuable upon conversion of the Preferred Stock held by Messrs. Weissman and Levin is subject to anti-dilution provisions, so the actual number of shares of our Common Stock that will be issuable and beneficially owned upon exercise of the warrants and conversion of the Preferred Stock cannot be determined at this time. As a result, we have agreed to register a number of shares of Common Stock that is greater than the number of shares of Common Stock currently beneficially owned by the selling stockholders.

The selling stockholders may offer all or some of their shares. All numbers in the following table are based on information obtained by questionnaires received by the company.

	SHARES OF COMMON STOCK BENEFICIALLY OWNED PRIOR TO THIS OFFERING		SHARES OF COMMON STOCK OFFERED HEREBY	SHARES OF COMMON STOCK BENEFICIALLY OWNED AFTER THIS OFFERING*	
NAME OF BENEFICIAL OWNER	NUMBER OF SHARES	PERCENTAGE	NUMBER OF SHARES	NUMBER OF SHARES	PERCENTAGE
Donald Kennedy, Ph.D.	9,234(1)	*	--	9,234	*
Mark J. Levin	390,726(2)	1.9	472,743	154,287	0.7
John J. Schwartz, Ph.D.	139,180(3)	0.7	--	139,180	0.7
Irving Weissman, M.D.	600,298(4)	2.9	472,743	363,859	1.8
George W. Dunbar, Jr.	50,000(5)	*	--	50,000	*
All directors and executive officers as a group (5 persons)	1,189,439(6)	5.6	945,486	716,561	3.4
Millennium Partners, L.P.	1,225,922(7)	5.9	2,160,000	--	--
May Davis Group	100,000(8)	0.5	100,000	--	--

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* Less than 0.1%

(1) Includes 9,234 shares issuable upon exercise of stock options exercisable within 60 days.

(2) Includes 27,555 shares issuable upon exercise of stock options exercisable within 60 days. Includes 198,871 shares issuable upon conversion of cumulative convertible preferred shares at the currently applicable conversion price, and a warrant to purchase 37,500 shares.

(3) Includes 139,180 shares issuable upon exercise of stock options exercisable within 60 days.

(4) Includes 31,250 shares issuable upon exercise of stock options exercisable within 60 days and 7,160 shares issuable upon exercise of warrants exercisable within 60 days. Includes 198,871 shares issuable upon conversion of 6% cumulative convertible preferred shares at the currently applicable conversion price. Includes a total of 50,791 shares owned by trusts for the benefit of Dr. Weissman's children as to which he disclaims beneficial ownership. Also includes a warrant to purchase 37,500 shares.

(5) Includes 50,000 shares issuable upon exercise of stock options exercisable within 60 days. Mr. Dunbar was appointed Acting President and Chief Executive Officer of the Company's wholly owned subsidiary, StemCells California, Inc., effective as of November 8, 1999, and was appointed Acting President and Chief Executive Officer of the Company effective as of February 1, 2000.

(6) Includes 339,379 shares exercisable upon exercise of warrants and stock options exercisable within 60 days.

(7) Includes 180,914 shares issued as of August 30, 2000 and 19,900 shares issuable upon exercise of warrants issued together with those shares. Includes 101,587 shares issuable upon exercise of warrants issued August 3, 2000.

(8) Includes shares issuable upon exercise of warrants held by four affiliates of May Davis Group.

RELATIONSHIP AND TRANSACTIONS WITH RELATED PARTIES

Dr. Schwartz, a member and Chairman of the Board of Directors, was retained in July 1998 to serve as a consultant to the Company rendering strategic business advice and consulting services, including assistance in the negotiation and consummation of strategic collaboration transactions specified by the Company. During Dr. Schwartz's service on the Board, his duties and compensation under the Consulting Services Agreement are included within his duties and considered part of his compensation for service as Chairman and Board member. To compensate Dr. Schwartz for his services rendered to the Company during the period of September 1997 through July 1998, the Consulting Services Agreement provided for the payment to Dr. Schwartz of $50,000 and the grant of a fully vested option to purchase 20,000 shares of the Company's Common Stock at $1.281, the fair market value of the Company's Common Stock at the time of the grant. Further, in the event that, at a time when he was not Chairman and member of the Board of Trustees and the Consulting Services Agreement was in effect, Dr. Schwartz materially participated in the negotiation and consummation of a strategic collaboration transaction specified by the Company, he would have been entitled to receive additional compensation equal to three percent of the transaction consideration (as defined) when it was actually received by the Company, such additional compensation payable half in cash and half in the form of an option or warrant to purchase shares of the Company's Common Stock at $.20 per share, the number of shares being calculated based on the fair market value of the Company's Common Stock ten days prior to the first public announcement of the consummation of, the execution of a letter of intent for, or the existence of discussions concerning the collaboration transaction. The Consulting Services Agreement expired under its terms on July 27, 2000 and has not at this time been renewed.

Dr. Weissman, a member of the Board of Directors, was retained in September 1997 to serve as a consultant to the Company. Pursuant to his Consulting Agreement, Dr. Weissman has agreed to provide consulting services to the Company and serve on the Company's Scientific Advisory Board. The Company agreed to pay Dr. Weissman $50,000 per year for his services and granted him an option to purchase 500,000 shares of Common Stock for $5.25 per share, of which 31,250 shares vested at the date of grant and the remainder of which will vest upon the occurrence of certain milestones related to the Company's stem cell research program and in the event of certain changes of control. The Company also agreed to nominate Dr. Weissman for a position on the Board of Directors. The Consulting Agreement contains confidentiality, noncompetition, and assignment of invention provisions and is for a term of ten years, subject to earlier termination by the Company for cause or frustration of purpose and earlier termination by Dr. Weissman for good reason. Dr. Weissman receives no compensation as a member of the Board of Directors or for attending meetings of the Board or its committees or meetings of the Company's Scientific Advisory Board, but is reimbursed for reasonable expenses he incurs in attending such meetings.

George W. Dunbar, Jr., Acting President and Chief Executive Officer of the Company as of February 1, 2000, was a founding member of iCEO, LLC ("iCEO") in September 1999 and has maintained this position through the present. Mr. Dunbar joined the Company as Acting President of StemCells California, Inc., the Company's wholly owned subsidiary, and he still holds this position currently. Under the terms of two agreements dated as of November 17, 1999 and effective as of November 8, 1999, the first between the Company and iCEO and the second between the Company and Mr. Dunbar, Mr. Dunbar agreed to serve as Acting President of StemCells California, Inc., the Company's wholly owned subsidiary. Pursuant to the terms of his agreement with the Company, Mr. Dunbar is entitled to an annual salary of $175,000 and was granted a stock option to purchase 48,000 shares of the Company's common stock that will vest at the rate of 4,000 shares per month commencing on December 6, 1999 and continuing until fully vested so long as he continues to serve as Acting President. The vesting under the option will be accelerated in the event of certain changes of control of the Company. Additionally, the agreement provides that the Board will consider once per

quarter the grant of an option for an additional 3,000 shares if it is determined that the services rendered by Mr. Dunbar during the preceding quarter exceeded expectations. Mr. Dunbar is an at-will employee of the Company and as such may resign or be terminated with or without reason. There are no provisions for any severance payments or other benefits upon Mr. Dunbar's resignation or termination. Pursuant to the terms of the agreement between iCEO and the Company, iCEO is entitled to receive annual compensation of $75,000 for so long as Mr. Dunbar continues to serve in his role as Acting President of StemCells California, Inc. or in any other interim role with the Company. In addition, iCEO was granted a stock option to purchase 48,000 shares of the Company's common stock that will vest at the rate of 4,000 shares per month commencing on December 6, 1999 and continuing until fully vested so long as Mr. Dunbar continues to serve as Acting President of StemCells California, Inc. or in any other interim role with the Company. Additionally, the iCEO agreement provides that the Board will consider once per quarter the grant of an option to iCEO for an additional 3,000 shares if it is determined that the services rendered by Mr. Dunbar during the preceding quarter exceeded expectations. As a member of iCEO, Mr. Dunbar is entitled to receive, once annually, a distribution of his assigned allocable percentage of net taxable income and net long-term gain with respect to the pooled income and gain from shares of stock or exercised options received by iCEO from its clients, including that received from the Company. When Mr. Dunbar was appointed Acting President and Chief Executive Officer of the Company effective as of February 1, 2000, there was no adjustment to his or iCEO's compensation or stock options. In the event that during the period of his service as Acting President and Chief Executive Officer or within 120 days from the termination of such services, Mr. Dunbar was to become a permanent employee of the Company in any capacity, the Company is obligated under the iCEO agreement to pay iCEO a fee equal to one-third of the then targeted first year's compensation for Mr. Dunbar.

In April 2000, the Company sold 750 shares of its 6% cumulative convertible preferred stock plus a warrant to purchase 37,500 shares of the Company's common stock to each of Dr. Weissman and Mr. Levin for $750,000 (i.e., a total of $1,500,000), on terms more favorable to the Company than the Company was able to obtain from outside investors. The shares are convertible at the option of the holder into common stock at $3.77 per share. The holder of the preferred stock have liquidation rights equal to their original investments plus accrued but unpaid dividends. The investors would be entitled to make additional investments in the Company on the same terms as those on which the Company completes offerings of its securities with third parties within 6 months, if any such offerings are completed. If offerings totaling at least $6 million are not completed during the 6 months, the investors have the right to acquire up to a total of 1,126 additional shares of convertible preferred stock that are convertible at the option of the holder into common stock at $6.33 per share. Any unconverted preferred stock will be converted into common stock on April 13, 2002 in the case of the original stock issued and two years after the first acquisition of any of the additional 1,126 shares, if any are acquired. The warrants expire on April 13, 2005.

DESCRIPTION OF CAPITAL STOCK

GENERAL MATTERS

Upon completion of this offering, the total amount of our authorized capital stock will consist of 45,000,000 shares of common stock, $.01 par value per share, and 1,000,000 shares of undesignated preferred stock, $.01 par value per share, to be issued from time to time in one or more series, with such designations, powers, preferences, rights, qualifications, limitations and restrictions as our board of directors may determine. As of August 15, 2000, we had outstanding 20,538,928 shares of common stock and 1,500 shares of 6% cumulative convertible preferred stock.

As of August 15, 2000, we had 249 stockholders of record with respect to our Common Stock and outstanding options to purchase 2,556,486 shares of our Common Stock, of which 608,976 were currently exercisable. The following summary of provisions of our capital stock describes all material provisions of, but does not purport to be complete and is subject to, and qualified in its entirety by, our restated certificate of incorporation and our amended and restated by-laws, which are included as exhibits to the registration statement of which this prospectus forms a part, and by the provisions of applicable law.

COMMON STOCK

The issued and outstanding shares of Common Stock are, and the shares of Common Stock to be issued by us in connection with the offering will be, validly issued, fully paid and nonassessable. Holders of our Common Stock are entitled to any and all dividends as such dividends are declared by the Board of Directors. This right is not cumulative, and no right shall accrue to holders of Common Stock by reason of the fact that dividends on said shares were not declared in any prior period. The shares of Common Stock are not convertible and the holders thereof have no preemptive or subscription rights to purchase any of our securities. Upon liquidation, dissolution or winding up of our company, the holders of Common Stock are entitled to an amount equal to $1.00 per share, subject to the rights of the holders of the Preferred Stock. After payment to the holders of the Common Stock of the full preferential amounts due to them, the holders of Common Stock have the right to share equally in the distribution of the entire remaining assets of the company legally available for distribution, subject to the rights of the holders of the Preferred Stock. Each outstanding share of Common Stock is entitled to one vote on all matters submitted to a vote of stockholders, such voting rights to be counted together with all other shares of capital stock having voting powers and not as a separate class, except as otherwise required by law.

Our Common Stock is traded on the Nasdaq National Market under the symbol "STEM."

PREFERRED STOCK

Our board of directors may from time to time direct the issuance of shares of preferred stock in series and may, at the time of issuance, determine the rights, preferences and limitations of each series. Shares of preferred stock of any one series shall be identical with each other in all respects except as to the dates from which dividends shall accrue and/or cumulate. In the event of any liquidation, dissolution or winding up of the company, the holders of Undesignated Preferred Stock of each series are entitled to receive an amount fixed by the company's Restated Certificate of Incorporation or by the resolution(s) of the board of directors providing for the issuance of such series.

The board of directors designated 2,626 shares, $.01 par value per share, as 6% cumulative convertible preferred stock, 1,500 shares of which are issued and outstanding. The holders of these preferred shares are entitled to receive cumulative dividends at a per share rate of 6% of the liquidation preference of each share, per annum accruing daily and compounding quarterly, with priority over payment of any dividend on common stock or any other class or series of equity security

of the company. In the event of any liquidation, dissolution or winding up of the company, the holders of the 6% cumulative convertible preferred stock are entitled to receive in preference to holders of any other class or series of equity securities, an amount equal to $1,000 per share plus (i) dividends added to the liquidation preference, (ii) all accrued but unpaid dividends and (iii) all "Monthly Delay Payments" under the Registration Rights Agreement. The 6% cumulative convertible preferred stock was issued pursuant to a Securities Purchase Agreement. Each holder of the 6% cumulative convertible preferred stock has at any time the right to convert any or all 6% cumulative convertible preferred stock held by such holder into fully paid, validly issued and nonassessable shares of common stock, $.01 par value per share, at which point the rights of the holders of converted 6% cumulative convertible preferred stock shall be treated as having become the owners of such common stock. The affirmative vote of a majority in interest of the outstanding 6% cumulative convertible preferred stock is required for (i) any amendment, modification or repeal of the Certificate of Designations, Certificate of Incorporation or by-laws that may amend or change or adversely affect any of the rights or preference of the 6% cumulative convertible preferred stock; provided, however, that the holders of 6% cumulative convertible preferred stock who are affiliates of the company shall not participate in such votes, and such shares shall be deemed not to be outstanding for purposes of such votes. We have no current intention to issue any more of our unissued, authorized shares of undesignated preferred stock. However, the issuance of any shares of undesignated preferred stock in the future could adversely affect the rights of the holders of common stock.

WARRANTS

As of August 31, 2000, we had outstanding warrants to purchase 296,487 shares of common stock at an average exercise price of $5.3876 per share, subject to customary antidilution adjustment. The warrants were issued at various times during this year to four different parties as described below.

As of April 13, 2000 (the "Effective Date"), we issued to each of Irving Weissman and Mark Levin (each an "Investor") a warrant in connection with a Securities Purchase Agreement dated as of April 13, 2000. Each warrant is to purchase 37,500 shares of the Company's common stock ("Common Stock"), $0.01 par value per share, at an exercise price of $6.58125 per share. Each warrant is exercisable, in whole or in part, at any time on or after the Effective Date and on or prior to the fifth year anniversary of the Effective Date. The exercise price is subject to adjustment for subdivisions, combinations, stock dividends, reorganizations and various other issuances. Under the terms of the warrants, during any time that the warrant shares are not subject to an effective registration statement, Investor may elect to receive a reduced number of warrant shares in lieu of tendering the exercise price in cash. An Investor is not entitled to any rights as a shareholder until he exercises the warrant. In the event of a transaction by the Company in which more than 50% of the voting power of the Company is disposed of, each Investor shall have the right to purchase, by exercise of the warrant and payment of the exercise price, the kind and amount of shares and other securities and property which he would have owned or have been entitled to receive after the occurrence of the transaction had the warrant been exercised immediately prior thereto, subject to the adjustment of the exercise price as described in the warrant and above. The Company may, at any time during the term of the warrant, reduce (but not increase) the exercise price to any amount for any period of time deemed appropriate by the Board of Directors of the Company. Under the terms of the warrants, the number of shares of Common Stock that an Investor may acquire upon exercise cannot exceed a number that, when added to the total number of shares of Common Stock Investor is deemed to beneficially own, together with all shares of Common Stock deemed beneficially owned by the Investor's affiliates (as defined by Rule 144 of the Securities Act of 1933), would exceed 9.99% of the total issued and outstanding shares of the Common Stock.

We issued a warrant to Millennium Partners L.P., or Millennium as of August 3, 2000, which may entitle them to receive additional shares of common stock on eight dates beginning six months from

that date and every three months thereafter On August 30, 2000 we issued a second warrant to Millennium which may entitle them to receive additional shares of common stock on eight dates beginning six months from the August 30, 2000 closing and every three months thereafter. The number of additional shares Millennium will be entitled to receive on each date will be based on the number of shares of common stock Millennium continues to hold on each date and the market price of the Company's common stock over a period prior to each date. The Company will have the right, under certain circumstances, to limit the number of additional shares by purchasing part of the entitlement from Millennium. Each of these warrants is exercisable, in whole or in part, at any time on or prior to 30 days after the last date which may entitle them to receive additional shares. Each warrant is subject to adjustment for subdivisions, combinations, stock dividends, reorganizations and various other issuances of common stock. During any period of time that the shares of common stock underlying a warrant are not subject to an effective registration statement, Millennium may elect to exercise the warrant by receiving a reduced number of shares in lieu of tendering the exercise price in cash. In the event of certain mergers, asset sales and tender or exchange offers, Millennium shall have the right to purchase, by exercise of the warrants and payment of the exercise price, the kind and amount of shares and other securities and property it would have owned or have been entitled to receive after the occurrence of the transaction had the warrant been exercised immediately before the transaction, subject to the adjustment of the exercise price as described in the warrant and above, or, if applicable, the right to receive a substitute warrant after a merger or the right to tender the Warrant for the consideration that would have been received if the warrant had been exercised and the shares issued upon exercise had been tendered. Under the terms of the warrants, the number of shares of common stock that Millennium may acquire upon exercise cannot exceed a number that, when added to the total number of shares of common stock Millennium is deemed to beneficially own, together with all shares of common stock deemed beneficially owned by Millennium's affiliates (as defined by Rule 144 of the Securities Act of 1933), would exceed 9.99% of the total issued and outstanding shares of the Common Stock.

Millennium also received a warrant on August 3, 2000 to purchase up to 101,587 shares of common stock at $4.725 per share, which is callable by StemCells at $7.875 per underlying share. On August 30, 2000 the Company issued an additional warrant to purchase up to 19,900 shares of common stock at $6.03 per share which is callable by StemCells at $10.05 per underlying share. These warrants are referred to herein as the "Callable Warrant". Each Callable Warrant is exercisable, in whole or in part, at any time on or after the Effective Date and on or prior to the fifth year anniversary of the Effective Date. The exercise price and number of shares are subject to adjustment for subdivisions, combinations, stock dividends, reorganizations and various other issuances. Under the terms of the Callable Warrants, during any time that the warrant shares are not subject to an effective registration statement, Millennium may elect to receive a reduced number of warrant shares in lieu of tendering the exercise price in cash. Millennium is not entitled to any rights as a shareholder until it exercises the warrant. In the event of certain mergers, asset sales and tender or exchange offers, Millennium shall have the right to purchase, by exercise of the Callable Warrant and payment of the exercise price, the kind and amount of shares and other securities and property it would have owned or have been entitled to receive after the occurrence of the transaction had the warrant been exercised immediately prior thereto, subject to the adjustment of the exercise price as described in the warrant and above, or, if applicable, the right to receive a substitute warrant after a merger or the right to tender the Warrant for the consideration that would have been received if the warrant had been exercised and the shares issued upon exercise had been tendered. Under the terms of the Callable Warrants, the number of shares of Common Stock that Millennium may acquire upon exercise cannot exceed a number that, when added to the total number of shares of Common Stock Millennium is deemed to beneficially own, together with all shares of Common Stock deemed beneficially owned by the Millennium's affiliates (as defined by Rule 144 of the Securities Act of 1933), would exceed 9.99% of the total issued and outstanding shares of the Common Stock.

On August 3, 2000 the Company issued a warrant to the May Davis Group and four of its affiliates to purchase up to 100,000 shares of common stock at $5.0375 per share. The warrant is exercisable, in whole or in part, at any time on or after the Effective Date and on or prior to the fifth year anniversary of the Effective Date. The exercise price and number of shares are subject to adjustment for subdivisions, combinations, stock dividends, reorganizations and various other issuances.

PROVISIONS OF DELAWARE LAW GOVERNING BUSINESS COMBINATIONS

We are subject to the "business combination" provisions of the Delaware General Corporation Law. In general, such provisions prohibit a publicly held Delaware corporation from engaging in various "business combination" transactions with any "interested stockholder" for a period of three years after the date of the transaction in which the person became an "interested stockholder," unless:

- the transaction is approved by the board of directors prior to the date the "interested stockholder" obtained such status;

- upon consummation of the transaction which resulted in the stockholder becoming an "interested stockholder," the "interested stockholder" owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding those shares owned by (a) persons who are directors and also officers and (b) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or

- on or subsequent to such date the "business combination" is approved by the board of directors and authorized at an annual or special meeting of stockholders by the affirmative vote of at least 66 2/3% of the outstanding voting stock which is not owned by the "interested stockholder."

A "business combination" is defined to include mergers, asset sales and other transactions resulting in financial benefit to a stockholder. In general, an "interested stockholder" is a person who, together with affiliates and associates, owns 15% or more of a corporation's voting stock or within three years did own 15% or more of a corporation's voting stock. The statute could prohibit or delay mergers or other takeover or change in control attempts.

TRANSFER AGENT AND REGISTRAR

The transfer agent and registrar for our Common Stock is EquiServe Trust Company, N.A.

PLAN OF DISTRIBUTION

The Company 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 (the "Shares") may be sold from time to time by the Selling Stockholders, or by pledgees, donees, transferees or other successors in interest (i) to or through underwriters or dealers, (ii) directly to one or more other purchasers, (iii) through agents on a best-efforts basis, or (iv) through a combination of any such methods of sale. 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) 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; (b) purchases by a broker or dealer as principal and resale by such broker or dealer for its account pursuant to this Prospectus; (c) an exchange distribution in accordance with the rules of such exchange; and (d) ordinary brokerage transactions and transactions in which the broker solicits purchasers; and (e) privately negotiated transactions without a broker or dealer. 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 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 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 will provide the estimated total of these expenses by amendment.

StemCells, Inc. and the Selling Stockholders have agreed to indemnify each other 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 at December 31, 1999 and 1998 and for each of the three years in the period ended December 31, 1999, as set forth in their report. We have included our financial statements in the prospectus and elsewhere in the Registration Statement 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-1 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.

STEMCELLS, INC. (FORMERLY CYTOTHERAPEUTICS, INC.)

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Additional schedules are not provided either because they are inapplicable or because the required information is included in the accompanying financial statements.

REPORT OF INDEPENDENT AUDITORS

Stockholders and Board of Directors
StemCells, Inc., (formerly CytoTherapeutics, Inc.)

We have audited the accompanying consolidated balance sheets of StemCells, Inc. (formerly CytoTherapeutics, Inc.) as of December 31, 1999 and 1998, and the related consolidated statements of operations, changes in redeemable common stock and stockholders' equity and cash flows for each of the three years in the period ended December 31, 1999. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

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

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of StemCells, Inc. (formerly CytoTherapeutics, Inc.) at December 31, 1999 and 1998, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 1999, in conformity with accounting principles generally accepted in the United States.

ERNST & YOUNG LLP

Providence, Rhode Island
April 14, 2000

STEMCELLS, INC. (FORMERLY CYTOTHERAPEUTICS, INC.)

CONSOLIDATED BALANCE SHEETS

	DECEMBER 31,	
	1999	1998
ASSETS		
Current assets:		
Cash and cash equivalents	$ 4,760,064	$ 7,864,788
Marketable securities	--	9,520,939
Accrued interest receivable	42,212	206,609
Technology sale receivable	3,000,000	--
Other current assets	1,168,579	841,674
Total current assets	8,970,855	18,434,010
Property, plant and equipment, net	5,251,376	8,356,009
Other assets, net	1,858,768	6,075,663
Total assets	$ 16,080,999	$ 32,865,682
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 631,315	$ 710,622
Accrued expenses	2,905,068	1,020,119
Deferred revenue	--	2,500,000
Current maturities of capitalized lease obligations	324,167	317,083
Current maturities of long-term debt	--	1,000,000
Total current liabilities	3,860,550	5,547,824
Capitalized lease obligations, less current maturities	2,937,083	3,261,667
Long-term debt, less current maturities		500,000
Deposits	26,000	--
Deferred Rent	502,353	222,673
Commitments and contingencies		
Redeemable common stock, $.01 par value; 524,337 shares issued and outstanding at December 31, 1999 and 1998	5,248,610	5,248,610
Common stock to be issued	--	187,500
Stockholders' equity:		
Convertible preferred stock, $.01 par value; 1,000,000 shares authorized; no shares issued and outstanding	--	--
Common stock, $.01 par value; 45,000,000 shares authorized; 18,635,565 and 17,800,323 shares issued and outstanding at December 31, 1999 and 1998, respectively	186,355	178,003
Additional paid-in capital	123,917,758	122,861,606
Accumulated deficit	(119,372,710)	(103,664,084)
Unrealized losses on marketable securities	--	(5,198)
Accumulated other comprehensive loss	(119,372,710)	(103,669,282)
Deferred compensation	(1,225,000)	(1,472,919)
Total stockholders' equity	3,506,403	17,897,408
Total liabilities and stockholders' equity	$ 16,080,999	$ 32,865,682

See accompanying notes to consolidated financial statements.

STEMCELLS, INC. (FORMERLY CYTOTHERAPEUTICS, INC.)

CONSOLIDATED STATEMENTS OF OPERATIONS

	YEAR ENDED DECEMBER 31,		
	1999	1998	1997
Revenue from collaborative agreements	$ 5,021,707	$ 8,803,163	$ 10,617,443
Operating expenses:			
Research and development	9,984,027	17,658,530	18,603,523
Acquired research and development	--	--	8,343,684
General and administrative	4,927,303	4,602,758	6,158,410
Encapsulated Cell Therapy Wind down and Corporate Relocation	6,047,806	--	--
	20,959,136	22,261,288	33,105,617
Loss from operations	(15,937,429)	(13,458,125)	(22,488,174)
Other income (expense):			
Interest income	564,006	1,253,781	1,931,260
Interest expense	(335,203)	(472,400)	(437,991)
Gain on partial sale of Modex	--	--	3,386,808
Loss on sale/leaseback	--	--	(342,014)
Loss on equity investment	--	--	(105,931)
Other income (expense)	--	48,914	(57,538)
	228,803	830,295	4,374,594
Net loss	$(15,708,626)	$(12,627,830)	$(18,113,580)
Basic and diluted net loss per share	$ (.84)	$ (.69)	$ (1.08)
Shares used in computing basic and diluted net loss per share	18,705,838	18,290,548	16,704,144

See accompanying notes to consolidated financial statements.

STEMCELLS, INC. (FORMERLY CYTOTHERAPEUTICS, INC.)

CONSOLIDATED STATEMENTS OF CHANGES IN REDEEMABLE COMMON STOCK AND STOCKHOLDERS' EQUITY

	REDEEMABLE COMMON STOCK		COMMON STOCK		ADDITIONAL PAID-IN	ACCUMULATED
	SHARES	AMOUNT	SHARES	AMOUNT	CAPITAL	DEFICIT
Balances, December 31, 1996	815,065	$ 8,158,798	15,614,333	$156,144	$107,649,659	$ (72,922,674)
Issuance of common stock	--	--	307,548	3,074	1,552,432	--
Issuance of common stock under the stock purchase plan	--	--	31,822	319	180,103	--
Deferred compensation recorded in connection with the granting of stock options	--	--	--	--	1,750,000	--
Common stock issued pursuant to employee benefit plan	--	--	25,588	256	169,196	--
Issuance of common stock--StemCells	--	--	1,219,381	12,194	7,381,206	--
Redeemable common stock lapses	(257,311)	(2,575,688)	257,311	2,573	2,573,115	--
Exercise of stock options	--	--	75,237	752	244,427	--
Deferred compensation--amortization and cancellations	--	--	(5,000)	(50)	(27,294)	--
Change in unrealized losses on marketable securities	--	--	--	--	--	--
Change in cumulative translation adjustment	--	--	--	--	--	--
Net loss	--	--	--	--	--	(18,113,580)
Comprehensive loss						
Balances, December 31, 1997	557,754	$ 5,583,110	17,526,220	$175,262	$121,472,844	$ (91,036,254)
Issuance of common stock	--	--	--	--	--	--
Issuance of common stock under the stock purchase plan	--	--	43,542	436	83,622	
Deferred compensation recorded in connection with the granting of stock options	--	--	--	--	--	--
Common stock issued pursuant to employee benefit plan	--	--	84,812	848	143,025	--
Issuance of common stock--StemCells	--	--	101,320	1,013	505,587	--
Redeemable common stock lapses	(33,417)	(334,500)	33,417	334	334,166	--
Exercise of stock options	--	--	11,012	110	1,254	--
Deferred compensation--amortization and cancellations	--	--	--	--	321,108	--
Change in unrealized losses on marketable securities	--	--	--	--	--	--
Net loss	--	--	--	--	--	(12,627,830)
Comprehensive loss						
Balances, December 31, 1998	524,337	$ 5,248,610	17,800,323	$178,003	$122,861,606	$(103,664,084)
Issuance of common stock	--	--	196,213	1,962	318,221	--
Issuance of common stock under the stock purchase plan	--	--	57,398	574	41,619	
Deferred compensation recorded in connection with the granting of stock options	--	--	--	--	--	--
Common stock issued pursuant to employee benefit plan	--	--	90,798	908	102,502	--
Issuance of common stock--StemCells	--	--	--	--	--	--
Redeemable common stock lapses	--	--	--	--		
Exercise of stock options	--	--	490,833	4,908	513,534	--
Deferred compensation--amortization and cancellations	--	--	--	--	80,276	--
Change in unrealized losses on marketable securities	--	--	--	--	--	--
Net loss	--	--	--	--	--	(15,708,626)
Comprehensive loss						
Balances, December 31, 1999	524,337	$ 5,248,610	18,635,565	$186,355	$123,917,758	$(119,372,710)

	OTHER COMPREHENSIVE INCOME			
	UNREALIZED GAINS (LOSSES) ON MARKETABLE SECURITIES	CUMULATIVE TRANSLATION ADJUSTMENTS	DEFERRED COMPENSATION	TOTAL STOCKHOLDERS' EQUITY
Balances, December 31, 1996	$ 14,760	$(60,416)	$ (90,118)	$ 34,747,355
Issuance of common stock	--	--	--	1,555,506
Issuance of common stock under the stock purchase plan	--	--	--	180,422
Deferred compensation recorded in connection with the granting of				

stock options	--	--	(1,750,000)	--
Common stock issued pursuant to employee benefit plan	--	--	--	169,452
Issuance of common stock--StemCells	--	--	--	7,393,400
Redeemable common stock lapses	--	--	--	2,575,688
Exercise of stock options	--	--	--	245,179
Deferred compensation--amortization and cancellations	--	--	137,298	109,954
Change in unrealized losses on marketable securities	(23,637)	--	--	(23,637)
Change in cumulative translation adjustment	--	60,416	--	60,416
Net loss	--	--	--	(18,113,580)
Comprehensive loss				(18,076,081)
Balances, December 31, 1997	$ (8,877)	$ --	$(1,702,820)	$ 28,900,155
Issuance of common stock	--	--	--	--
Issuance of common stock under the stock purchase plan		--		84,058
Deferred compensation recorded in connection with the granting of stock options	--	--	--	--
Common stock issued pursuant to employee benefit plan	--	--	--	143,873
Issuance of common stock--StemCells	--	--	--	506,600
Redeemable common stock lapses	--	--	--	334,500
Exercise of stock options	--	--	--	1,364
Deferred compensation--amortization and cancellations	--	--	229,901	551,009
Change in unrealized losses on marketable securities	3,679	--	--	3,679
Net loss	--	--	--	(12,627,830)
Comprehensive loss				(12,624,151)
Balances, December 31, 1998	$ (5,198)	$ --	$(1,472,919)	$ 17,897,408
Issuance of common stock	--	--	--	320,183
Issuance of common stock under the stock purchase plan	--		42,193	
Deferred compensation recorded in connection with the granting of stock options	--	--	--	--
Common stock issued pursuant to employee benefit plan	--	--	--	103,410
Issuance of common stock--StemCells	--	--	--	--
Redeemable common stock lapses		--		
Exercise of stock options	--	--	--	518,442
Deferred compensation--amortization and cancellations	--	--	247,919	328,195
Change in unrealized losses on marketable securities	5,198	--	--	5,198
Net loss	--	--	--	(15,708,626)
Comprehensive loss			--	(15,703,428)
Balances, December 31, 1999	$ --	$ --	$(1,225,000)	$ 3,506,403

See accompanying notes to consolidated financial statements.

STEMCELLS, INC. (FORMERLY CYTOTHERAPEUTICS, INC.)

CONSOLIDATED STATEMENTS OF CHANGES IN REDEEMABLE COMMON STOCK AND STOCKHOLDERS' EQUITY (CONTINUED)

	REDEEMABLE COMMON STOCK		COMMON STOCK		ADDITIONAL PAID-IN CAPITAL	ACCUMULATED DEFICIT	UNREALIZED GAINS (LOSSES) ON MARKETABLE SECURITIES	DEFERRED COMPENSATION
	SHARES	AMOUNT	SHARES	AMOUNT				
Issuance of common stock.....	--	--	196,213	$ 1,962	$ 318,221	--	--	--
Issuance of common stock under the stock purchase plan.....	--	--	57,398	574	41,619		42,193	
Deferred compensation recorded in connection with the granting of stock options.....	--	--	--	--	--	--	--	--
Common stock issued pursuant to employee benefit plan.....	--	--	90,798	908	102,502	--	--	--
Issuance of common stock--StemCells...	--	--	--	--	--	--	--	--
Redeemable common stock lapses.....	--	--	--	--				
Exercise of stock options.....	--	--	490,833	4,908	513,534	--	--	--
Deferred compensation-- amortization and cancellations.....	--	--	--	--	80,276	--	--	247,919
Change in unrealized losses on marketable securities.....	--	--	--	--	--	--	5,198	--
Net loss.....	--	--	--	--	--	(15,708,626)	--	--
Comprehensive loss...								
Balances, December 31, 1999.....	524,337	$5,248,610	18,635,565	$186,355	$123,917,758	$(119,372,710)	$ --	$(1,225,000)

	TOTAL STOCKHOLDERS' EQUITY
Issuance of common stock.....	$ 320,183
Issuance of common stock under the stock purchase plan.....	
Deferred compensation recorded in connection with the granting of stock options.....	--
Common stock issued pursuant to employee benefit plan.....	103,410
Issuance of common stock--StemCells...	--
Redeemable common stock lapses.....	
Exercise of stock options.....	518,442
Deferred compensation-- amortization and cancellations.....	328,195
Change in unrealized losses on marketable securities.....	5,198
Net loss.....	(15,708,626)
Comprehensive loss...	(15,703,428)
Balances, December 31, 1999.....	$ 3,506,403

SEE ACCOMPANYING NOTES TO CONSOLIDATED FINANCIAL STATEMENTS.

STEMCELLS, INC. (FORMERLY CYTOTHERAPEUTICS, INC.)

CONSOLIDATED STATEMENTS OF CASH FLOWS

	YEAR ENDED DECEMBER 31,		
	1999	1998	1997
Cash flows from operating Activities:			
Net loss	$(15,708,626)	$(12,627,830)	$(18,113,580)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	1,717,975	2,244,146	1,968,234
Acquired research and development	--	551,009	8,343,684
Amortization of deferred compensation	328,195	--	109,954
Other non-cash charges	320,183	410,173	105,931
Gain on investment	--	--	(3,386,808)
Loss on sale of fixed assets	1,117,286	--	413,856
Loss on sale of intangibles	440,486		
Changes in operating assets and liabilities:			
Accrued interest receivable	164,397	346,577	100,004
Other current assets	276,940	(265,665)	(232,604)
Accounts payable and accrued expenses	1,644,142	(2,378,613)	(1,233,501)
Deferred rent	279,680	--	--
Deferred revenue	(2,500,000)	2,483,856	(1,842,948)
Net cash used in operating activities	(12,489,342)	(9,236,347)	(13,767,778)
Cash flows from investing activities:			
Proceeds from sale of Modex, net of cash disposed	--	--	2,958,199
Purchases of marketable securities	(4,397,676)	(18,982,387)	(14,182,521)
Proceeds from sales of marketable securities	13,923,813	22,573,625	23,736,242
Purchases of property, plant and equipment	(192,747)	(2,153,525)	(7,710,126)
Proceeds on sale of fixed assets	746,448	--	8,003,926
Purchase of other investment	--	--	(250,000)
Acquisition of other assets	(552,251)	(400,219)	(1,599,418)
Disposal of other assets	440,485	--	--
Acquisition of StemCells assets	--	--	(640,490)
Advance to Cognetix	--	--	(250,000)
Repayment from Cognetix	--	--	250,000
Net cash provided by investing activities	9,968,073	1,037,494	10,315,812
Cash flows from financing activities:			
Proceeds from issuance of redeemable common stock	--	--	--
Proceeds from issuance of common stock	145,603	227,931	1,905,380
Proceeds from the exercise of stock options and warrants	518,442	1,364	245,179
Proceeds from debt financings	--	1,259,300	--
Repayments of debt and lease obligations	(1,817,500)	(1,366,655)	(2,496,849)
Net cash provided by (used in) financing activities	(1,153,455)	121,940	(346,290)
Effect of exchange rate changes on cash and cash equivalents	--	--	(181,627)
Decrease in cash and cash equivalents	(3,104,724)	(8,076,913)	(3,979,883)
Cash and cash equivalents, January 1	7,864,788	15,941,701	19,921,584
Cash and cash equivalents, December 31	$ 4,760,064	$ 7,864,788	$ 15,941,701
Supplemental disclosure of cash flow information:			
Interest paid	$ 335,203	$ 444,047	$ 436,461

See accompanying notes to consolidated financial statements.

1. NATURE OF BUSINESS

StemCells, Inc. (formerly CytoTherapeutics, Inc.) (the "Company") is a biopharmaceutical company engaged in the development of novel stem cell therapies designed to treat human diseases and disorders.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

PRINCIPLES OF CONSOLIDATION

The consolidated financial statements include accounts of the Company and StemCells California, Inc., a wholly owned subsidiary. Significant intercompany accounts have been eliminated in consolidation.

USE OF ESTIMATES

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

CASH EQUIVALENTS AND MARKETABLE SECURITIES

Cash equivalents include funds held in investments with original maturities of three months or less when purchased. The Company's policy regarding selection of investments, pending their use, is to ensure safety, liquidity, and capital reservation while obtaining a reasonable rate of return. Marketable securities consist of investments in agencies of the U.S. government, investment grade corporate notes and money market funds. The fair values for marketable securities are based on quoted market prices.

The Company determines the appropriate classification of cash equivalents and marketable securities at the time of purchase and reevaluates such designation as of each balance sheet date. The Company classifies such holdings as available-for-sale securities, which are carried at fair value, with unrealized gains and losses reported as a separate component of stockholders' equity.

PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment, including that held under capitalized lease obligations, is stated at cost and depreciated using the straight-line method over the estimated life of the respective asset, as follows:

Building and improvements	3 -- 15 years
Machinery and equipment	3 -- 10 years
Furniture and fixtures	3 -- 10 years

PATENT COSTS

The Company capitalizes certain patent costs related to patent applications. Accumulated costs are amortized over the estimated economic life of the patents, not to exceed 17 years, using the straight-line method, commencing at the time the patent is issued. Costs related to patent applications

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)
are written off to expense at the time such patents are deemed to have no continuing value. At December 31, 1999 and 1998, total costs capitalized were $718,000 and $4,285,000 and the related accumulated amortization were $9,000 and $347,000, respectively. Patent expense totaled $539,000, $3,000, and $365,000 in 1999, 1998 and 1997, respectively.

In December 1999, the Company sold its Encapsulated Cell Technology ("ECT") to Neurotech, S.A. for an initial payment of $3,000,000, royalties on future product sales, and a portion of certain Neurotech revenues from third parties in return for the assignment to Neurotech of intellectual property assets relating to ECT. In addition, the Company retained certain non-exclusive rights to use ECT in combination with its proprietary stem cell technology and in the field of vaccines for prevention and treatment of infectious diseases. The patent portfolio that was sold had a net book value of $3,180,000.

STOCK BASED COMPENSATION

The Company grants qualified stock options for a fixed number of shares to employees with an exercise price equal to the fair market value of the shares at the date of grant. The Company accounts for stock option grants in accordance with APB Opinion No. 25, ACCOUNTING FOR STOCK ISSUED TO EMPLOYEES, and, accordingly, recognizes no compensation expense for qualified stock option grants.

For certain non-qualified stock options granted, the Company recognizes as compensation expense the excess of the deemed fair value of the common stock issuable upon exercise of such options over the aggregate exercise price of such options. The compensation is amortized over the vesting period of each option or the recipient's term of employment, if shorter.

INCOME TAXES

The liability method is used to account for income taxes. Deferred tax assets and liabilities are determined based on differences between financial reporting and income tax bases of assets and liabilities as well as net operating loss carry forwards and are measured using the enacted tax rates and laws that are expected to be in effect when the differences reverse. Deferred tax assets may be reduced by a valuation allowance to reflect the uncertainty associated with their ultimate realization.

REVENUE FROM COLLABORATIVE AGREEMENTS

Revenues from collaborative agreements are recognized as earned upon either the incurring of reimbursable expenses or the achievement of certain milestones. Payments received in advance of research performed are designated as deferred revenue.

NET LOSS PER SHARE

Net loss per share is computed using the weighted average number of shares of common stock outstanding. Common equivalent shares from stock options and warrants are excluded, as their effect is antidilutive.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)
RECENTLY ISSUED ACCOUNTING PRONOUNCEMENTS

The Securities Exchange Commission's recently issued Staff Accounting Bulletin No. 101 provides guidance on revenue recognition that may impact the Company's future reporting relative to revenues received from collaborative and similar agreements.

3. SALE OF 6% CUMULATIVE CONVERTIBLE PREFERRED STOCK

On April 13, 2000, the Company completed arrangements to sell 1,500 shares of 6% cumulative convertible preferred stock plus a warrant for 75,000 shares of the Company's common stock to two members of its Board of Directors for $1,500,000, on terms more favorable to the Company than it was then able to obtain from outside investors. The shares are convertible at the option of the holders into common stock at $3.77 per share. The conversion price may be below the trading market price of the stock at the time of conversion. The holders of the preferred stock have liquidation rights equal to their original investment plus accrued but unpaid dividends. The investors would be entitled to make additional investments in the Company on the same terms as those on which the Company completes offerings of its securities with third parties within 6 months, if any such offerings are completed. If offerings totaling at least $6 million are not completed during the 6 months, the investors have the right to acquire up to 1,126 additional shares of convertible preferred stock at $6.33 per share. Any unconverted preferred stock is converted, at the applicable conversion price, on April 13, 2002 in the case of the original stock and two years after the first acquisition of any of the additional 1,126 shares, if any are acquired. The warrant expires on April 13, 2005.

4. WIND-DOWN OF ENCAPSULATED CELL TECHNOLOGY RESEARCH AND DEVELOPMENT PROGRAM

Wind-down expenses totaled $6,048,000 for the year ended December 31, 1999; no such expenses were incurred in 1998 and 1997. These expenses relate to the wind-down of the Company's encapsulated cell technology research and development program and the Company's other Rhode Island operations, the transfer of the Company's corporate headquarters to Sunnyvale, California and an accrual for the Company's estimate of the costs of settlement of a 1989 funding agreement with the Rhode Island Partnership for Science and Technology ("RIPSAT") associated with the Company's pilot manufacturing facility.

5. STEMCELLS CALIFORNIA, INC.

In September 1997, a merger of a wholly owned subsidiary of the Company and StemCells California, Inc. was completed in the form of a purchase. Through the merger, the Company acquired StemCells for a purchase rice totaling approximately $9,475,000, consisting of 1,320,691 shares of the Company's common stock and options and warrants for the purchase of 259,296 common shares at nominal consideration, valued at $7,900,000 in the aggregate, the assumption of certain liabilities of $934,000 and transaction costs of $641,000. The purchase price was allocated, through a valuation, to license agreements valued at $1,131,000 to be amortized over three years and acquired research and development of $8,344,000, which was expensed. As part of the acquisition of StemCells, Richard M. Rose, M.D., became President, Chief Executive Officer and director of the Company and Dr. Irving Weissman became a director of the Company.

5. STEMCELLS CALIFORNIA, INC. (CONTINUED)

Upon consummation of the merger, the Company entered into consulting arrangements with the principal scientific founders of StemCells: Dr. Irving Weissman, Dr. Fred H. Gage and Dr. David Anderson. Additionally, in connection with the merger, the Company was granted an option by the former shareholders of StemCells to repurchase 500,000 of the Company's shares of Common Stock exchanged for StemCells shares, upon the occurrence of certain events.

To attract and retain Drs. Rose, Weissman, Gage and Anderson, and to expedite the progress of the Company's stem cell program, the Company awarded these individuals options to acquire a total of approximately 1.6 million shares of the Company's common stock, at an exercise price of $5.25 per share, the quoted market price at the grant date; approximately 100,000 of these options were exercisable immediately, 1,031,000 of these options vest and become exercisable only upon the achievement of specified milestones related to the Company's stem cell development program and the remaining 469,000 options vest over eight years. In connection with the 469,000 options issued to a non-employee, Dr. Anderson, the Company recorded deferred compensation of $1,750,000, the fair value of such options at the date of grant, which will be amortized over an eight-year period. If the milestones specified relating to the 1,031,000 option grant are achieved, at that time the Company will record compensation expense for the excess of the quoted market price of the common stock over the exercise price of $5.25 per share for 562,000 options and the fair market value for 469,000 of such options determined using the Black-Scholes method. The Company has also designated a pool of 400,000 options to be granted to persons in a position to make a significant contribution to the success of the stem cell program.

Stem cell research will be conducted pursuant to the provisions of an agreement between the Company and Drs. Weissman and Gage providing for a two-year research plan. If the goals of the research plan are accomplished, the Company has agreed to fund continuing stem cell research. Increases in stem cells research funding of not more than 25% a year will be funded by the Company as long as the goals of the research plan are being met. However, the Company will retain the option of (i) ceasing or reducing neural stem cell research even if all research plan goals are met, but will be required to accelerate the vesting of all still-achievable performance based stock options, and (ii) ceasing or reducing non-neural stem cell research even if all plan goals are being met by affording the scientific research founders the opportunity to continue development of the non-neural stem cell research by licensing the technology related to such research to the founders in exchange for a payment to the Company equal to all prior Company funding for such research, plus royalty payments.

6. MODEX

In October 1997, the Company completed a series of transactions, which resulted in the establishment of its previously 50%-owned Swiss subsidiary, Modex Therapeutiques, S.A., (Modex) as an independent company. In the transactions, the Company reduced its ownership interest from 50% to approximately 25% in exchange for $4 million cash and elimination of its prior contingent obligation to contribute an additional Sfr 2.4 million (approximately $1.7 million) to Modex in July 1998. In the transactions, all of the put and call arrangements between the Company and other stockholders of Modex were eliminated and the Company forgave $463,000 due from Modex to the Company. The Company recorded a gain on the transactions of $3,387,000.

6. MODEX (CONTINUED)

In April 1998, Modex completed an additional equity offering, in which the Company did not participate. This resulted in a reduction in the Company's ownership to less than 20% ownership; therefore, the Company accounts for this investment under the cost method.

The pre-existing royalty-bearing Cross License Agreement between the Company and Modex was assigned by the Company to Neurotech S.A., a privately held French company, as part of the sale of the intellectual property assets related to the Company's encapsulated cell therapy technology to Neurotech. Under the terms of the sale to Neurotech, the Company will receive a portion of revenues Neurotech receives from Modex under the Cross License Agreement.

7. MARKETABLE SECURITIES

During 1999, the Company sold all of its remaining marketable equitable securities. At December 31, 1999, all of the Company's available funds were held in cash and cash equivalents. The following is a summary of available-for-sale securities held at December 31, 1998:

	DECEMBER 31, 1998			
	COST	GROSS UNREALIZED LOSSES	GROSS UNREALIZED GAINS	ESTIMATED FAIR VALUE
U.S. government securities	$ 1,500,994	$1,720	$ (504)	$ 1,502,210
U.S. corporate securities	9,225,095	3,244	(9,658)	9,218,681
Total debt securities	$10,726,089	$4,964	$(10,162)	10,720,891
Debt securities included in cash and cash equivalents				(1,199,952)
Debt securities included in marketable securities				$ 9,520,939

8. PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment consists of the following:

	DECEMBER 31,	
	1999	1998
Building and improvements	$5,666,987	$ 5,665,077
Machinery and equipment	3,144,107	9,887,251
Furniture and fixtures	219,260	869,831
	9,030,354	16,422,159
Less accumulated depreciation and amortization	3,778,978	8,066,150
	$5,251,376	$ 8,356,009

Depreciation and amortization expense was $1,436,000, $1,720,000, and $1,778,000 for the years ending December 31, 1999, 1998 and 1997, respectively.

As part of the Company's restructuring of its operations, sale of its encapsulated cell technology ("ECT"), and relocation of its corporate headquarters to Sunnyvale, California, the Company identified

8. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)
fixed assets associated with the ECT or otherwise no longer needed. In December of 1999, the Company disposed of these excess fixed assets, realizing proceeds of approximately $746,000. These assets had a net book value of approximately $1,063,000 after a third quarter write-down of $800,000.

Certain property, plant and equipment have been acquired under capitalized lease obligations. These assets totaled $5,827,000 and $6,587,000, at December 31, 1999 and 1998, respectively, with related accumulated amortization of $2,747,000 and $2,860,000 at December 31, 1999 and 1998, respectively.

9. OTHER ASSETS

Other assets are as follows:

	DECEMBER 31,	
	1999	1998
Patents, net	$ 708,823	$3,938,755
License agreements, net	282,750	659,750
Security deposit--building lease	750,000	750,000
Restricted cash	--	603,467
Deferred financing costs, net	117,195	123,701
	$1,858,768	$6,075,663

At December 31, 1999 and 1998, accumulated amortization was $857,000 and $818,000, respectively, for patents and license agreements.

10. ACCRUED EXPENSES

Accrued expenses are as follows:

	DECEMBER 31,	
	1999	1998
External services	$2,031,961	$ 412,253
Employee compensation	306,342	262,679
Collaborative research	222,140	196,505
Other	344,625	148,682
	$2,905,068	$1,020,119

11. LEASES

The Company has undertaken direct financing transactions with the State of Rhode Island and received proceeds from the issuance of industrial revenue bonds totaling $5,000,000 to finance the construction of its pilot manufacturing facility. The related leases are structured such that lease payments will fully fund all semiannual interest payments and annual principal payments through maturity in August 2014. Fixed interest rates vary with the respective bonds' maturities, ranging from

11. LEASES (CONTINUED)
5.1% to 9.5%. The bonds contain certain restrictive covenants which limit, among other things, the payment of cash dividends and the sale of the related assets. In addition, the Company was required to maintain a debt service reserve until December 1999. On March 3, 2000 the Company entered into a settlement agreement with RIPSAT, the Rhode Island Industrial Recreational Building Authority ("IRBA") and the Rhode Island Industrial Facilities Corporation ("RIIFC"). The Company agreed to pay RIPSAT $1,172,000 in full satisfaction of all obligations of the Company to RIPSAT under the Funding Agreement dated as of June 22, 1989. On execution and delivery of this Agreement, IRBA agreed to return to the Company the full amount of the Company's debt serve reserve ("Reserve Funds"), approximately $610,000 of principal and interest, relating to the bonds the Company has with IRBA and RIIFC. In order to avoid the loss of interest on the Reserve Funds due to early termination of certain investments, the parties agreed that the Company would render a net payment to RIPSAT in the amount of approximately $562,000.

In 1997, the Company completed construction of a new headquarters and laboratory facility. In November 1997, the Company entered into sale and leaseback agreements with a real estate investment trust. Under the terms of these agreements, the Company sold its new facility for $8,000,000, incurring a $342,000 loss on the sale. The Company simultaneously entered into a fifteen-year lease for the facility. The lease agreement calls for minimum rent of $750,000 for the first five years, $937,500 for years six to ten, $1,171,900 for years eleven to fourteen and $1,465,000 in year fifteen, with a $750,000 security deposit held for the term of the lease. The Company is recognizing rent expense on a straight line basis. At December 31, 1999, the Company had incurred $426,790 in deferred rent expense.

Future minimum capitalized lease obligations with non-cancelable terms in excess of one year at December 31, 1999, are as follows:

2000	$ 606,268
2001	589,217
2002	519,719
2003	436,909
2004	425,713
Thereafter	2,577,826
Total minimum lease payments	5,302,407
Less amounts representing interest	2,041,157
Present value of minimum lease payments	3,261,250
Less current maturities	324,167
Capitalized lease obligations, less current maturities	$2,937,083

Rent expense for the years ended December 31, 1999, 1998 and 1997, was $947,000, $1,052,000 and $499,000, respectively.

12. LONG-TERM DEBT

Long-term debt is as follows:

	DECEMBER 31,	
	1999	1998
Term note payable, interest at the prime rate plus 1/2% (8.75% at December 31, 1998), principal payments commence in August 1998, due ratably through May 2000; secured by certain equipment (prepaid during 1999)	$ --	$1,500,000
Current maturities of long-term debt	--	1,000,000
Long-term debt, less current maturities	--	$ 500,000

13. REDEEMABLE COMMON STOCK

In November 1996, the Company signed certain collaborative development and licensing agreements with Genentech, Inc, including one under which Genentech purchased 829,171 shares of redeemable common stock for $8.3 million to fund development of products to treat Parkinson's disease. The Agreement also provided that Genentech had the right, at its discretion, to terminate the Parkinson's program at specified milestones in the program, and that if the program were terminated, Genentech had the right to require the Company to repurchase from Genentech the shares of the Company's common stock having a value equal to the amount by which the $8.3 million exceeded the expenses incurred by the Company in connection with such studies by more than $1 million, based upon the share price paid by Genentech. Accordingly, the common stock is classified as redeemable common stock until such time as the related funds are expended. At December 31, 1998, $3,051,000 had been spent on the collaboration with Genentech and, accordingly, the Company has reclassified those common shares and related value to stockholders' equity. On May 21, 1998, Genentech exercised its right to terminate the collaboration and negotiations ensued with respect to the amount of redeemable common stock to be redeemed in accordance with the agreement and the method of such redemption. In March 2000, the Company reached a settlement of this matter with Genentech. Under the settlement agreement, Genentech released the Company from any obligation to redeem any shares of the Company's Common Stock held by Genentech. Accordingly, the Company reclassified the amount recorded at December 31, 1999 as Redeemable Common Stock ($5,248,000) to Stockholders' Equity in March 2000. The Company and Genentech also agreed that all of the agreements between them were terminated and that neither had any claim to the intellectual property of the other.

14. COMMON STOCK TO BE ISSUED

In 1998, the Company entered into an agreement with a Company advisor, under which the advisor prepared a strategic and business overview and provided related implementation support for the Company. The advisor agreed to accept cash and the Company's common stock as partial payment for its services. In 1999, the Company issued the $187,500 of common stock due to the advisor.

15. STOCKHOLDERS' EQUITY

STOCK OPTION AND EMPLOYEE STOCK PURCHASE PLANS

The Company has adopted several stock plans that provide for the issuance of incentive and nonqualified stock options, performance awards and stock appreciation rights, at prices to be determined by the Board of Directors, as well as the purchase of Common Stock under an employee stock purchase plan at a discount to the market price. In the case of incentive stock options, such price will not be less than the fair market value on the date of grant. Options generally vest ratably over four years and are exercisable for ten years from the date of grant or within three months of termination. At December 31, 1999, the Company had reserved 2,603,736 shares of common stock for the exercise of stock options.

The following table presents the combined activity of the Company's stock option plans (exclusive of the plans noted below) for the years ended December 31:

	1999		1998		1997	
	OPTIONS	WEIGHTED AVERAGE EXERCISE PRICE	OPTIONS	WEIGHTED AVERAGE EXERCISE PRICE	OPTIONS	WEIGHTED AVERAGE EXERCISE PRICE
Outstanding at January 1.....	1,654,126	$3.62	2,446,573	$7.48	2,423,025	$8.34
Granted.....	536,078	1.08	1,174,118	1.70	679,074	5.33
Exercised.....	(604,362)	1.50	(11,012)	.12	(82,737)	2.96
Canceled.....	(646,507)	5.31	(1,955,553)	7.08	(572,789)	9.21
Outstanding at December 31....	939,335	$2.65	1,654,126	$3.62	2,446,573	$7.48
Options exercisable at December 31.....	594,216	$3.44	1,108,936	$4.33	1,338,163	$7.79

In addition to the options noted above, in conjunction with the StemCells California merger, StemCells California options originally issued under a prior StemCells California options plan were exchanged for options to purchase 250,344 shares of the Company's common stock at $.01 per share; 75,384 of these options are exercisable at December 31, 1997, 96,750 of these options vest and become exercisable only upon achievement of specified milestones, and the remaining 78,210 options vest over three years from the date of grant. Additionally, the Company adopted the 1997 CytoTherapeutics, Inc. StemCells California Research Stock Option Plan (the StemCells California Research Plan) whereby an additional 2,000,000 shares of Common Stock have been reserved. During 1997, the Company awarded options under the StemCells Research Plan to purchase 1.6 million shares of the Company's common stock to the Chief Executive Officer and scientific founders of StemCells at an exercise price of $5.25 per share; approximately 100,000 of these options are exercisable immediately, 1,031,000 of these options vest and become exercisable only upon achievement of specified milestones and the remaining 469,000 options vest over eight years.

FAS 123 DISCLOSURES

The Company has adopted the disclosure provisions only of Statement of Financial Accounting Standards No. 123, ACCOUNTING FOR STOCK-BASED COMPENSATION ("FAS 123") and

15. STOCKHOLDERS' EQUITY (CONTINUED)
accounts for its stock option plans in accordance with the provisions of APB 25, ACCOUNTING FOR STOCK ISSUED TO EMPLOYEES.

The following table presents weighted average price and life information about significant option groups outstanding at December 31, 1999:

	OPTIONS OUTSTANDING			OPTIONS EXERCISABLE	
RANGE OF EXERCISE PRICES	NUMBER OUTSTANDING	WEIGHTED AVERAGE REMAINING CONTRACTUAL LIFE (YRS.)	WEIGHTED AVERAGE EXERCISE PRICE	NUMBER EXERCISABLE	WEIGHTED AVERAGE EXERCISE PRICE
Less than $5.00	755,398	8.50	$ 1.12	411,945	$ 1.02
$5.01-$10.00	90,687	4.56	6.55	89,021	6.55
Greater than $10.00	93,250	2.54	11.18	93,250	11.18
	939,335			594,216	

Pursuant to the requirements of FAS 123, the following are the pro forma net loss and net loss per share amounts for 1999, 1998, and 1997, as if the compensation cost for the option plans and the stock purchase plan had been determined based on the fair value at the grant date for grants in 1999, 1998, and 1997, consistent with the provisions of FAS 123:

	1999		1998		1997	
	AS REPORTED	PRO FORMA	AS REPORTED	PRO FORMA	AS REPORTED	PRO FORMA
Net loss	$(15,708,626)	$(15,764,569)	$(12,627,830)	$(14,919,389)	$(18,113,580)	$(19,924,437)
Net loss per share	$(.84)	$(.84)	$(.69)	$(.82)	$(1.08)	$(1.19)

The weighted average fair value per share of options granted during 1999, 1998 and 1997 was $.88, $.82 and $3.40, respectively. The fair value of options and shares issued pursuant to the stock purchase plan at the date of grant were estimated using the Black-Scholes model with the following weighted average assumptions:

	OPTIONS			STOCK PURCHASE PLAN		
	1999	1998	1997	1999	1998	1997
Expected life (years)	5	5	5	5	.5	.5
Interest rate	5.5%	5.2%	6.2%	5.0%	4.64%	5.5%
Volatility	96.7%	63.5%	59.0%	96.7%	63.5%	59.0%

The Company has never declared nor paid dividends on any of its capital stock and does not expect to do so in the foreseeable future.

The effects on 1999, 1998 and 1997 pro forma net loss and net loss per share of expensing the estimated fair value of stock options and shares issued pursuant to the stock purchase plan are not necessarily representative of the effects on reporting the results of operations for future years as the period presented includes only four, three or two years, respectively, of option grants under the

15. STOCKHOLDERS' EQUITY (CONTINUED)
Company's plans. As required by FAS 123, the Company has used the Black-Scholes model for option valuation, which method may not accurately value the options described.

STOCK WARRANTS

In conjunction with StemCells California merger, the Company exchanged StemCells California warrants for warrants to purchase 8,952 shares of Company common stock at $4.71 per share. In conjunction with various equipment leasing agreements, the Company has outstanding warrants to purchase 31,545 shares of common stock at prices ranging from $4.00 to $9.00 per share. The warrants expire through October 2000.

In connection with a public offering of common stock in April 1995, the Company issued warrants to purchase 434,500 shares of common stock at $8 per share. The warrants are nontransferable and expire in April 2000, subject to certain required exercise provisions. In addition to the foregoing rights, the holder of such warrants has the right, in the event the Company issues additional shares of common stock or other securities convertible into common stock, to purchase at the then market price of such common stock, sufficient additional shares of common stock to maintain the warrant holder's percentage ownership of the Company's common stock at 15%. This right, subject to certain conditions and limitations, expires in April 2000.

COMMON STOCK RESERVED

The Company has reserved 6,461,846 shares of common stock for the exercise of options, warrants and other contingent issuances of common stock.

16. RESEARCH AGREEMENTS

In November 1997, StemCells California, Inc., a wholly owned subsidiary of the Company, signed a Research Funding and Option Agreement with The Scripps Research Institute ("Scripps") relating to certain stem cell research. Under the terms of the Agreement, StemCells agreed to fund research in the total amount of approximately $931,000 at Scripps over a period of three years. StemCells paid Scripps approximately $77,000 in 1997, $307,000 in 1998, and $309,000 in 1999. In addition, the Company agreed to issue to Scripps 4,837 shares of the Company's common stock and a stock option to purchase 9,674 shares of the Company's Common Stock with an exercise price of $.01 per share upon the achievement of specified milestones. Under the Agreement, StemCells has an option for an exclusive license to the inventions resulting from the sponsored research, subject to the payment of royalties and certain other amounts, and is obligated to make payments totaling $425,000 for achievement of certain milestones.

In April 1997, the Company entered into an agreement with Neurospheres, Ltd., which superseded all previous licensing agreements and settled a dispute with Neurospheres. Under the terms of the settlement, the Company has an exclusive royalty bearing license for growth-factor responsive stem cells for transplantation. Neurospheres had an option to acquire co-exclusive rights but did not exercise by the April 1998 deadline. The Company retains exclusive rights for transplantation. The parties have no further research obligations to each other.

16. RESEARCH AGREEMENTS (CONTINUED)

In February 1997, CytoTherapeutics and Cognetix, Inc. entered into a Collaboration and Development Agreement related to the Company's former encapsulated cell technology. As part of the agreement with Cognetix, the Company purchased $250,000 of Cognetix preferred stock and, subject to certain milestones, was obligated to purchase as much as $1,500,000 of additional Cognetix stock over the next year. In July 1997, the Company loaned $250,000 to Cognetix which was repaid with interest in October 1997. In October 1998, the Company sold the $250,000 of preferred stock back to Cognetix for $298,914.

Under the terms of one of those agreements, Genentech purchased 829,171 shares of redeemable common stock for $8.3 million to fund development of products to treat Parkinson's disease. Genentech had the right, at its discretion, to terminate the Parkinson's program at specified milestones in the program. The Agreement also provided that if the Parkinson's program were terminated and the funds of the Company received from the sale of stock to Genentech pursuant to the Parkinson's agreement exceeded the expenses incurred by the Company in connection with such studies by more than $1 million, Genentech had the right to require the Company to repurchase from Genentech shares of the Company's common stock having a value equal to the over funding, based upon the share price paid by Genentech. As such, the common stock purchased by Genentech has been classified as redeemable common stock until the funds are expended on the program. On May 21, 1998, Genentech exercised its right to terminate the collaboration and negotiations ensued with respect to the amount of redeemable common stock to be redeemed in accordance with the agreement and the method of such redemption. In March 2000 the Company announced the settlement of this matter with Genentech. (SEE NOTE 18--"SUBSEQUENT EVENTS" RELATING TO THE SETTLEMENT OF AND TERMINATION OF THE GENENTECH AGREEMENTS.)

In March 1995, the Company signed a collaborative research and development agreement with AstraZeneca for the development and marketing of certain encapsulated-cell products to treat pain. AstraZeneca made an initial, nonrefundable payment of $5,000,000, included in revenue from collaborative agreements in 1995, a milestone payment of $3,000,000 in 1997 and was to remit up to an additional $13,000,000 subject to achievement of certain development milestones. Under the agreement, the Company was obligated to conduct certain research and development pursuant to a four-year research plan agreed upon by the parties. Over the term of the research plan, the Company originally expected to receive annual payments of $5 million to $7 million from AstraZeneca, which was to approximate the research and development costs incurred by the Company under the plan. Subject to the successful development of such products and obtaining necessary regulatory approvals, AstraZeneca was obligated to conduct all clinical trials of products arising from the collaboration and to seek approval for their sale and use. AstraZeneca had the exclusive worldwide right to market products covered by the agreement. Until the later of either the expiration of all patents included in the licensed technology or a specified fixed term, the Company was entitled to a royalty on the worldwide net sales of such products in return for the marketing license granted to AstraZeneca and the Company's obligation to manufacture and supply products. AstraZeneca had the right to terminate the original agreement beginning April 1, 1998. On June 24, 1999, AstraZeneca informed the Company of the results of AstraZeneca's analysis of the double-blind, placebo-controlled trial of the Company's encapsulated bovine cell implant for the treatment of severe, chronic pain in cancer patients. AstraZeneca determined that, based on criteria it established, the results from the 85-patient trial did not meet the minimum statistical significance for efficacy established as a basis for continuing

16. RESEARCH AGREEMENTS (CONTINUED)
worldwide trials for the therapy. AstraZeneca therefore indicated that it did not intend to further develop the bovine cell-containing implant therapy and executed its right to terminate the agreement.

The Company has entered into other collaborative research agreements whereby the Company funds specific research programs. Pursuant to such agreements, the Company is typically granted rights to the related intellectual property or an option to obtain such rights on terms to be agreed, in exchange for research funding and specified royalties on any resulting product revenue. The Company's principal academic collaborations had been with Brown University and Dr. Aebischer and Centre Hospitalier Universitaire Vaudois in Switzerland. However, with the termination of the Company's Encapsulated Cell Technology program and its focusing on the stem cell field, its principal academic collaborations are now with the Scripps Institute and the Oregon Health Science University. Research and development expenses incurred under these collaborations amounted to approximately $868,000, $1,259,000, and $1,326,000 for the years ended December 31, 1999, 1998 and 1997, respectively.

17. INCOME TAXES

Due to net losses incurred by the Company in each year since inception, no provision for income taxes has been recorded. At December 31, 1999, the Company had tax net operating loss carry forwards of $96,195,000 and research and development tax credit carry forwards of $4,035,000 which expire at various times through 2019. Due to the "change in ownership" provisions of the Tax Reform Act of 1986, the Company's utilization of its net operating loss carry forwards and tax credits may be subject to annual limitation in future periods.

Significant components of the Company's deferred tax assets and liabilities are as follows:

	DECEMBER 31,	
	1999	1998
Deferred tax assets:		
Capitalized research and development costs	$ 4,331,000	$ 28,124,000
Net operating losses	38,478,000	10,786,000
Research and development credits	4,035,000	3,646,000
Other	928,000	235,000
	47,772,000	42,791,000
Deferred tax liabilities:		
Patents	(246,000)	(1,537,000)
	47,526,000	41,254,000
Valuation allowance	(47,526,000)	(41,254,000)
Net deferred tax assets	$ --	$ --

Since there is uncertainty relating to the ultimate use of the loss carry forwards and tax credits, a valuation allowance has been recognized at December 31, 1999 and 1998, to fully offset the Company's deferred tax assets. The valuation allowance increased $6,272,000 in 1999, due primarily to the

17. INCOME TAXES (CONTINUED)
increases in net operating loss carry forwards and tax credits offset by reduction in capitalized research and development costs.

18. EMPLOYEE RETIREMENT PLAN

The Company has a qualified defined contribution plan covering substantially all employees. Participants are allowed to contribute a fixed percentage of their annual compensation to the plan and the Company may match a percentage of that contribution. The Company matches 50% of employee contributions, up to 6% of employee compensation, with the Company's common stock. The related expense was $103,000, $146,000, and $169,000 for the years ended December 31, 1999, 1998 and 1997, respectively.

19. CONTINGENCIES

The Company is routinely involved in arbitration, litigation and other matters as part of the ordinary course of its business. While the resolution of any matter may have an impact on the Company's financial results for a particular reporting period, management believes the ultimate disposition of these matters will not have a materially adverse effect on the Company's consolidated financial position or results of operations.

20. SUBSEQUENT EVENTS

On April 13, 2000, the Company completed arrangements to sell 1,500 shares of 6% cumulative convertible preferred stock plus a warrant for 75,000 shares of the Company's common stock to two members of its Board of Directors for $1,500,000, on terms more favorable than it was then able to obtain from outside investors. (SEE NOTE 3--"SALE OF 6% CUMULATIVE CONVERTIBLE PREFERRED STOCK.")

STEMCELLS, INC. (FORMERLY CYTOTHERAPEUTICS, INC.)

CONDENSED CONSOLIDATED BALANCE SHEETS

	JUNE 30, 2000 (UNAUDITED)	DECEMBER 31, 1999 (NOTE 1)
ASSETS		
Current assets:		
Cash and cash equivalents	$ 5,535,264	$ 4,760,064
Technology sale receivable	200,000	3,000,000
Other current assets	718,145	1,210,791
Total current assets	6,453,409	8,970,855
Restricted Investments	19,220,165	--
Property, plant and equipment, net	5,028,141	5,251,376
Intangible assets, net	936,745	1,108,768
Other assets	750,000	750,000
Total assets	$ 32,388,460	$ 16,080,999
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 144,269	$ 631,315
Accrued expenses	915,092	2,905,068
Current maturities of capitalized lease obligations	326,250	324,167
Total current liabilities	1,385,611	3,860,550
Capitalized lease obligations, less current maturities	2,775,000	2,937,083
Deposits	26,000	26,000
Deferred rent	596,222	502,353
Redeemable stock	--	5,248,610
Stockholders' equity		
Convertible Preferred Stock	1,500,000	--
Common stock	196,127	186,355
Additional paid in capital	129,525,509	123,917,758
Accumulated deficit	(121,698,674)	(119,372,710)
Accumulated other comprehensive income	19,220,165	--
Deferred compensation	(1,137,500)	(1,225,000)
Total stockholders' equity	27,605,627	3,506,403
Total liabilities and stockholders' equity	$ 32,388,460	$ 16,080,999

See accompanying notes to condensed consolidated financial statements.

STEMCELLS, INC. (FORMERLY CYTOTHERAPEUTICS, INC.)

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS

(UNAUDITED)

	SIX MONTHS ENDED JUNE 30	
	2000	1999
Revenue from collaborative arrangements	$ --	$ 5,021,707
Operating expenses:		
Research and development	1,659,932	6,847,383
General and administrative	2,078,286	2,168,315
	3,738,218	9,015,698
Loss from operations	(3,738,218)	(3,993,991)
Other income (expense):		
Investment income	138,232	406,331
Interest expense	(142,566)	(185,054)
Other Gain	1,416,588	--
	1,412,254	221,277
Net Loss	$(2,325,964)	$(3,772,714)
Basic and Diluted Net Loss per share	$ (0.12)	$ (0.20)
Shares used in computing Basic and Diluted Net Loss per share	19,419,236	18,483,437

See accompanying notes to condensed consolidated financial statements.

STEMCELLS, INC. (FORMERLY CYTOTHERAPEUTICS, INC.)

CONDENSED STATEMENTS OF CASH FLOWS

(UNAUDITED)

	SIX MONTHS ENDED JUNE 30,	
	2000	1999
Cash flows from operating activities:		
Net Income	$(2,325,964)	$(3,772,714)
Adjustments to reconcile net loss to net cash used for operating activities:		
Depreciation and amortization	407,634	1,163,295
Deferred stock compensation	87,500	189,650
Net changes in operating assets and liabilities	909,492	(2,075,873)
Net cash used in operating activities	(921,338)	(4,495,642)
Cash flows from investing activities:		
Proceeds from marketable securities	--	6,891,026
Purchases of marketable securities	--	(4,397,676)
Purchase/Sale of property, plant and equipment	8,005	(131,113)
Acquisition of other assets	(20,380)	(274,510)
Net cash provided by investing activities	(12,375)	2,087,727
Cash flows from financing activities:		
Proceeds from the exercise of stock options	368,913	176,545
Proceeds from issuance of Preferred Stock	1,500,000	--
Principal payments under capitalized lease obligations and mortgage payable	(160,000)	(881,250)
Net cash provided by financing activities	1,708,913	(704,705)
Net increase/(decrease) in cash and cash equivalents	775,200	(3,112,620)
Cash and cash equivalents, beginning of period	4,760,064	7,864,788
Cash and cash equivalents, end of period	$ 5,535,264	$ 4,752,168

See accompanying notes to condensed financial statements.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

JUNE 30, 2000 AND 1999

NOTE 1. BASIS OF PRESENTATION

On May 23, 2000, the Company's name was changed to StemCells, Inc. from CytoTherapeutics, Inc., by vote of the shareholders at the Annual Meeting. The accompanying, unaudited, condensed consolidated financial statements have been prepared by the Company in accordance with generally accepted accounting principles for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by generally accepted accounting principles for complete financial statements. In the opinion of management, the accompanying financial statements include all adjustments, consisting of normal recurring accruals considered necessary for a fair presentation of the financial position, results of operations and cash flows for the periods presented. Results of operations for the six months ended June 30, 2000 are not necessarily indicative of the results that may be expected for the entire fiscal year ending December 31, 2000.

The balance sheet at December 31, 1999 has been derived from the audited financial statements at that date but does not include all of the information and footnotes required for complete financial statements in accordance with generally accepted accounting principles.

For the complete financial statements, refer to the audited financial statements and footnotes thereto as of December 31, 1999 included earlier in this prospectus.

NOTE 2. EARNINGS PER SHARE

Net loss-per-share is computed using the weighted-average number of shares of common stock outstanding. Common equivalent shares from stock options and warrants are excluded, as their effect is antidilutive.

NOTE 3. COMPREHENSIVE INCOME

For the six months ended June 30, 2000 and 1999, total comprehensive income/(loss) was $16,894,201 and ($3,772,714) respectively. The reported net loss for the six months ended June 30, 2000 and 1999 was $2,325,964 and $3,772,714. During the second quarter of 2000, the Company recorded its ownership of 126,193 shares of Modex Therapeutics Ltd. as available for sale at an estimated fair value of $19,220,165 (see note 4).

NOTE 4. INVESTMENTS

At June 30, 2000, the Company owned 126,193 shares of Modex Therapeutics Ltd. ("Modex"), a public Swiss biotechnology company. The investment is recorded as available-for-sale at estimated fair value with the unrealized gain reported in other comprehensive income. Estimated fair value at June 30, 2000 is as follows:

COST	GROSS UNREALIZED GAIN	FAIR VALUE
$ 0	$19,220,165	$19,220,165

NOTE 5. WIND-DOWN OF ENCAPSULATED CELL TECHNOLOGY

In the last two quarters of 1999, the Company wound down operations relating to its former encapsulated cell technology to focus its resources on the research and development of its proprietary

NOTE 5. WIND-DOWN OF ENCAPSULATED CELL TECHNOLOGY (CONTINUED)
stem cell technology platform. At the end of 1999 balance in the reserve created for wind-down expenses was $1,934,569. For the first half of 2000 the roll-forward of this balance is as follows:

DESCRIPTION	RESERVE AS AT 12/31/99	CASH PAYMENTS	RESERVE AS AT 6/30/00
Fixed Assets	$ 300,000	$ 0	$300,000
Facilities, Maintenance and other Expenses	462,569	462,569	0
RIPSAT Settlement	1,172,000	1,172,000	0
Totals	$1,934,569	$1,634,569	$300,000

NOTE 6. SUBSEQUENT EVENTS

On August 3, 2000, the Company completed a $4 million common stock financing transaction with Millennium Partners, LP (the "Fund"). StemCells received $3 million of the purchase price at the closing and will receive the remaining $1 million upon effectiveness of a registration statement covering the shares owned by the Fund. The Fund purchased the Company's common stock at $4.33 per share. The Fund will be entitled to receive additional shares of common stock on eight dates beginning six months from the closing and every three months thereafter. The number of additional shares the Fund will be entitled to on each date will be based on the number of shares of common stock the Fund continues to hold on each date and the market price of the Company's common stock over a period prior to each date. The Company will have the right, under certain circumstances, to cap the number of additional shares by purchasing part of the entitlement from the Fund. The Fund also received a warrant to purchase up to 101,587 shares of common stock at $4.725 per share. This warrant is callable by StemCells at $7.875 per underlying share.

On August 30, 2000, the Fund exercised $1,000,000 of its option to purchase additional common stock. We received $750,000 of the purchase price at the closing, and will receive the remaining $250,000 upon effectiveness of the registration statement containing this prospectus. The Fund purchased the Company's common stock at $5.53 per share. The Fund may be entitled to receive additional shares of common stock on eight dates beginning six months from the closing and every three months thereafter. The number of additional shares the fund will be entitled to on each date will be based on the number of shares of common stock the Fund continues to hold on each date and the market price of the Company's common stock over a period prior to each date. The Company will have the right, under certain circumstances, to limit the number of additional shares by purchasing part of the entitlement from the Fund. The Fund also received a warrant to purchase up to 19,900 shares of common stock at $6.03 per share. This warrant is callable by the Company at $10.05 per underlying share.

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 13. 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, the NASD fee and the NASDAQ listing fee.

SEC registration fee	$6,956.16
NASD filing fee	*
NASDAQ listing fee	*
Printing and engraving expenses	*
Legal fees and expenses	*
Accounting fees and expenses	*
Blue sky fees and expenses	*
Transfer agent and registrar fees	*
Miscellaneous	*
Total	$ *

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* To be provided by amendment

ITEM 14. 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 15. RECENT SALES OF UNREGISTERED SECURITIES.

The shares of capital stock and other securities issued in the following transactions were offered and sold in reliance upon the following exemptions: (i) in the case of the transactions described in (a) below, Section 4(2) of a the Securities Act or Regulation D promulgated thereunder relative to sales by an issuer not involving a public offering; and (ii) in the case of the transactions (b) below, Section 3(b) of the Securities Act and Rule 701 promulgated thereunder relative to sales pursuant to certain compensatory benefits plans.

(a) On April 13, 2000, the Registrant sold 1,500 shares of 6% cumulative convertible preferred stock plus warrants for a total of 75,000 shares of the Registrant's common stock to two members of its Board of Directors for $1,500,000, on terms more favorable than it was then able to obtain from outside investors. The sale was made in reliance on Rule 506 of Regulation D promulgated under the Securities Act of 1933, as amended. The shares of preferred stock are convertible at the option of the holders into common stock at $3.77 per share. The holders of the preferred stock have liquidation rights equal to their original investments plus accrued but unpaid dividends. The investors would be entitled to make additional investments in the Company on the same terms as those on which the Registrant completes offerings of its securities with third parties within 6 months, if any such offerings are completed. They have waived that right with respect to the common stock transaction described in Note 5, Subsequent Events. If offerings totaling at least $6 million are not completed during the 6 months, the investors have the right to acquire up to a total of 1,126 additional shares of convertible preferred stock at $6.33 per share. Any unconverted preferred stock is converted, at the applicable conversion price, on April 13, 2002 in the case of the original stock and two years after the first acquisition of any of the additional 1,126 shares, if any are acquired. The warrants, which are exercisable at $6.58 per share, expire on April 13, 2005.

On August 3, 2000, the Registrant completed a $4 million common stock financing transaction with Millennium Partners, LP, or the Fund. The sale was made in reliance on Rule 506 of Regulation D promulgated under the Securities Act of 1933, as amended. The Registrant received $3 million of the purchase price at the closing and will receive the remaining $1 million upon effectiveness of a registration statement covering the shares owned by the Fund. The Fund purchased the Registrant's common stock at $4.33 per share. The Fund will be entitled to receive additional shares of common stock on eight dates beginning six months from the closing and every three months thereafter. The number of additional shares the Fund will be entitled to on each date will be based on the number of shares of common stock the Fund continues to hold on each date and the market price of the Registrant's common stock over a period prior to each date. The Registrant will have the right, under certain circumstances, to cap the number of additional shares by purchasing part of the entitlement from the Fund. The Fund also received a warrant to purchase up to 101,587 shares of common stock at $4.725 per share. This warrant is callable by the Registrant at $7.875 per underlying share.

The Fund also had the option for twelve months to purchase up to $3 million of additional common stock. On August 30, 2000, the Fund exercised $1,000,000 of that option to purchase Registrant's common stock at $5.53 per share. The Registrant received $750,000 of the purchase price at the closing and will receive the remaining $250,000 upon effectiveness of a registration statement covering the shares owned by the Fund. The Fund may be entitled to receive additional shares of common stock on eight dates beginning six months from the closing and every three months thereafter. The number of additional shares the Fund will be entitled to on each date will be based on the number of shares of common stock the Fund continues to hold on each date and the market price of the Registrant's common stock over a period prior to each date. The Registrant will have the right, under certain circumstances, to limit the number of additional shares by purchasing part of the entitlement from the Fund. The Fund also received a warrant to purchase up to 19,900 shares of the Registrant's common stock at $6.03 per share. This warrant is callable by the Registrant at $10.05 per underlying share.

(b) On May 25, 2000 we issued 2,800 shares of unregistered Rule 144 common stock to the California Institute of Technology.

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.
4.3	Warrant to Purchase Common Stock--Mark Angelo
4.4	Warrant to Purchase Common Stock--Robert Farrell
4.5	Warrant to Purchase Common Stock--Joseph Donahue
4.6	Warrant to Purchase Common Stock--Hunter Singer
4.7	Warrant to Purchase Common Stock--May Davis
4.8	Common Stock Purchase Warrant

NUMBER	DESCRIPTION
4.9	Callable Warrant
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.
10.5*	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.
10.10##**	Development and Supply Agreement dated December 1993 between Registrant and AKZO Faser AG.
10.11++	Research Agreement dated as of February 1, 1994 between Genentech, Inc. and Registrant.
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.
10.16	Supplementary Agreement dated as of July 1, 1994 between Akzo Nobel Faser AG and the Registrant.
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.
10.20!**	Research and Commercialization Agreement dated as of September 4, 1995 among the Company, Dr. Patrick Aebischer and Canton of Vaud, Switzerland.
10.21!!	Convertible loan agreement dated as of July 10, 1996 between the Company and Modex Therapeutiques SA.

NUMBER	DESCRIPTION
10.22###	Lease Agreement dated as of November 21, 1997 by and between Hub RI Properties Trust, as Landlord, and CytoTherapeutics, Inc., as Tenant.
10.23!!	Modex Therapeutiques SA stockholders voting agreement dated as of July 10, 1996 among Modex, the Company, the Societe Financiere Valoria SA and the other stockholders listed therein.
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.
10.30**	Amended and Restated Cross License Agreement dated as of October 29, 1997 between Modex Therapeutiques SA and the Registrant.
10.31###	Letter Agreement dated as of September 30, 1997 between Dr. Seth Rudnick 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.
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10.39Section**	Employment Agreement dated as of June 8, 1998 between Philip K. Yachmetz and the Registrant.
10.40Section**	Consulting Services Agreement dated as of July 27, 1998, as amended December 19, 1998 between Dr. John J. Schwartz and the Registrant.
10.41Section**	Letter Agreement dated as of December 19, 1998 between John J. Schwartz and the Registrant.

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10.49	Subscription Agreement dated as of July 31, 2000 between StemCells, Inc. and Millennium Partners, L.P.
21	Subsidiaries of the Registrant.
23.1	Consent of Ernst & Young LLP, Independent Auditors.
27	Financial Data Schedule for fiscal year ended December 31, 1999.
99	Cautionary Factors Relevant to Forward-Looking Information.

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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. 33-91228.

* Previously filed with the Commission as Exhibits to, and incorporated herein by reference to, Registration Statement on Form S-1, File No. 33-45739.

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.

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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.

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Section 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.

SectionSection 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.

ITEM 17. UNDERTAKINGS.

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.

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.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Sunnyvale, State of California, on the 8th day of September, 2000.

STEMCELLS, INC.

BY: /S/ GEORGE W. DUNBAR, JR.

George W. Dunbar, Jr.
Acting Chief Executive Officer and
Acting Chief Financial Officer

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears immediately below constitutes and appoints George W. Dunbar, Jr. and Iris Brest, or either of them, his or her true and lawful attorney-in-fact and agent, with full power of substitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement, and any and all additional registration statements pursuant to Rule 462(b) under the Securities Act of 1933, as amended, in connection with or related to the offering contemplated by this Registration Statement and its amendments, if any, and to file the same with all exhibits thereto, and other documents in connection therewith, with the Commission, granting unto said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent or his or her substitute or substitutes may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities indicated on September 8th, 2000.

SIGNATURE	TITLE
/s/ GEORGE W. DUNBAR, JR.	George W. Dunbar, Jr., Acting President, Chief Executive Officer (Principal Executive Officer) and Chief Financial Officer (Principal Financial Officer)
/s/ JOHN J. SCHWARTZ, PH.D.	John J. Schwartz, Ph. D. Director
/s/ DONALD KENNEDY, PH. D.	Donald Kennedy, Ph. D. Director
/s/ MARK J. LEVIN	Mark J. Levin Director
/s/ IRVING WEISSMAN, M.D.	Irving Weissman, M.D. Director

EXHIBIT INDEX

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.
4.3	Warrant to Purchase Common Stock--Mark Angelo
4.4	Warrant to Purchase Common Stock--Robert Farrell
4.5	Warrant to Purchase Common Stock--Joseph Donahue
4.6	Warrant to Purchase Common Stock--Hunter Singer
4.7	Warrant to Purchase Common Stock--May Davis
4.8	Common Stock Purchase Warrant
4.9	Callable Warrant
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.
10.5*	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.
10.10##**	Development and Supply Agreement dated December 1993 between Registrant and AKZO Faser AG.
10.11++	Research Agreement dated as of February 1, 1994 between Genentech, Inc. and Registrant.
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.

NUMBER	DESCRIPTION
10.16	Supplementary Agreement dated as of July 1, 1994 between Akzo Nobel Faser AG and the Registrant.
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.
10.20!**	Research and Commercialization Agreement dated as of September 4, 1995 among the Company, Dr. Patrick Aebischer and Canton of Vaud, Switzerland.
10.21!!	Convertible loan agreement dated as of July 10, 1996 between the Company and Modex Therapeutiques SA.
10.22###	Lease Agreement dated as of November 21, 1997 by and between Hub RI Properties Trust, as Landlord, and CytoTherapeutics, Inc., as Tenant.
10.23!!	Modex Therapeutiques SA stockholders voting agreement dated as of July 10, 1996 among Modex, the Company, the Societe Financiere Valoria SA and the other stockholders listed therein.
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.
10.30**	Amended and Restated Cross License Agreement dated as of October 29, 1997 between Modex Therapeutiques SA and the Registrant.
10.31###	Letter Agreement dated as of September 30, 1997 between Dr. Seth Rudnick and the Registrant.
10.32****	StemCells, Inc. 1996 Stock Option Plan.
10.33****	1997 StemCells Research Stock Option Plan (the "1997 Plan")
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THE SECURITIES REPRESENTED BY 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 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.

STEMCELLS, INC.

WARRANT TO PURCHASE COMMON STOCK

Warrant No.: MD-001 Number of Shares Issuable: 20,000

Date of Issuance: August 3, 2000

StemCells, Inc., a Delaware corporation (the "Company"), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Mark Angelo, the registered holder hereof or its permitted assigns, 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) twenty thousand (20,000) 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(b) below;

Section 1.

(a) LETTER AGREEMENT. This Warrant is one of the warrants (the "Warrants") issued pursuant to Section 3.4 of the Placement Agency Agreement between the Company and May Davis Group, Inc., dated as of July 31, 2000 (the "AGENCY AGREEMENT").

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

(i) "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.

(ii) "EXPIRATION DATE" means the date five (5) years from the date of the issuance of the Warrant 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.

(iii) "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.

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

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

(vi) "WARRANT EXERCISE PRICE" shall be equal to $5.0375, subject to adjustment as hereinafter provided.

(vii) "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) When used in this Warrant, the words "herein," "hereof," and "hereunder," and words of similar import, shall refer to this Warrant as a whole and not to any provision of this Warrant, and the words "Section," "Schedule," and "Exhibit" shall refer to Sections of, and Schedules and Exhibits to, this Warrant 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.

Section 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 or 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 subscription notice attached as Exhibit A hereto, of such holder's election to exercise this Warrant, which notice shall specify the number of Warrant Shares to be purchased, (ii) (A) payment to the Company 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 Exercise Price") in cash or by check or wire transfer, or (B) by notifying the Company that it should subtract from the number of Warrant Shares Issuable to the holder upon such exercise an amount of warrant shares having a last reported sale price (as reported by Bloomberg), or, if the foregoing is not appliclable, the fair market value (in either case, the "Per Share Value"), on the trading day immediately preceding the date of the subscription notice equal the Aggregate Exercise Price of the Warrant shares for which this warrant is being exercised (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 five (5) business days after the Company's receipt of the Exercise Notice, the Aggregate Exercise Price and this Warrant (or indemnification undertaking with respect to this Warrant in the case of its loss, theft or destruction) Upon delivery of the Exercise Notice, this Warrant (or such indemnification undertaking) and Aggregate Exercise Price referred to in clause (ii) (A) above or notification to the Company of a Cashless Exercise referred to in clause (ii) (B) above, the holder of this Warrant 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 Average Market Price of a security 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 five (5) business days of receipt of the holder's subscription notice. If the holder and the Company are unable to agree upon the determination of the Warrant Exercise Price or Average Market Price or arithmetic calculation of the Warrant Shares within five (5) 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 Average Market Price to an independent, reputable investment banking firm or (ii) the disputed arithmetic calculation of the Warrant Shares to its independent, outside accountant. The Company shall cause the investment banking firm or the accountant, 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 accountant'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 five (5) business days after any exercise and at its own expense, issue a new Warrant identical in all respects to the Warrant exercised except (i) 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, and (ii) the holder thereof shall be deemed for all corporate purposes to have become the holder of record of such Warrant Shares immediately prior to the close of business on the date on which the Warrant is surrendered and payment of the amount due in respect of such exercise and any applicable taxes is made, irrespective of the date of delivery of certificates evidencing such Warrant Shares, except that, if the date of such surrender and payment is a date when the stock transfer books of the Company are properly closed, such person shall be deemed to have become the holder of such Warrant Shares at the opening of business on the next succeeding date on which the stock transfer books are open. Upon presentation of a duly executed Subscription Form in the Form of Exhibit A to this Warrant, 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 Per Share Value on the date of payment.

(d) If the Company shall fail for any reason or for no reason to issue to holder on a timely basis as described under this Section 2 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 such issuance is not timely effected an amount equal to .25% of the product of (A) the sum of 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 sum derived by subtracting (1) the Warrant exercise price then in effect, from (2) the Closing Bid Price of the Common Stock on the last possible date which the Company could have issued Common Stock to the holder without violating this Section 2.

(e) The Company shall not affect any exercise of any Warrant and no holder of any Warrant shall have the right to exercise any Warrant pursuant to Section 2 to the extent that after giving effect to such exercise such person (together with such Persons affiliates) (A) would beneficially owned in excess of 4.9% of the outstanding shares of Common Stock following such conversion and (B) would have acquired, through exercise of any Warrant or otherwise, in excess of 4.9% of the outstanding shares of the Common Stock following such exercise during the 60-day period ending on and including such exercise date. For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by a person and its affiliates or acquired by a person and its affiliates, as the case may be, shall include the number of shares of Common Stock issuable upon the exercise of the Warrants with respect to which the determination of such sentence is being made, but shall exclude the number of shares of Common Stock which would be issuable upon

(i) exercise of the remaining, non exercisable Warrants beneficially owned by such person and its affiliates and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company subject to limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by such Person and its affiliates. Except as set forth in the preceding sentence, for purposes of this section 2(e), beneficial ownership shall be calculated in accordance with Section 13 (d) of the Securities Exchange Act of 1934, as amended. Notwithstanding anything to the contrary contained herein, each Exercise Notice shall constitute a representation by the holder submitting such Exercise Notice that, after giving effect to such Exercise Notice (A) the holder will not beneficially own (as determined in accordance with this Section 2(e)) and (B) during the 60-day period ending on and including such exercise date, the holder will not have acquired, through exercise of any Warrant or otherwise, a number of shares of Common Stock in excess of 4.9% of the outstanding shares of Common Stock as reflected in the Company's most recent Form 10-Q or Form 10-K, as the case may be, or more recent public release or other public notice by the Company setting forth the number of Shares of Common Stock outstanding, but after giving effect to exercise of any Warrant by such holder since the date as of which such numbers of outstanding shares of the Common Stock was reported, and the Company shall be entitled to rely solely on the foregoing representation in complying with this Section 2(e).

Section 3. COVENANTS AS TO COMMON STOCK. The Company hereby covenants and agrees as follows:

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

(b) 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.

(c) 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.

(d) The Company shall promptly secure the listing of the shares of Common Stock issuable upon exercise of this Warrant upon each national securities exchange or automated quotation system, if any, or over-the-counter-bulletin board upon which shares of Common Stock are then listed or quoted (subject to official notice of the over-the-counter bulletin board of issuance upon exercise of this Warrant) and 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.

(e) 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 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.

(f) 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.

(g) If at any time when the registration statement referred to in the Agency Agreement is not effective the Company proposes to file with the Securities and Exchange Commission a registration statement relating to an offering for its own account or the account of others under the Securities Act of any of its Securities (other than on Form S-4 or Form S-8 (or their equivalents at such time) relating to securities to be issued solely in connection with any acquisition of, or strategic transaction with, any entity or business or equity securities issuable in connection with stock option or other employee benefit plans) the Company shall promptly send to the Holder's written notice of the Company's intention to file a registration statement and of the holder's rights under this section and, if within five (5) days after receipt of such notice, the holder hereof shall so request in writing, the Company shall include in such registration statement all or any part of the Common Stock underlying this Warrant the holder requests to be registered; provided, however, that the foregoing shall not apply to any registration statement if the holders of the securities to be registered thereon have a right to exclude the Warrant Shares from such registration statement. If a registration pursuant this section is to be an underwritten public offering and the managing underwriters advise the Company in writing, that in their reasonable good faith opinion, marketing or other factors dictate that a limitation on the number of shares of Company common stock which may be included in the registration statement is necessary to facilitate and not adversely affect the proposed offering, then the Company shall include in such registration: (1) first, all securities the Company proposes to sell for its own account, (2) second, up to the full number of securities proposed to be registered for the account of the holders of securities entitled to inclusion of their securities requested to be registered by the holder hereof and other holders of securities entitled to participate in the registration, as of the date hereof, drawn from them pro rata based on the number each has requested to be included in such registration. Any holder of a Warrant or Warrant Shares who wishes to participate in such registration must execute such agreements and take such actions as are customarily executed or taken by selling stockholders in connection with a registration.

Section 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.

Section 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.

Section 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 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.

Section 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 Section 6 above and Section 7(c) below.

(c) 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. 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 the Series A Preferred Share Warrants 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 7(d) below. All Warrants and Warrant Shares shall bear a legend in substantially the form set forth at the beginning hereof until the Company receives a satisfactory opinion of counsel that such legend is no longer required.

(d) The Company shall register the Warrant Shares for resale under the Securities Act pursuant to the Registration Rights Agreement dated as of July 31, 2000, by and between the Company and the Buyers listed on the signature page thereto (the "Registration Rights Agreement").

Section 8. ADJUSTMENT OF WARRANT EXERCISE PRICE. In order to prevent dilution of the rights granted under this Warrant, 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) REORGANIZATION, RECLASSIFICATION, CONSOLIDATION, MERGER OR SALE. Any recapitalization, reorganization, reclassification, consolidation, merger, sale of all or substantially all of the Company's assets to another Person or other similar transaction which is effected in such a way that holders of Common Stock are entitled to receive (either directly or upon subsequent liquidation) stock, securities or assets with respect to or in exchange for Common Stock is referred to herein as in "Organic Change." Prior to the consummation of any Organic Change, the Company will make appropriate provision (in form and substance reasonably satisfactory to the holders of a majority of the Warrants then outstanding) to insure that, upon the consummation of such Organic Change, each of the holders of the Warrants will thereafter have the right to acquire and receive upon exercise hereof in lieu of the Common Stock, such shares of stock, securities or assets as may be issued or payable with respect to or in exchange for the number of shares of Common Stock immediately theretofore acquirable and receivable upon exercise of the Warrants had such Organic Change not taken place. In any such case, the Company will make appropriate provision (in form and substance reasonably satisfactory to the holders of a majority of the Warrants then outstanding) with respect to such holders' rights and interests to insure that the provisions of this Section 8(b) will thereafter be applicable to the Warrants.

(c) NOTICES.

(i) Immediately upon any adjustment of the Warrant Exercise Price pursuant to this Section 8, the Company will give written notice thereof to the holder of this Warrant, setting forth in reasonable detail and certifying the calculation of such adjustment.

(ii) The Company will give written notice to the holder of this Warrant at least ten (10) days prior to the date on which the Company closes its books or takes a record (A) with respect to any dividend or distribution upon the Common Stock, (B) with respect to any pro rata subscription offer to holders of Common Stock or (C) for determining rights to vote with respect to any Organic Change, dissolution or liquidation, except that in no event shall such notice be provided to such holder prior to such information being made known to the public.

(iii) The Company will also give written notice to the holder of this Warrant at least ten (10) days prior to the date on which any Organic Change, dissolution or liquidation will take place.

Section 10. 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.

Section 11. 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.
525 Del Rey Avenue
Suite C
Sunnyvale CA. 94086
Attention: George Dunbar, President & CEO
Telephone: (408) 731-8670
Facsimile: (408) 731-8674

With a copy 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. Each party shall provide five (5) days' prior written notice to the other party of any change in address or facsimile number.

Section 12. AMENDMENTS. This Warrant and any term hereof may be changed, waived, discharged, or terminated only by an instrument in writing signed by the party or holder hereof against which enforcement of such change, waiver, discharge or termination is sought.

Section 13. DATE. The date of this Warrant is August 3, 2000. 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 Section 7 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.

Section 14. 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.

Section 15. 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 law provision.

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

STEMCELLS, INC.

By:

Name:
Title:

Mark Angelo

By:

Name:

Title:

Address:

EXHIBIT A

FORM OF SUBSCRIPTION

(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 Form of Subscription 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 either: (i) herewith makes payment of $_____ therefor in cash or by certified or official bank check or (ii) elects to make payment upon a cashless basis pursuant to Section 2(b) of the Warrant and hereby exercises _____ Warrants and the Per Share Value for purposes hereof is $_____. The undersigned hereby requests that the certificate(s) representing such securities be issued in the name(s) and delivered t the address(es) as follows:

Name:

Address:

Social Security Number:

Deliver to:

Address:

This the foregoing subscription 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 4.4

THE SECURITIES REPRESENTED BY 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 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.

STEMCELLS, INC.

WARRANT TO PURCHASE COMMON STOCK

Warrant No.: MD-002 Number of Shares Issuable: 20,000

Date of Issuance: August 3, 2000

StemCells, Inc., a Delaware corporation (the "Company"), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Robert Farrell, the registered holder hereof or its permitted assigns, 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) twenty thousand (20,000) 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(b) below;

Section 1.

(a) LETTER AGREEMENT. This Warrant is one of the warrants (the "Warrants") issued pursuant to Section 3.4 of the Placement Agency Agreement between the Company and May Davis Group, Inc., dated as of July 31, 2000 (the "AGENCY AGREEMENT").

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

(i) "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.

(ii) "EXPIRATION DATE" means the date five (5) years from the date of the issuance of the Warrant 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.

(iii) "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.

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

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

(vi) "WARRANT EXERCISE PRICE" shall be equal to $5.0375, subject to adjustment as hereinafter provided.

(vii) "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) When used in this Warrant, the words "herein," "hereof," and "hereunder," and words of similar import, shall refer to this Warrant as a whole and not to any provision of this Warrant, and the words "Section," "Schedule," and "Exhibit" shall refer to Sections of, and Schedules and Exhibits to, this Warrant 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.

Section 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 or 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 subscription notice attached as Exhibit A hereto, of such holder's election to exercise this Warrant, which notice shall specify the number of Warrant Shares to be purchased, (ii) (A) payment to the Company 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 Exercise Price") in cash or by check or wire transfer, or (B) by notifying the Company that it should subtract from the number of Warrant Shares Issuable to the holder upon such exercise an amount of warrant shares having a last reported sale price (as reported by Bloomberg), or, if the foregoing is not appliclable, the fair market value (in either case, the "Per Share Value"), on the trading day immediately preceding the date of the subscription notice equal the Aggregate Exercise Price of the Warrant shares for which this warrant is being exercised (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 five (5) business days after the Company's receipt of the Exercise Notice, the Aggregate Exercise Price and this Warrant (or indemnification undertaking with respect to this Warrant in the case of its loss, theft or destruction) Upon delivery of the Exercise Notice, this Warrant (or such indemnification undertaking) and Aggregate Exercise Price referred to in clause (ii) (A) above or notification to the Company of a Cashless Exercise referred to in clause (ii) (B) above, the holder of this Warrant 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 Average Market Price of a security 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 five (5) business days of receipt of the holder's subscription notice. If the holder and the Company are unable to agree upon the determination of the Warrant Exercise Price or Average Market Price or arithmetic calculation of the Warrant Shares within five (5) 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 Average Market Price to an independent, reputable investment banking firm or (ii) the disputed arithmetic calculation of the Warrant Shares to its independent, outside accountant. The Company shall cause the investment banking firm or the accountant, 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 accountant'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 five (5) business days after any exercise and at its own expense, issue a new Warrant identical in all respects to the Warrant exercised except (i) 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, and (ii) the holder thereof shall be deemed for all corporate purposes to have become the holder of record of such Warrant Shares immediately prior to the close of business on the date on which the Warrant is surrendered and payment of the amount due in respect of such exercise and any applicable taxes is made, irrespective of the date of delivery of certificates evidencing such Warrant Shares, except that, if the date of such surrender and payment is a date when the stock transfer books of the Company are properly closed, such person shall be deemed to have become the holder of such Warrant Shares at the opening of business on the next succeeding date on which the stock transfer books are open. Upon presentation of a duly executed Subscription Form in the Form of Exhibit A to this Warrant, 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 Per Share Value on the date of payment.

(d) If the Company shall fail for any reason or for no reason to issue to holder on a timely basis as described under this Section 2 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 such issuance is not timely effected an amount equal to .25% of the product of (A) the sum of 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 sum derived by subtracting (1) the Warrant exercise price then in effect, from (2) the Closing Bid Price of the Common Stock on the last possible date which the Company could have issued Common Stock to the holder without violating this Section 2.

(e) The Company shall not affect any exercise of any Warrant and no holder of any Warrant shall have the right to exercise any Warrant pursuant to Section 2 to the extent that after giving effect to such exercise such person (together with such Persons affiliates) (A) would beneficially owned in excess of 4.9% of the outstanding shares of Common Stock following such conversion and (B) would have acquired, through exercise of any Warrant or otherwise, in excess of 4.9% of the outstanding shares of the Common Stock following such exercise during the 60-day period ending on and including such exercise date. For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by a person and its affiliates or acquired by a person and its affiliates, as the case may be, shall include the number of shares of Common Stock issuable upon the exercise of the Warrants with respect to which the determination of such sentence is being made, but shall exclude the number of shares of Common Stock which would be issuable upon

(i) exercise of the remaining, non exercisable Warrants beneficially owned by such person and its affiliates and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company subject to limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by such Person and its affiliates. Except as set forth in the preceding sentence, for purposes of this section 2(e), beneficial ownership shall be calculated in accordance with Section 13 (d) of the Securities Exchange Act of 1934, as amended. Notwithstanding anything to the contrary contained herein, each Exercise Notice shall constitute a representation by the holder submitting such Exercise Notice that, after giving effect to such Exercise Notice (A) the holder will not beneficially own (as determined in accordance with this Section 2(e)) and (B) during the 60-day period ending on and including such exercise date, the holder will not have acquired, through exercise of any Warrant or otherwise, a number of shares of Common Stock in excess of 4.9% of the outstanding shares of Common Stock as reflected in the Company's most recent Form 10-Q or Form 10-K, as the case may be, or more recent public release or other public notice by the Company setting forth the number of Shares of Common Stock outstanding, but after giving effect to exercise of any Warrant by such holder since the date as of which such numbers of outstanding shares of the Common Stock was reported, and the Company shall be entitled to rely solely on the foregoing representation in complying with this Section 2(e).

Section 3. COVENANTS AS TO COMMON STOCK. The Company hereby covenants and agrees as follows:

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

(b) 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.

(c) 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.

(d) The Company shall promptly secure the listing of the shares of Common Stock issuable upon exercise of this Warrant upon each national securities exchange or automated quotation system, if any, or over-the-counter-bulletin board upon which shares of Common Stock are then listed or quoted (subject to official notice of the over-the-counter bulletin board of issuance upon exercise of this Warrant) and 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.

(e) 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 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.

(f) 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.

(g) If at any time when the registration statement referred to in the Agency Agreement is not effective the Company proposes to file with the Securities and Exchange Commission a registration statement relating to an offering for its own account or the account of others under the Securities Act of any of its Securities (other than on Form S-4 or Form S-8 (or their equivalents at such time) relating to securities to be issued solely in connection with any acquisition of, or strategic transaction with, any entity or business or equity securities issuable in connection with stock option or other employee benefit plans) the Company shall promptly send to the Holder's written notice of the Company's intention to file a registration statement and of the holder's rights under this section and, if within five (5) days after receipt of such notice, the holder hereof shall so request in writing, the Company shall include in such registration statement all or any part of the Common Stock underlying this Warrant the holder requests to be registered; provided, however, that the foregoing shall not apply to any registration statement if the holders of the securities to be registered thereon have a right to exclude the Warrant Shares from such registration statement. If a registration pursuant this section is to be an underwritten public offering and the managing underwriters advise the Company in writing, that in their reasonable good faith opinion, marketing or other factors dictate that a limitation on the number of shares of Company common stock which may be included in the registration statement is necessary to facilitate and not adversely affect the proposed offering, then the Company shall include in such registration: (1) first, all securities the Company proposes to sell for its own account, (2) second, up to the full number of securities proposed to be registered for the account of the holders of securities entitled to inclusion of their securities requested to be registered by the holder hereof and other holders of securities entitled to participate in the registration, as of the date hereof, drawn from them pro rata based on the number each has requested to be included in such registration. Any holder of a Warrant or Warrant Shares who wishes to participate in such registration must execute such agreements and take such actions as are customarily executed or taken by selling stockholders in connection with a registration.

Section 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.

Section 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.

Section 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 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.

Section 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 Section 6 above and Section 7(c) below.

(c) 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. 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 the Series A Preferred Share Warrants 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 7(d) below. All Warrants and Warrant Shares shall bear a legend in substantially the form set forth at the beginning hereof until the Company receives a satisfactory opinion of counsel that such legend is no longer required.

(d) The Company shall register the Warrant Shares for resale under the Securities Act pursuant to the Registration Rights Agreement dated as of July 31, 2000, by and between the Company and the Buyers listed on the signature page thereto (the "Registration Rights Agreement").

Section 8. ADJUSTMENT OF WARRANT EXERCISE PRICE. In order to prevent dilution of the rights granted under this Warrant, 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) REORGANIZATION, RECLASSIFICATION, CONSOLIDATION, MERGER OR SALE. Any recapitalization, reorganization, reclassification, consolidation, merger, sale of all or substantially all of the Company's assets to another Person or other similar transaction which is effected in such a way that holders of Common Stock are entitled to receive (either directly or upon subsequent liquidation) stock, securities or assets with respect to or in exchange for Common Stock is referred to herein as in "Organic Change." Prior to the consummation of any Organic Change, the Company will make appropriate provision (in form and substance reasonably satisfactory to the holders of a majority of the Warrants then outstanding) to insure that, upon the consummation of such Organic Change, each of the holders of the Warrants will thereafter have the right to acquire and receive upon exercise hereof in lieu of the Common Stock, such shares of stock, securities or assets as may be issued or payable with respect to or in exchange for the number of shares of Common Stock immediately theretofore acquirable and receivable upon exercise of the Warrants had such Organic Change not taken place. In any such case, the Company will make appropriate provision (in form and substance reasonably satisfactory to the holders of a majority of the Warrants then outstanding) with respect to such holders' rights and interests to insure that the provisions of this Section 8(b) will thereafter be applicable to the Warrants.

(c) NOTICES.

(i) Immediately upon any adjustment of the Warrant Exercise Price pursuant to this Section 8, the Company will give written notice thereof to the holder of this Warrant, setting forth in reasonable detail and certifying the calculation of such adjustment.

(ii) The Company will give written notice to the holder of this Warrant at least ten (10) days prior to the date on which the Company closes its books or takes a record (A) with respect to any dividend or distribution upon the Common Stock, (B) with respect to any pro rata subscription offer to holders of Common Stock or (C) for determining rights to vote with respect to any Organic Change, dissolution or liquidation, except that in no event shall such notice be provided to such holder prior to such information being made known to the public.

(iii) The Company will also give written notice to the holder of this Warrant at least ten (10) days prior to the date on which any Organic Change, dissolution or liquidation will take place.

Section 10. 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.

Section 11. 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.
525 Del Rey Avenue
Suite C
Sunnyvale CA. 94086
Attention: George Dunbar, President & CEO
Telephone: (408) 731-8670
Facsimile: (408) 731-8674

With a copy 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. Each party shall provide five (5) days' prior written notice to the other party of any change in address or facsimile number.

Section 12. AMENDMENTS. This Warrant and any term hereof may be changed, waived, discharged, or terminated only by an instrument in writing signed by the party or holder hereof against which enforcement of such change, waiver, discharge or termination is sought.

Section 13. DATE. The date of this Warrant is August 3, 2000. 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 Section 7 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.

Section 14. 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.

Section 15. 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 law provision.

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

STEMCELLS, INC.

By:

Name:
Title:

Robert Farrell

By:

Name:

Title:

Address:

- ---------------------------------

- ---------------------------------

EXHIBIT A

FORM OF SUBSCRIPTION

(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 Form of Subscription 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 either: (i) herewith makes payment of $_____ therefor in cash or by certified or official bank check or (ii) elects to make payment upon a cashless basis pursuant to Section 2(b) of the Warrant and hereby exercises _____ Warrants and the Per Share Value for purposes hereof is $_____. The undersigned hereby requests that the certificate(s) representing such securities be issued in the name(s) and delivered t the address(es) as follows:

Name:

Address:

Social Security Number:

Deliver to:

Address:

This the foregoing subscription 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:

THE SECURITIES REPRESENTED BY 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 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.

STEMCELLS, INC.

WARRANT TO PURCHASE COMMON STOCK

Warrant No.: MD-003 Number of Shares Issuable: 20,000

Date of Issuance: August 3, 2000

StemCells, Inc., a Delaware corporation (the "Company"), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Joseph Donahue, the registered holder hereof or its permitted assigns, 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) twenty thousand (20,000) 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(b) below;

Section 1.

(a) LETTER AGREEMENT. This Warrant is one of the warrants (the "Warrants") issued pursuant to Section 3.4 of the Placement Agency Agreement between the Company and May Davis Group, Inc., dated as of July 31, 2000 (the "AGENCY AGREEMENT").

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

(i) "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.

(ii) "EXPIRATION DATE" means the date five (5) years from the date of the issuance of the Warrant 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.

(iii) "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.

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

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

(vi) "WARRANT EXERCISE PRICE" shall be equal to $5.0375, subject to adjustment as hereinafter provided.

(vii) "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) When used in this Warrant, the words "herein," "hereof," and "hereunder," and words of similar import, shall refer to this Warrant as a whole and not to any provision of this Warrant, and the words "Section," "Schedule," and "Exhibit" shall refer to Sections of, and Schedules and Exhibits to, this Warrant 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.

Section 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 or 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 subscription notice attached as Exhibit A hereto, of such holder's election to exercise this Warrant, which notice shall specify the number of Warrant Shares to be purchased, (ii) (A) payment to the Company 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 Exercise Price") in cash or by check or wire transfer, or (B) by notifying the Company that it should subtract from the number of Warrant Shares Issuable to the holder upon such exercise an amount of warrant shares having a last reported sale price (as reported by Bloomberg), or, if the foregoing is not appliclable, the fair market value (in either case, the "Per Share Value"), on the trading day immediately preceding the date of the subscription notice equal the Aggregate Exercise Price of the Warrant shares for which this warrant is being exercised (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 five (5) business days after the Company's receipt of the Exercise Notice, the Aggregate Exercise Price and this Warrant (or indemnification undertaking with respect to this Warrant in the case of its loss, theft or destruction) Upon delivery of the Exercise Notice, this Warrant (or such indemnification undertaking) and Aggregate Exercise Price referred to in clause (ii) (A) above or notification to the Company of a Cashless Exercise referred to in clause (ii) (B) above, the holder of this Warrant 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 Average Market Price of a security 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 five (5) business days of receipt of the holder's subscription notice. If the holder and the Company are unable to agree upon the determination of the Warrant Exercise Price or Average Market Price or arithmetic calculation of the Warrant Shares within five (5) 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 Average Market Price to an independent, reputable investment banking firm or (ii) the disputed arithmetic calculation of the Warrant Shares to its independent, outside accountant. The Company shall cause the investment banking firm or the accountant, 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 accountant'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 five (5) business days after any exercise and at its own expense, issue a new Warrant identical in all respects to the Warrant exercised except (i) 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, and (ii) the holder thereof shall be deemed for all corporate purposes to have become the holder of record of such Warrant Shares immediately prior to the close of business on the date on which the Warrant is surrendered and payment of the amount due in respect of such exercise and any applicable taxes is made, irrespective of the date of delivery of certificates evidencing such Warrant Shares, except that, if the date of such surrender and payment is a date when the stock transfer books of the Company are properly closed, such person shall be deemed to have become the holder of such Warrant Shares at the opening of business on the next succeeding date on which the stock transfer books are open. Upon presentation of a duly executed Subscription Form in the Form of Exhibit A to this Warrant, 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 Per Share Value on the date of payment.

(d) If the Company shall fail for any reason or for no reason to issue to holder on a timely basis as described under this Section 2 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 such issuance is not timely effected an amount equal to .25% of the product of (A) the sum of 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 sum derived by subtracting (1) the Warrant exercise price then in effect, from (2) the Closing Bid Price of the Common Stock on the last possible date which the Company could have issued Common Stock to the holder without violating this Section 2.

(e) The Company shall not affect any exercise of any Warrant and no holder of any Warrant shall have the right to exercise any Warrant pursuant to Section 2 to the extent that after giving effect to such exercise such person (together with such Persons affiliates) (A) would beneficially owned in excess of 4.9% of the outstanding shares of Common Stock following such conversion and (B) would have acquired, through exercise of any Warrant or otherwise, in excess of 4.9% of the outstanding shares of the Common Stock following such exercise during the 60-day period ending on and including such exercise date. For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by a person and its affiliates or acquired by a person and its affiliates, as the case may be, shall include the number of shares of Common Stock issuable upon the exercise of the Warrants with respect to which the determination of such sentence is being made, but shall exclude the number of shares of Common Stock which would be issuable upon

(i) exercise of the remaining, non exercisable Warrants beneficially owned by such person and its affiliates and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company subject to limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by such Person and its affiliates. Except as set forth in the preceding sentence, for purposes of this section 2(e), beneficial ownership shall be calculated in accordance with Section 13 (d) of the Securities Exchange Act of 1934, as amended. Notwithstanding anything to the contrary contained herein, each Exercise Notice shall constitute a representation by the holder submitting such Exercise Notice that, after giving effect to such Exercise Notice (A) the holder will not beneficially own (as determined in accordance with this Section 2(e)) and (B) during the 60-day period ending on and including such exercise date, the holder will not have acquired, through exercise of any Warrant or otherwise, a number of shares of Common Stock in excess of 4.9% of the outstanding shares of Common Stock as reflected in the Company's most recent Form 10-Q or Form 10-K, as the case may be, or more recent public release or other public notice by the Company setting forth the number of Shares of Common Stock outstanding, but after giving effect to exercise of any Warrant by such holder since the date as of which such numbers of outstanding shares of the Common Stock was reported, and the Company shall be entitled to rely solely on the foregoing representation in complying with this Section 2(e).

Section 3. COVENANTS AS TO COMMON STOCK. The Company hereby covenants and agrees as follows:

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

(b) 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.

(c) 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.

(d) The Company shall promptly secure the listing of the shares of Common Stock issuable upon exercise of this Warrant upon each national securities exchange or automated quotation system, if any, or over-the-counter-bulletin board upon which shares of Common Stock are then listed or quoted (subject to official notice of the over-the-counter bulletin board of issuance upon exercise of this Warrant) and 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.

(e) 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 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.

(f) 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.

(g) If at any time when the registration statement referred to in the Agency Agreement is not effective the Company proposes to file with the Securities and Exchange Commission a registration statement relating to an offering for its own account or the account of others under the Securities Act of any of its Securities (other than on Form S-4 or Form S-8 (or their equivalents at such time) relating to securities to be issued solely in connection with any acquisition of, or strategic transaction with, any entity or business or equity securities issuable in connection with stock option or other employee benefit plans) the Company shall promptly send to the Holder's written notice of the Company's intention to file a registration statement and of the holder's rights under this section and, if within five (5) days after receipt of such notice, the holder hereof shall so request in writing, the Company shall include in such registration statement all or any part of the Common Stock underlying this Warrant the holder requests to be registered; provided, however, that the foregoing shall not apply to any registration statement if the holders of the securities to be registered thereon have a right to exclude the Warrant Shares from such registration statement. If a registration pursuant this section is to be an underwritten public offering and the managing underwriters advise the Company in writing, that in their reasonable good faith opinion, marketing or other factors dictate that a limitation on the number of shares of Company common stock which may be included in the registration statement is necessary to facilitate and not adversely affect the proposed offering, then the Company shall include in such registration: (1) first, all securities the Company proposes to sell for its own account, (2) second, up to the full number of securities proposed to be registered for the account of the holders of securities entitled to inclusion of their securities requested to be registered by the holder hereof and other holders of securities entitled to participate in the registration, as of the date hereof, drawn from them pro rata based on the number each has requested to be included in such registration. Any holder of a Warrant or Warrant Shares who wishes to participate in such registration must execute such agreements and take such actions as are customarily executed or taken by selling stockholders in connection with a registration.

Section 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.

Section 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.

Section 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 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.

Section 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 Section 6 above and Section 7(c) below.

(c) 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. 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 the Series A Preferred Share Warrants 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 7(d) below. All Warrants and Warrant Shares shall bear a legend in substantially the form set forth at the beginning hereof until the Company receives a satisfactory opinion of counsel that such legend is no longer required.

(d) The Company shall register the Warrant Shares for resale under the Securities Act pursuant to the Registration Rights Agreement dated as of July 31, 2000, by and between the Company and the Buyers listed on the signature page thereto (the "Registration Rights Agreement").

Section 8. ADJUSTMENT OF WARRANT EXERCISE PRICE. In order to prevent dilution of the rights granted under this Warrant, 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) REORGANIZATION, RECLASSIFICATION, CONSOLIDATION, MERGER OR SALE. Any recapitalization, reorganization, reclassification, consolidation, merger, sale of all or substantially all of the Company's assets to another Person or other similar transaction which is effected in such a way that holders of Common Stock are entitled to receive (either directly or upon subsequent liquidation) stock, securities or assets with respect to or in exchange for Common Stock is referred to herein as in "Organic Change." Prior to the consummation of any Organic Change, the Company will make appropriate provision (in form and substance reasonably satisfactory to the holders of a majority of the Warrants then outstanding) to insure that, upon the consummation of such Organic Change, each of the holders of the Warrants will thereafter have the right to acquire and receive upon exercise hereof in lieu of the Common Stock, such shares of stock, securities or assets as may be issued or payable with respect to or in exchange for the number of shares of Common Stock immediately theretofore acquirable and receivable upon exercise of the Warrants had such Organic Change not taken place. In any such case, the Company will make appropriate provision (in form and substance reasonably satisfactory to the holders of a majority of the Warrants then outstanding) with respect to such holders' rights and interests to insure that the provisions of this Section 8(b) will thereafter be applicable to the Warrants.

(c) NOTICES.

(i) Immediately upon any adjustment of the Warrant Exercise Price pursuant to this Section 8, the Company will give written notice thereof to the holder of this Warrant, setting forth in reasonable detail and certifying the calculation of such adjustment.

(ii) The Company will give written notice to the holder of this Warrant at least ten (10) days prior to the date on which the Company closes its books or takes a record (A) with respect to any dividend or distribution upon the Common Stock, (B) with respect to any pro rata subscription offer to holders of Common Stock or (C) for determining rights to vote with respect to any Organic Change, dissolution or liquidation, except that in no event shall such notice be provided to such holder prior to such information being made known to the public.

(iii) The Company will also give written notice to the holder of this Warrant at least ten (10) days prior to the date on which any Organic Change, dissolution or liquidation will take place.

Section 10. 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.

Section 11. 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.
525 Del Rey Avenue
Suite C
Sunnyvale CA. 94086
Attention: George Dunbar, President & CEO
Telephone: (408) 731-8670
Facsimile: (408) 731-8674

With a copy 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. Each party shall provide five (5) days' prior written notice to the other party of any change in address or facsimile number.

Section 12. AMENDMENTS. This Warrant and any term hereof may be changed, waived, discharged, or terminated only by an instrument in writing signed by the party or holder hereof against which enforcement of such change, waiver, discharge or termination is sought.

Section 13. DATE. The date of this Warrant is August 3, 2000. 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 Section 7 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.

Section 14. 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.

Section 15. 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 law provision.

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

STEMCELLS, INC.

By:

Name:
Title:

Joseph Donahue

By:

Name:

Title:

Address:

EXHIBIT A

FORM OF SUBSCRIPTION

(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 Form of Subscription 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 either: (i) herewith makes payment of $_____ therefor in cash or by certified or official bank check or (ii) elects to make payment upon a cashless basis pursuant to Section 2(b) of the Warrant and hereby exercises _____ Warrants and the Per Share Value for purposes hereof is $_____. The undersigned hereby requests that the certificate(s) representing such securities be issued in the name(s) and delivered t the address(es) as follows:

Name:

Address:

Social Security Number:

Deliver to:

Address:

This the foregoing subscription 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 4.6

THE SECURITIES REPRESENTED BY 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 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.

STEMCELLS, INC.

WARRANT TO PURCHASE COMMON STOCK

Warrant No.: MD-004 Number of Shares Issuable: 20,000

Date of Issuance: August 3, 2000

StemCells, Inc., a Delaware corporation (the "Company"), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Hunter Singer, the registered holder hereof or its permitted assigns, 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) twenty thousand (20,000) 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(b) below;

Section 1.

(a) LETTER AGREEMENT. This Warrant is one of the warrants (the "Warrants") issued pursuant to Section 3.4 of the Placement Agency Agreement between the Company and May Davis Group, Inc., dated as of July 31, 2000 (the "AGENCY AGREEMENT").

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

(i) "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.

(ii) "EXPIRATION DATE" means the date five (5) years from the date of the issuance of the Warrant 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.

(iii) "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.

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

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

(vi) "WARRANT EXERCISE PRICE" shall be equal to $5.0375, subject to adjustment as hereinafter provided.

(vii) "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) When used in this Warrant, the words "herein," "hereof," and "hereunder," and words of similar import, shall refer to this Warrant as a whole and not to any provision of this Warrant, and the words "Section," "Schedule," and "Exhibit" shall refer to Sections of, and Schedules and Exhibits to, this Warrant 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.

Section 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 or 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 subscription notice attached as Exhibit A hereto, of such holder's election to exercise this Warrant, which notice shall specify the number of Warrant Shares to be purchased, (ii) (A) payment to the Company 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 Exercise Price") in cash or by check or wire transfer, or (B) by notifying the Company that it should subtract from the number of Warrant Shares Issuable to the holder upon such exercise an amount of warrant shares having a last reported sale price (as reported by Bloomberg), or, if the foregoing is not appliclable, the fair market value (in either case, the "Per Share Value"), on the trading day immediately preceding the date of the subscription notice equal the Aggregate Exercise Price of the Warrant shares for which this warrant is being exercised (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 five (5) business days after the Company's receipt of the Exercise Notice, the Aggregate Exercise Price and this Warrant (or indemnification undertaking with respect to this Warrant in the case of its loss, theft or destruction) Upon delivery of the Exercise Notice, this Warrant (or such indemnification undertaking) and Aggregate Exercise Price referred to in clause (ii) (A) above or notification to the Company of a Cashless Exercise referred to in clause (ii) (B) above, the holder of this Warrant 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 Average Market Price of a security 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 five (5) business days of receipt of the holder's subscription notice. If the holder and the Company are unable to agree upon the determination of the Warrant Exercise Price or Average Market Price or arithmetic calculation of the Warrant Shares within five (5) 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 Average Market Price to an independent, reputable investment banking firm or (ii) the disputed arithmetic calculation of the Warrant Shares to its independent, outside accountant. The Company shall cause the investment banking firm or the accountant, 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 accountant'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 five (5) business days after any exercise and at its own expense, issue a new Warrant identical in all respects to the Warrant exercised except (i) 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, and (ii) the holder thereof shall be deemed for all corporate purposes to have become the holder of record of such Warrant Shares immediately prior to the close of business on the date on which the Warrant is surrendered and payment of the amount due in respect of such exercise and any applicable taxes is made, irrespective of the date of delivery of certificates evidencing such Warrant Shares, except that, if the date of such surrender and payment is a date when the stock transfer books of the Company are properly closed, such person shall be deemed to have become the holder of such Warrant Shares at the opening of business on the next succeeding date on which the stock transfer books are open. Upon presentation of a duly executed Subscription Form in the Form of Exhibit A to this Warrant, 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 Per Share Value on the date of payment.

(d) If the Company shall fail for any reason or for no reason to issue to holder on a timely basis as described under this Section 2 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 such issuance is not timely effected an amount equal to .25% of the product of (A) the sum of 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 sum derived by subtracting (1) the Warrant exercise price then in effect, from (2) the Closing Bid Price of the Common Stock on the last possible date which the Company could have issued Common Stock to the holder without violating this Section 2.

(e) The Company shall not affect any exercise of any Warrant and no holder of any Warrant shall have the right to exercise any Warrant pursuant to Section 2 to the extent that after giving effect to such exercise such person (together with such Persons affiliates) (A) would beneficially owned in excess of 4.9% of the outstanding shares of Common Stock following such conversion and (B) would have acquired, through exercise of any Warrant or otherwise, in excess of 4.9% of the outstanding shares of the Common Stock following such exercise during the 60-day period ending on and including such exercise date. For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by a person and its affiliates or acquired by a person and its affiliates, as the case may be, shall include the number of shares of Common Stock issuable upon the exercise of the Warrants with respect to which the determination of such sentence is being made, but shall exclude the number of shares of Common Stock which would be issuable upon

(i) exercise of the remaining, non exercisable Warrants beneficially owned by such person and its affiliates and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company subject to limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by such Person and its affiliates. Except as set forth in the preceding sentence, for purposes of this section 2(e), beneficial ownership shall be calculated in accordance with Section 13 (d) of the Securities Exchange Act of 1934, as amended. Notwithstanding anything to the contrary contained herein, each Exercise Notice shall constitute a representation by the holder submitting such Exercise Notice that, after giving effect to such Exercise Notice (A) the holder will not beneficially own (as determined in accordance with this Section 2(e)) and (B) during the 60-day period ending on and including such exercise date, the holder will not have acquired, through exercise of any Warrant or otherwise, a number of shares of Common Stock in excess of 4.9% of the outstanding shares of Common Stock as reflected in the Company's most recent Form 10-Q or Form 10-K, as the case may be, or more recent public release or other public notice by the Company setting forth the number of Shares of Common Stock outstanding, but after giving effect to exercise of any Warrant by such holder since the date as of which such numbers of outstanding shares of the Common Stock was reported, and the Company shall be entitled to rely solely on the foregoing representation in complying with this Section 2(e).

Section 3. COVENANTS AS TO COMMON STOCK. The Company hereby covenants and agrees as follows:

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

(b) 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.

(c) 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.

(d) The Company shall promptly secure the listing of the shares of Common Stock issuable upon exercise of this Warrant upon each national securities exchange or automated quotation system, if any, or over-the-counter-bulletin board upon which shares of Common Stock are then listed or quoted (subject to official notice of the over-the-counter bulletin board of issuance upon exercise of this Warrant) and 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.

(e) 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 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.

(f) 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.

(g) If at any time when the registration statement referred to in the Agency Agreement is not effective the Company proposes to file with the Securities and Exchange Commission a registration statement relating to an offering for its own account or the account of others under the Securities Act of any of its Securities (other than on Form S-4 or Form S-8 (or their equivalents at such time) relating to securities to be issued solely in connection with any acquisition of, or strategic transaction with, any entity or business or equity securities issuable in connection with stock option or other employee benefit plans) the Company shall promptly send to the Holder's written notice of the Company's intention to file a registration statement and of the holder's rights under this section and, if within five (5) days after receipt of such notice, the holder hereof shall so request in writing, the Company shall include in such registration statement all or any part of the Common Stock underlying this Warrant the holder requests to be registered; provided, however, that the foregoing shall not apply to any registration statement if the holders of the securities to be registered thereon have a right to exclude the Warrant Shares from such registration statement. If a registration pursuant this section is to be an underwritten public offering and the managing underwriters advise the Company in writing, that in their reasonable good faith opinion, marketing or other factors dictate that a limitation on the number of shares of Company common stock which may be included in the registration statement is necessary to facilitate and not adversely affect the proposed offering, then the Company shall include in such registration: (1) first, all securities the Company proposes to sell for its own account, (2) second, up to the full number of securities proposed to be registered for the account of the holders of securities entitled to inclusion of their securities requested to be registered by the holder hereof and other holders of securities entitled to participate in the registration, as of the date hereof, drawn from them pro rata based on the number each has requested to be included in such registration. Any holder of a Warrant or Warrant Shares who wishes to participate in such registration must execute such agreements and take such actions as are customarily executed or taken by selling stockholders in connection with a registration.

Section 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.

Section 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.

Section 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 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.

Section 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 Section 6 above and Section 7(c) below.

(c) 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. 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 the Series A Preferred Share Warrants 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 7(d) below. All Warrants and Warrant Shares shall bear a legend in substantially the form set forth at the beginning hereof until the Company receives a satisfactory opinion of counsel that such legend is no longer required.

(d) The Company shall register the Warrant Shares for resale under the Securities Act pursuant to the Registration Rights Agreement dated as of July 31, 2000, by and between the Company and the Buyers listed on the signature page thereto (the "Registration Rights Agreement").

Section 8. ADJUSTMENT OF WARRANT EXERCISE PRICE. In order to prevent dilution of the rights granted under this Warrant, 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) REORGANIZATION, RECLASSIFICATION, CONSOLIDATION, MERGER OR SALE. Any recapitalization, reorganization, reclassification, consolidation, merger, sale of all or substantially all of the Company's assets to another Person or other similar transaction which is effected in such a way that holders of Common Stock are entitled to receive (either directly or upon subsequent liquidation) stock, securities or assets with respect to or in exchange for Common Stock is referred to herein as in "Organic Change." Prior to the consummation of any Organic Change, the Company will make appropriate provision (in form and substance reasonably satisfactory to the holders of a majority of the Warrants then outstanding) to insure that, upon the consummation of such Organic Change, each of the holders of the Warrants will thereafter have the right to acquire and receive upon exercise hereof in lieu of the Common Stock, such shares of stock, securities or assets as may be issued or payable with respect to or in exchange for the number of shares of Common Stock immediately theretofore acquirable and receivable upon exercise of the Warrants had such Organic Change not taken place. In any such case, the Company will make appropriate provision (in form and substance reasonably satisfactory to the holders of a majority of the Warrants then outstanding) with respect to such holders' rights and interests to insure that the provisions of this Section 8(b) will thereafter be applicable to the Warrants.

(c) NOTICES.

(i) Immediately upon any adjustment of the Warrant Exercise Price pursuant to this Section 8, the Company will give written notice thereof to the holder of this Warrant, setting forth in reasonable detail and certifying the calculation of such adjustment.

(ii) The Company will give written notice to the holder of this Warrant at least ten (10) days prior to the date on which the Company closes its books or takes a record (A) with respect to any dividend or distribution upon the Common Stock, (B) with respect to any pro rata subscription offer to holders of Common Stock or (C) for determining rights to vote with respect to any Organic Change, dissolution or liquidation, except that in no event shall such notice be provided to such holder prior to such information being made known to the public.

(iii) The Company will also give written notice to the holder of this Warrant at least ten (10) days prior to the date on which any Organic Change, dissolution or liquidation will take place.

Section 10. 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.

Section 11. 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.
525 Del Rey Avenue
Suite C
Sunnyvale CA. 94086
Attention: George Dunbar, President & CEO
Telephone: (408) 731-8670
Facsimile: (408) 731-8674

With a copy 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. Each party shall provide five (5) days' prior written notice to the other party of any change in address or facsimile number.

Section 12. AMENDMENTS. This Warrant and any term hereof may be changed, waived, discharged, or terminated only by an instrument in writing signed by the party or holder hereof against which enforcement of such change, waiver, discharge or termination is sought.

Section 13. DATE. The date of this Warrant is August 3, 2000. 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 Section 7 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.

Section 14. 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.

Section 15. 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 law provision.

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

STEMCELLS, INC.

By:

Name:
Title:

Hunter Singer

By:

Name:

Title:

Address:

- ---------------------------------

- ---------------------------------

EXHIBIT A

FORM OF SUBSCRIPTION

(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 Form of Subscription 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 either: (i) herewith makes payment of $_____ therefor in cash or by certified or official bank check or (ii) elects to make payment upon a cashless basis pursuant to Section 2(b) of the Warrant and hereby exercises _____ Warrants and the Per Share Value for purposes hereof is $_____. The undersigned hereby requests that the certificate(s) representing such securities be issued in the name(s) and delivered t the address(es) as follows:

Name:

Address:

Social Security Number:

Deliver to:

Address:

This the foregoing subscription 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:

THE SECURITIES REPRESENTED BY 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 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.

STEMCELLS, INC.

WARRANT TO PURCHASE COMMON STOCK

Warrant No.: MD-005 Number of Shares Issuable: 20,000

Date of Issuance: August 3, 2000

StemCells, Inc., a Delaware corporation (the "Company"), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, May Davis Group, Inc., the registered holder hereof or its permitted assigns, 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) twenty thousand (20,000) 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(b) below;

Section 1.

(a) LETTER AGREEMENT. This Warrant is one of the warrants (the "Warrants") issued pursuant to Section 3.4 of the Placement Agency Agreement between the Company and May Davis Group, Inc., dated as of July 31, 2000 (the "AGENCY AGREEMENT").

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

(i) "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.

(ii) "EXPIRATION DATE" means the date five (5) years from the date of the issuance of the Warrant 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.

(iii) "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.

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

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

(vi) "WARRANT EXERCISE PRICE" shall be equal to $5.0375, subject to adjustment as hereinafter provided.

(vii) "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) When used in this Warrant, the words "herein," "hereof," and "hereunder," and words of similar import, shall refer to this Warrant as a whole and not to any provision of this Warrant, and the words "Section," "Schedule," and "Exhibit" shall refer to Sections of, and Schedules and Exhibits to, this Warrant 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.

Section 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 or 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 subscription notice attached as Exhibit A hereto, of such holder's election to exercise this Warrant, which notice shall specify the number of Warrant Shares to be purchased, (ii) (A) payment to the Company 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 Exercise Price") in cash or by check or wire transfer, or (B) by notifying the Company that it should subtract from the number of Warrant Shares Issuable to the holder upon such exercise an amount of warrant shares having a last reported sale price (as reported by Bloomberg), or, if the foregoing is not appliclable, the fair market value (in either case, the "Per Share Value"), on the trading day immediately preceding the date of the subscription notice equal the Aggregate Exercise Price of the Warrant shares for which this warrant is being exercised (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 five (5) business days after the Company's receipt of the Exercise Notice, the Aggregate Exercise Price and this Warrant (or indemnification undertaking with respect to this Warrant in the case of its loss, theft or destruction) Upon delivery of the Exercise Notice, this Warrant (or such indemnification undertaking) and Aggregate Exercise Price referred to in clause (ii) (A) above or notification to the Company of a Cashless Exercise referred to in clause (ii) (B) above, the holder of this Warrant 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 Average Market Price of a security 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 five (5) business days of receipt of the holder's subscription notice. If the holder and the Company are unable to agree upon the determination of the Warrant Exercise Price or Average Market Price or arithmetic calculation of the Warrant Shares within five (5) 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 Average Market Price to an independent, reputable investment banking firm or (ii) the disputed arithmetic calculation of the Warrant Shares to its independent, outside accountant. The Company shall cause the investment banking firm or the accountant, 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 accountant'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 five (5) business days after any exercise and at its own expense, issue a new Warrant identical in all respects to the Warrant exercised except (i) 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, and (ii) the holder thereof shall be deemed for all corporate purposes to have become the holder of record of such Warrant Shares immediately prior to the close of business on the date on which the Warrant is surrendered and payment of the amount due in respect of such exercise and any applicable taxes is made, irrespective of the date of delivery of certificates evidencing such Warrant Shares, except that, if the date of such surrender and payment is a date when the stock transfer books of the Company are properly closed, such person shall be deemed to have become the holder of such Warrant Shares at the opening of business on the next succeeding date on which the stock transfer books are open. Upon presentation of a duly executed Subscription Form in the Form of Exhibit A to this Warrant, 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 Per Share Value on the date of payment.

(d) If the Company shall fail for any reason or for no reason to issue to holder on a timely basis as described under this Section 2 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 such issuance is not timely effected an amount equal to .25% of the product of (A) the sum of 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 sum derived by subtracting (1) the Warrant exercise price then in effect, from (2) the Closing Bid Price of the Common Stock on the last possible date which the Company could have issued Common Stock to the holder without violating this Section 2.

(e) The Company shall not affect any exercise of any Warrant and no holder of any Warrant shall have the right to exercise any Warrant pursuant to Section 2 to the extent that after giving effect to such exercise such person (together with such Persons affiliates) (A) would beneficially owned in excess of 4.9% of the outstanding shares of Common Stock following such conversion and (B) would have acquired, through exercise of any Warrant or otherwise, in excess of 4.9% of the outstanding shares of the Common Stock following such exercise during the 60-day period ending on and including such exercise date. For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by a person and its affiliates or acquired by a person and its affiliates, as the case may be, shall include the number of shares of Common Stock issuable upon the exercise of the Warrants with respect to which the determination of such sentence is being made, but shall exclude the number of shares of Common Stock which would be issuable upon

(i) exercise of the remaining, non exercisable Warrants beneficially owned by such person and its affiliates and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company subject to limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by such Person and its affiliates. Except as set forth in the preceding sentence, for purposes of this section 2(e), beneficial ownership shall be calculated in accordance with Section 13 (d) of the Securities Exchange Act of 1934, as amended. Notwithstanding anything to the contrary contained herein, each Exercise Notice shall constitute a representation by the holder submitting such Exercise Notice that, after giving effect to such Exercise Notice (A) the holder will not beneficially own (as determined in accordance with this Section 2(e)) and (B) during the 60-day period ending on and including such exercise date, the holder will not have acquired, through exercise of any Warrant or otherwise, a number of shares of Common Stock in excess of 4.9% of the outstanding shares of Common Stock as reflected in the Company's most recent Form 10-Q or Form 10-K, as the case may be, or more recent public release or other public notice by the Company setting forth the number of Shares of Common Stock outstanding, but after giving effect to exercise of any Warrant by such holder since the date as of which such numbers of outstanding shares of the Common Stock was reported, and the Company shall be entitled to rely solely on the foregoing representation in complying with this Section 2(e).

Section 3. COVENANTS AS TO COMMON STOCK. The Company hereby covenants and agrees as follows:

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

(b) 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.

(c) 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.

(d) The Company shall promptly secure the listing of the shares of Common Stock issuable upon exercise of this Warrant upon each national securities exchange or automated quotation system, if any, or over-the-counter-bulletin board upon which shares of Common Stock are then listed or quoted (subject to official notice of the over-the-counter bulletin board of issuance upon exercise of this Warrant) and 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.

(e) 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 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.

(f) 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.

(g) If at any time when the registration statement referred to in the Agency Agreement is not effective the Company proposes to file with the Securities and Exchange Commission a registration statement relating to an offering for its own account or the account of others under the Securities Act of any of its Securities (other than on Form S-4 or Form S-8 (or their equivalents at such time) relating to securities to be issued solely in connection with any acquisition of, or strategic transaction with, any entity or business or equity securities issuable in connection with stock option or other employee benefit plans) the Company shall promptly send to the Holder's written notice of the Company's intention to file a registration statement and of the holder's rights under this section and, if within five (5) days after receipt of such notice, the holder hereof shall so request in writing, the Company shall include in such registration statement all or any part of the Common Stock underlying this Warrant the holder requests to be registered; provided, however, that the foregoing shall not apply to any registration statement if the holders of the securities to be registered thereon have a right to exclude the Warrant Shares from such registration statement. If a registration pursuant this section is to be an underwritten public offering and the managing underwriters advise the Company in writing, that in their reasonable good faith opinion, marketing or other factors dictate that a limitation on the number of shares of Company common stock which may be included in the registration statement is necessary to facilitate and not adversely affect the proposed offering, then the Company shall include in such registration: (1) first, all securities the Company proposes to sell for its own account, (2) second, up to the full number of securities proposed to be registered for the account of the holders of securities entitled to inclusion of their securities requested to be registered by the holder hereof and other holders of securities entitled to participate in the registration, as of the date hereof, drawn from them pro rata based on the number each has requested to be included in such registration. Any holder of a Warrant or Warrant Shares who wishes to participate in such registration must execute such agreements and take such actions as are customarily executed or taken by selling stockholders in connection with a registration.

Section 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.

Section 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.

Section 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 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.

Section 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 Section 6 above and Section 7(c) below.

(c) 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. 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 the Series A Preferred Share Warrants 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 7(d) below. All Warrants and Warrant Shares shall bear a legend in substantially the form set forth at the beginning hereof until the Company receives a satisfactory opinion of counsel that such legend is no longer required.

(d) The Company shall register the Warrant Shares for resale under the Securities Act pursuant to the Registration Rights Agreement dated as of July 31, 2000, by and between the Company and the Buyers listed on the signature page thereto (the "Registration Rights Agreement").

Section 8. ADJUSTMENT OF WARRANT EXERCISE PRICE. In order to prevent dilution of the rights granted under this Warrant, 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) REORGANIZATION, RECLASSIFICATION, CONSOLIDATION, MERGER OR SALE. Any recapitalization, reorganization, reclassification, consolidation, merger, sale of all or substantially all of the Company's assets to another Person or other similar transaction which is effected in such a way that holders of Common Stock are entitled to receive (either directly or upon subsequent liquidation) stock, securities or assets with respect to or in exchange for Common Stock is referred to herein as in "Organic Change." Prior to the consummation of any Organic Change, the Company will make appropriate provision (in form and substance reasonably satisfactory to the holders of a majority of the Warrants then outstanding) to insure that, upon the consummation of such Organic Change, each of the holders of the Warrants will thereafter have the right to acquire and receive upon exercise hereof in lieu of the Common Stock, such shares of stock, securities or assets as may be issued or payable with respect to or in exchange for the number of shares of Common Stock immediately theretofore acquirable and receivable upon exercise of the Warrants had such Organic Change not taken place. In any such case, the Company will make appropriate provision (in form and substance reasonably satisfactory to the holders of a majority of the Warrants then outstanding) with respect to such holders' rights and interests to insure that the provisions of this Section 8(b) will thereafter be applicable to the Warrants.

(c) NOTICES.

(i) Immediately upon any adjustment of the Warrant Exercise Price pursuant to this Section 8, the Company will give written notice thereof to the holder of this Warrant, setting forth in reasonable detail and certifying the calculation of such adjustment.

(ii) The Company will give written notice to the holder of this Warrant at least ten (10) days prior to the date on which the Company closes its books or takes a record (A) with respect to any dividend or distribution upon the Common Stock, (B) with respect to any pro rata subscription offer to holders of Common Stock or (C) for determining rights to vote with respect to any Organic Change, dissolution or liquidation, except that in no event shall such notice be provided to such holder prior to such information being made known to the public.

(iii) The Company will also give written notice to the holder of this Warrant at least ten (10) days prior to the date on which any Organic Change, dissolution or liquidation will take place.

Section 10. 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.

Section 11. 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.
525 Del Rey Avenue
Suite C
Sunnyvale CA. 94086
Attention: George Dunbar, President & CEO
Telephone: (408) 731-8670
Facsimile: (408) 731-8674

With a copy 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. Each party shall provide five (5) days' prior written notice to the other party of any change in address or facsimile number.

Section 12. AMENDMENTS. This Warrant and any term hereof may be changed, waived, discharged, or terminated only by an instrument in writing signed by the party or holder hereof against which enforcement of such change, waiver, discharge or termination is sought.

Section 13. DATE. The date of this Warrant is August 3, 2000. 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 Section 7 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.

Section 14. 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.

Section 15. 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 law provision.

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

STEMCELLS, INC.

By:

Name:
Title:

May Davis Group, Inc.

By:

Name:

Title:

Address:

- ---------------------------------

- ---------------------------------

EXHIBIT A

FORM OF SUBSCRIPTION

(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 Form of Subscription 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 either: (i) herewith makes payment of $_____ therefor in cash or by certified or official bank check or (ii) elects to make payment upon a cashless basis pursuant to Section 2(b) of the Warrant and hereby exercises _____ Warrants and the Per Share Value for purposes hereof is $_____. The undersigned hereby requests that the certificate(s) representing such securities be issued in the name(s) and delivered t the address(es) as follows:

Name:

Address:

Social Security Number:

Deliver to:

Address:

This the foregoing subscription 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 4.8

NEITHER THESE SECURITIES NOR THE SECURITIES INTO WHICH THESE SECURITIES ARE EXERCISABLE HAVE BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION OR THE SECURITIES COMMISSION OF ANY STATE IN RELIANCE UPON AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR PURSUANT TO AN AVAILABLE EXEMPTION FROM THE REGISTRATION REQUIREMENTS THEREUNDER AND IN COMPLIANCE WITH APPLICABLE STATE SECURITIES OR BLUE SKY LAWS.

Right to Purchase the Specified Number of
Shares of Common Stock of StemCells, Inc

STEMCELLS, INC.

COMMON STOCK PURCHASE WARRANT, CLASS A

NO. A-1

STEMCELLS, INC., a Delaware corporation (the "Company"), hereby certifies that, for value received, Millennium Partners, L.P. or its registered assigns (the "Holder"), is entitled, subject to the terms set forth below, to purchase from the Company at any time or from time to time during the Exercise Period (such capitalized term and all other capitalized terms used herein having the respective meanings provided herein), the Specified Number of fully paid and nonassessable shares of Common Stock at a purchase price per share equal to the Purchase Price. The number of such shares of Common Stock is subject to adjustment as provided in this Warrant.

As used herein the following terms, unless the context otherwise requires, have the following respective meanings:

"Adjustment Date" means any of the First Adjustment Date and each date which occurs every 90 days after the First Adjustment Date through and including the date which is 810 days after the Issuance Date.

"Adjustment Factor" means 1.015.

"Adjustment Shares" means the number of shares of Common Stock, determined on each Adjustment Date in accordance with Section 1.3(a), to be added to the Specified Number on each Adjustment Date in accordance with Section 1.3(b).

"Auditors" means Ernst & Young LLP or such other firm of independent public accountants of recognized national standing as shall have been engaged by the Company to audit its financial statements.

"Average Market Price" means the arithmetic average of the ten (10) lowest Market Prices during the applicable Measurement Period.

"Cash and Cash Equivalent Balances" of any person on any date shall be determined from such person's books maintained in accordance with Generally Accepted Accounting Principles, and means, without duplication, the sum of (1) the cash accrued by such person and its subsidiaries on a consolidated basis on such date and available for use by such person and its subsidiaries on such date and (2) all assets which would, on a consolidated balance sheet of such person and its subsidiaries prepared as of such date in accordance with Generally Accepted Accounting Principles, be classified as cash or cash equivalents, less the amount thereof which secures any outstanding indebtedness of such person or its subsidiaries.

"Callable Warrant" means the Callable Warrant, issued by the Company pursuant to the Subscription Agreement.

"Class A Warrant Shares" means those shares of Common Stock issued upon exercise of this Warrant (subject to equitable adjustment from time to time on terms reasonably acceptable to the Holder for stock splits, stock dividends, combinations, recapitalizations, reclassifications, distributions, Tender Offers and similar events occurring after the Issuance Date).

"Commission" means the Securities and Exchange Commission.

"Common Shares Held" as of any date means the sum of (1) the number of Initial Shares which are then held by the Holder plus (2) the number of Class A Warrant Shares which are then held by the Holder plus (3) the number of shares of Common Stock which are issuable upon exercise of this Warrant immediately prior to the determination of the number of Adjustment Shares pursuant to Section 1.3(a).

"Common Stock" means the Company's Common Stock, $.01 par value per share, as authorized on the date hereof, and any other securities into which or for which the Common Stock may be converted or exchanged pursuant to a plan of recapitalization, reorganization, merger, sale of assets or otherwise.

"Company" shall include StemCells, Inc., a Delaware corporation, and any corporation that shall succeed to or assume the obligations of StemCells, Inc. hereunder in accordance with the terms hereof.

"Control Notice" means a notice given by the Company to the Holder, in accordance with Section 1.5(b), (i) stating that a Share Limitation Event has occurred by reason of events which are not solely within the control of the Company and (ii) enclosing an executed copy of an Auditors' Determination.

"Exercise Period" means the period commencing on the First Adjustment Date and ending thirty (30) days following the Last Adjustment Date.

"First Adjustment Date" means the date which is 180 days after the Issuance Date.

"Generally Accepted Accounting Principles" for any person means the generally accepted accounting principles and practices applied by such person from time to time in the preparation of its audited financial statements.

"Holder Repurchase Price" means, for each share of Common Stock which may not be issued upon exercise of this Warrant by reason of the Shareholder Approval Rule in accordance with Section 1.4 (c), 120% of the greater of: (x) the arithmetic average of the Market Price on each of the five consecutive Trading Days immediately prior to and including the expiration of the 75-day period referred to in Section 1.4(c) or the Repurchase Date referred to in Section 1.4(b), as the case may be, (y) the arithmetic average of the Market Price on each of the five consecutive Trading Days immediately prior to the repurchase date pursuant to Section 1.4(c) or Section 1.4(b) and (z) if determined prior to the First Adjustment Date, the price per share paid by the Holder for the shares of Common Stock purchased on the Issuance Date pursuant to the Subscription Agreement or, if determined on or after the First Adjustment Date, the most recent Adjustment Price (subject to equitable adjustment from time to time on terms reasonably acceptable to the Holder for stock splits, stock dividends, combinations, recapitalizations, reclassifications, distributions, Tender Offers and similar events occurring after the Issuance Date).

"Initial Shares" means those shares of Common Stock purchased by the Holder on the Issuance Date pursuant to the Subscription Agreement (subject to equitable adjustment from time to time on terms reasonably acceptable to the Holder for stock splits, stock dividends, combinations, recapitalizations, reclassifications, distributions, Tender Offers and similar events occurring after the Issuance Date), excluding shares issuable pursuant to the Callable Warrant.

"Issuance Date" means the first date of original issuance of this Warrant.

"Market Price" of the Common Stock on any date means the closing bid price for one share of Common Stock on such date on the first applicable among the following: (a) the national securities exchange on which the shares of Common Stock are listed which constitutes the principal securities market for the Common Stock, (b) the Nasdaq, if the Nasdaq constitutes the principal market for the Common Stock on such date, or (c) the Nasdaq SmallCap, if the Nasdaq SmallCap constitutes the principal securities market for the Common Stock on such date, in any such case as reported by Bloomberg, LP.; provided, however, that if during any Measurement Period or other period during which the Market Price is being determined:

(i) The Company shall declare or pay a dividend or make a distribution to all holders of the outstanding Common Stock in shares of Common Stock or fix any record date for any such action, then the Market Price for each day in such Measurement Period or such other period which day is prior to the earlier of (1) the date fixed for the determination of stockholders entitled to receive such dividend or other distribution and (2) the date on which ex-dividend trading in the Common Stock with respect to such dividend or distribution begins shall be reduced by multiplying the Market Price (determined without regard to this proviso) for each such day in such Measurement Period or such other period by a fraction, the numerator of which shall be the number of shares of Common Stock outstanding at the close of business on the earlier of (1) the record date

fixed for such determination and (2) the date on which ex-dividend trading in the Common Stock with respect to such dividend or distribution begins and the denominator of which shall be the sum of such number of shares and the total number of shares constituting such dividend or other distribution;

(ii) The Company shall issue rights or warrants to all holders of its outstanding shares of Common Stock, or fix a record date for such issuance, which rights or warrants entitle such holders (for a period expiring within forty-five (45) days after the date fixed for the determination of stockholders entitled to receive such rights or warrants) to subscribe for or purchase shares of Common Stock at a price per share less than the Market Price (determined without regard to this proviso) for any day in such Measurement Period or such other period which day is prior to the end of such 45-day period, then the Market Price for each such day shall be reduced so that the same shall equal the price determined by multiplying the Market Price (determined without regard to this proviso) by a fraction, the numerator of which shall be the number of shares of Common Stock outstanding at the close of business on the record date fixed for the determination of stockholders entitled to receive such rights or warrants plus the number of shares which the aggregate offering price of the total number of shares so offered would purchase at such Market Price, and the denominator of which shall be the number of shares of Common Stock outstanding on the close of business on such record date plus the total number of additional shares of Common Stock so offered for subscription or purchase. In determining whether any rights or warrants entitle the holders to subscribe for or purchase shares of Common Stock at less than the Market Price (determined without regard to this proviso), and in determining the aggregate offering price of such shares of Common Stock, there shall be taken into account any consideration received for such rights or warrants, the value of such consideration, if other than cash, to be determined in good faith by a resolution of the Board of Directors of the Company;

(iii) The outstanding shares of Common Stock shall be subdivided into a greater number of shares of Common Stock or a record date for any such subdivision shall be fixed, then the Market Price of the Common Stock for each day in such Measurement Period or such other period which day is prior to the earlier of (1) the day upon which such subdivision becomes effective and (2) the date on which ex-dividend trading in the Common Stock with respect to such subdivision begins shall be proportionately reduced, and conversely, in case the outstanding shares of Common Stock shall be combined into a smaller number of shares of Common Stock, the Market Price for each day in such Measurement Period or such other period which day is prior to the earlier of (1) the date on which such combination becomes effective and (2) the date on which trading in the Common Stock on a basis which gives effect to such combination begins, shall be proportionately increased;

(iv) The Company shall, by dividend or otherwise, distribute to all holders of its Common Stock shares of any class of capital stock of the Company

(other than any dividends or distributions to which clause (i) of this proviso applies) or evidences of its indebtedness, cash or other assets (including securities, but excluding any rights or warrants referred to in clause (ii) of this proviso and dividends and distributions paid exclusively in cash and excluding any capital stock, evidences of indebtedness, cash or assets distributed upon a merger or consolidation) (the foregoing hereinafter in this clause (iv) of this proviso called the "Securities"), or fix a record date for any such distribution, then, in each such case, the Market Price for each day in such Measurement Period or such other period which day is prior to the earlier of (1) the record date for such distribution and (2) the date on which ex-dividend trading in the Common Stock with respect to such distribution begins shall be reduced so that the same shall be equal to the price determined by multiplying the Market Price (determined without regard to this proviso) by a fraction, the numerator of which shall be the Market Price (determined without regard to this proviso) for such date less the fair market value (as determined in good faith by resolution of the Board of Directors of the Company) on such date of the portion of the Securities so distributed or to be distributed applicable to one share of Common Stock and the denominator of which shall be the Market Price (determined without regard to this proviso) for such date. If the Board of Directors of the Company determines the fair market value of any distribution for purposes of this clause (iv) by reference to the actual or when issued trading market for any Securities comprising all or part of such distribution, it must in doing so consider the prices in such market on the same day for which an adjustment in the Market Price is being determined.

For purposes of this clause (iv) and clauses (i) and (ii) of this proviso, any dividend or distribution to which this clause (iv) is applicable that also includes shares of Common Stock, or rights or warrants to subscribe for or purchase shares of Common Stock to which clause (i) or (ii) of this proviso applies (or both), shall be deemed instead to be (1) a dividend or distribution of the evidences of indebtedness, assets, shares of capital stock, rights or warrants other than such shares of Common Stock or rights or warrants to which clause (i) or (ii) of this proviso applies (and any Market Price reduction required by this clause (iv) with respect to such dividend or distribution shall then be made) immediately followed by (2) a dividend or distribution of such shares of Common Stock or such rights or warrants (and any further Market Price reduction required by clauses (i) and (ii) of this proviso with respect to such dividend or distribution shall then be made), except that any shares of Common Stock included in such dividend or distribution shall not be deemed "outstanding at the close of business on the date fixed for such determination" within the meaning of clause (i) of this proviso;

(v) The Company or any subsidiary of the Company shall (x) by dividend or otherwise, distribute to all holders of its Common Stock cash in (or fix any record date for any such distribution), or (y) repurchase or reacquire shares of its Common Stock for, in either case, an aggregate amount that, combined with (1) the aggregate amount of any other such distributions to all holders of its Common Stock made exclusively in cash after the Issuance Date

and within the 12 months preceding the date of payment of such distribution, and in respect of which no adjustment pursuant to this clause (v) has been made, (2) the aggregate amount of any cash plus the fair market value (as determined in good faith by a resolution of the Board of Directors of the Company) of consideration paid in respect of any repurchase or other reacquisition by the Company or any subsidiary of the Company of any shares of Common Stock made after the Issuance Date and within the 12 months preceding the date of payment of such distribution or making of such repurchase or reacquisition, as the case may be, and in respect of which no adjustment pursuant to this clause (v) has been made, and (3) the aggregate of any cash plus the fair market value (as determined in good faith by a resolution of the Board of Directors of the Company) of consideration payable in respect of any Tender Offer by the Company or any of its subsidiaries for all or any portion of the Common Stock concluded within the 12 months preceding the date of payment of such distribution or completion of such repurchase or reacquisition, as the case may be, and in respect of which no adjustment pursuant to clause (vi) of this proviso has been made (such aggregate amount combined with the amounts in clauses (1), (2) and (3) above being the "Combined Amount"), exceeds 10% of the product of the Market Price (determined without regard to this proviso) for any day in such Measurement Period or such other period which day is prior to the earlier of (A) the record date with respect to such distribution and (B) the date on which ex-dividend trading in the Common Stock with respect to such distribution begins or the date of such repurchase or reacquisition, as the case may be, times the number of shares of Common Stock outstanding on such date, then, and in each such case, the Market Price for each such day shall be reduced so that the same shall equal the price determined by multiplying the Market Price (determined without regard to this proviso) for such day by a fraction (i) the numerator of which shall be equal to the Market Price (determined without regard to this proviso) for such day less an amount equal to the quotient of (x) the excess of such Combined Amount over such 10% and (y) the number of shares of Common Stock outstanding on such day and (ii) the denominator of which shall be equal to the Market Price (determined without regard to this proviso) for such day; or

(vi) A Tender Offer made by the Company or any of its subsidiaries for all or any portion of the Common Stock shall expire and such Tender Offer (as amended upon the expiration thereof) shall require the payment to stockholders (based on the acceptance (up to any maximum specified in the terms of the Tender Offer) of Purchased Shares (as defined below)) of an aggregate consideration having a fair market value (as determined in good faith by resolution of the Board of Directors of the Company) that combined together with (1) the aggregate of the cash plus the fair market value (as determined in good faith by a resolution of the Board of Directors of the Company), as of the expiration of such Tender Offer, of consideration payable in respect of any other Tender Offers, by the Company or any of its subsidiaries for all or any portion of the Common Stock expiring within the 12 months preceding the expiration of such Tender Offer and in respect of which no adjustment pursuant to this clause

(vi) has been made, (2) the aggregate amount of any cash plus the fair market value (as determined in good faith by a resolution of the Board of Directors of the Company) of consideration paid in respect of any repurchase or other reacquisition by the Company or any subsidiary of the Company of any shares of Common Stock made after the Issuance Date and within the 12 months preceding the expiration of such Tender Offer and in respect of which no adjustment pursuant to clause (v) of this proviso has been made, and (3) the aggregate amount of any distributions to all holders of Common Stock made exclusively in cash within 12 months preceding the expiration of such Tender Offer and in respect of which no adjustment pursuant to clause (v) of this proviso has been made, exceeds 10% of the product of the Market Price (determined without regard to this proviso) for any day in such period times the number of shares of Common Stock outstanding on such day, then, and in each such case, the Market Price for such day shall be reduced so that the same shall equal the price determined by multiplying the Market Price (determined without regard to this proviso) for such day by a fraction, the numerator of which shall be the number of shares of Common Stock outstanding on such day multiplied by the Market Price (determined without regard to this proviso) for such day and the denominator of which shall be the sum of (x) the fair market value (determined as aforesaid) of the aggregate consideration payable to stockholders based on the acceptance (up to any maximum specified in the terms of the Tender Offer) of all shares validly tendered and not withdrawn as of the last time tenders could have been made pursuant to such Tender Offer (the "Expiration Time") (the shares deemed so accepted, up to any such maximum, being referred to as the "Purchased Shares") and (y) the product of the number of shares of Common Stock outstanding (less any Purchased Shares) on such day times the Market Price (determined without regard to this proviso) of the Common Stock on the Trading Day next succeeding the Expiration Time. If the application of this clause (vi) to any Tender Offer would result in an increase in the Market Price (determined without regard to this proviso) for any trade, no adjustment shall be made for such Tender Offer under this clause (vi) for such day.

"Measurement Period" means, with respect to any Adjustment Date, the period of 30 consecutive Trading Days ending on the Trading Day prior to such Adjustment Date.

"Nasdaq" means the Nasdaq National Market.

"Nasdaq SmallCap" means the Nasdaq SmallCap Market.

"1934 Act" means the Securities Exchange Act of 1934, as amended.

"1933 Act" means the Securities Act of 1933, as amended.

"Other Securities" refers to any stock (other than Common Stock) and other securities of the Company or any other person (corporate or otherwise) which the Holder at any time shall be entitled to receive, or shall have received, on the exercise of this Warrant, in lieu of

or in addition to Common Stock, or which at any time shall be issuable or shall have been issued in exchange for or in replacement of Common Stock or Other Securities pursuant to Section 4.

"Purchase Price" means the greater of (x) $.01 per share or (y) the par value per share of the Common Stock.

"Purchased Securities" as of any date means (1) the Initial Shares which are then held by the Holder, (2) the Class A Warrant Shares which are then held by the Holder and (3) this Warrant.

"Registration Rights Agreement" means the Registration Rights Agreement, dated as of the date hereof, by and between the Company and the original Holder of this Warrant, as amended from time to time in accordance with its terms.

"Registration Statement" shall have the meaning provided in the Registration Rights Agreement.

"Repurchase Date" means the date of repurchase by the Company of the Securities pursuant to Section 1.4.

"Repurchase Notice" means a notice given by the Company to the Holder pursuant to Section 1.4(b) exercising the Company's right to repurchase all of the Securities pursuant to Section 1.4(b) which states (1) the number of shares of Common Stock (including shares issuable upon exercise of this Warrant) which are to be repurchased, (2) the Repurchase Price and the formula for determining the same, determined in accordance herewith and (3) the Repurchase Date.

"Repurchase Price" means, for each share of Common Stock repurchased pursuant to Section 1.4, the product of (x) the arithmetic average of the Market Price on each of the five consecutive Trading Days ending on and including the Adjustment Date following which the Repurchase Notice is given times (y) the Adjustment Factor.

"Share Limit" means 3,902,081 shares of Common Stock (subject to equitable adjustment from time to time on terms reasonably acceptable to the Holder for stock splits, stock dividends, combinations, recapitalizations, reclassifications, distributions, Tender Offers and similar events occurring after the Issuance Date).

"Share Limitation Event" means a time at which the Company is unable to issue all shares of Common Stock otherwise required to be issued upon exercise of this Warrant by reason of the restrictions set forth in the Shareholder Approval Rule and the Company has not obtained a waiver thereof.

"Shareholder Approval" shall mean the approval by a majority of the votes cast by the holders of shares of Common Stock (in person or by proxy) at a meeting of the stockholders of the Company (duly convened at which a quorum was present), or a unanimous written consent of holders of shares of Common Stock given without a meeting, of the issuance by the Company of 20% or more of the Common Stock of the Company outstanding on the

Issuance Date for less than the greater of the book or market value of such Common Stock, as and to the extent required under the Shareholder Approval Rule.

"Shareholder Approval Rule" means Rule 4460(i)(1)(D) of Nasdaq as in effect from time to time or any successor, replacement or similar rule or regulation of Nasdaq or any other principal securities market on which the Common Stock is listed for trading.

"Specified Number" means the number of shares of Common Stock for which this Warrant is exercisable from time to time as determined in accordance with Section 1.3.

"Subscription Agreement" means the Subscription Agreement, dated as of July [ ], 2000, by and between the Company and the original Holder of this Warrant, as amended from time to time in accordance with its terms.

"Tender Offer" means a tender offer or exchange offer.

"Total Common Shares" as of any date means the sum of (1) the number of Initial Shares plus (2) the number of Class A Warrant Shares plus (3) the number of shares of Common Stock issued pursuant to the Callable Warrant.

"Trading Day" means a day on which the principal securities market for the Common Stock is open for general trading of securities.

1. EXERCISE OF WARRANT.

1.1 EXERCISE. Subject to the limitations on exercises in Sections 1.2 and 1.4(a), this Warrant may be exercised by the Holder hereof at any time or from time to time during the Exercise Period by delivery of the subscription form annexed hereto (duly executed by the Holder) to the Company and by making payment, in cash or by certified or official bank check payable to the order of the Company, in the amount obtained by multiplying (i) the number of shares of Common Stock designated by the Holder in the subscription form by (ii) the Purchase Price. If at the request of the Company the subscription form is delivered to the Company's transfer agent for the Common Stock, the Holder shall provide a copy of the subscription form to the Company at the time of exercise and the Company will confirm the exercise instructions given therein by notice to the Company's transfer agent within one Trading Day after receiving such subscription form. Upon each exercise of this Warrant, whether by cash or cashless exercise, the Holder shall not be required to surrender this Warrant to the Company unless the Holder has no further rights to purchase shares of Common Stock hereunder. The Holder and the Company shall maintain records showing the number of shares purchased in connection with each exercise of this Warrant and the dates of such exercises or shall use such other method, satisfactory to the Holder and the Company, so as to not require physical surrender of this Warrant upon each such exercise.

(a) CASHLESS EXERCISE. Subject to the limitations on exercises in Sections 1.2 and 1.4(a), during the Exercise Period and at any time after the earlier to occur of the SEC Effective Date (as defined in the Registration Rights Agreement) and the date the initial registration statement filed pursuant to the Registration Rights Agreement is declared effective by the Commission, when a registration statement covering the resale of the Common Stock issuable

hereunder and naming the Holder as a selling stockholder thereunder is not then effective, the Holder may surrender this Warrant to the Company together with a notice of cashless exercise, in which event the Company shall issue to the Holder the number of shares of Common Stock determined as follows:

$$X = Y [(A-B)/A]$$

where:

X = the number of shares of Common Stock to be issued to the Holder.

Y = the number of shares of Common Stock with respect to which this Warrant is being exercised.

A = the average of the closing sale prices of the Common Stock for the five (5) trading days immediately prior to (but not including) the date of exercise.

B = the Purchase Price.

For purposes of Rule 144 promulgated under the Securities Act, it is intended, understood and acknowledged that the shares of Common Stock issued in a cashless exercise transaction shall be deemed to have been acquired by the Holder, and the holding period for such shares shall be deemed to have been commenced, on the issue date of this Warrant.

(b) In lieu of delivering physical certificates representing the shares of Common Stock issuable upon exercise of this Warrant, provided the Company's transfer agent is participating in the Depository Trust Company ("DTC") Fast Automated Securities Transfer ("FAST") program, upon request of the Holder, the Company shall use its best efforts to cause its transfer agent to electronically transmit the shares of Common Stock issuable upon exercise to the Holder, by crediting the account of the Holder's prime broker with DTC through its Deposit Withdrawal Agent Commission ("DWAC") system. The time periods for delivery described above shall apply to the electronic transmittals through the DWAC system. The Company agrees to coordinate with DTC to accomplish this objective.

1.2 CERTAIN EXERCISE RESTRICTIONS.

(b) Notwithstanding anything to the contrary contained herein, the number of shares of Common Stock that may be acquired by the Holder upon exercise pursuant to the terms hereof shall not exceed a number that, when added to the total number of shares of Common Stock deemed beneficially owned by such Holder (other than by virtue of the ownership of securities or rights to acquire securities that have limitations on the Holder's right to convert, exercise or purchase similar to the limitation set forth herein), together with all shares of Common Stock deemed beneficially owned (other than by virtue of the ownership of securities or rights to acquire securities that have limitations on the Holder's right to convert, exercise or purchase similar to the limitation set forth herein) by the Holder's "Affiliates" (as defined in Rule 144 of the Securities Act) ("Aggregation Parties") that would be aggregated for purposes of

determining whether a group under Section 13(d) of the Securities Exchange Act of 1934, as amended, exists, would exceed 9.99% of the total issued and outstanding shares of Common Stock (the "Restricted Ownership Percentage"). Each Holder shall have the right (w) at any time and from time to time to reduce its Restricted Ownership Percentage immediately upon notice to the Company and (x) (subject to waiver) at any time and from time to time, to increase its Restricted Ownership percentage immediately in the event of the announcement as pending or planned, of a merger or consolidation of the Company, a sale of all or substantially all of the assets of the Company, or the acquisition by any third party (and/or such party's Aggregation Parties) of at least 50% of the Company's outstanding Common Stock.

(c) The Holder covenants at all times on each day (each such day being referred to as a "Covenant Day") as follows: during the balance of such Covenant Day and the succeeding sixty-one (61) days (the balance of such Covenant Day and the succeeding 61 days being referred to as the "Covenant Period") such Holder will not acquire shares of Common Stock pursuant to any right (including exercise of this Warrant) existing at the commencement of the Covenant Period to the extent the number of shares so acquired by such Holder and its Aggregation Parties (ignoring all dispositions) would exceed:

(x) the Restricted Ownership Percentage of the total number of shares of Common Stock outstanding at the commencement of the Covenant Period,

MINUS

(y) the number of shares of Common Stock owned by such Holder and its Aggregation Parties at the commencement of the Covenant Period.

A new and independent covenant will be deemed to be given by the Holder as of each moment of each Covenant Day. No covenant will terminate, diminish or modify any other covenant. The Holder agrees to comply with each such covenant.

The Company's obligation to issue shares of Common Stock which would exceed such limits shall be suspended to the extent necessary until such time, if any, as shares of Common Stock may be issued in compliance with such restrictions.

1.3 DETERMINATION OF SPECIFIED NUMBER. (a) On each Adjustment Date, the number of Adjustment Shares shall be computed as follows:

IF CP less than or equal to ICP, and

IF CP less than $2.25 and

IF CP greater than or equal to MPP, then

CS = PPSH x 1.015, and

BSH = CS - FSH, and

if the Company elects to pay Holder
B$ = BSH x CP,

AS = CS - BSH - PPSH

or else AS = CS - PPSH

but IF CP less than MPP, then

CS = (MPP x PPSH x (1.015)/CP

BSH = CS - FSH, and

if the Company elects to pay Holder
B$ = BSH x CP,

AS = CS - BSH - PPSH

or else AS = CS -PPSH.

IF CP less than ICP and IF CP greater than or equal to $2.25 and

IF CP greater than or equal to MPP, then

AS = PPSH x .015

or else AS = [(MPP x PPSH x 1.015)/CP] - PPSH

IF CP greater than ICP, then AS=0

where:

AS	=	Adjustment Shares
CS	=	Initially calculated Adjustment Shares
I$	=	$4,000,000
ICP	=	$4.33125
BSH	=	Buyout Shares: The number of shares for which the Company may, in lieu of having the Specified Number increase by the applicable number of Adjustment Shares, elect to pay cash to the Holder in the amount of the Buyout.
FSH	=	Floor Shares (the number of shares that are not subject to the Company's election to buyout). The initial value of FSH shall be set to FSH = 1,777,778. FSH shall be recalculated at each Adjustment Date by multiplying the value of FSH as of the immediately preceding Adjustment Date by (1 - (SHX/PPSH))
B$	=	Buyout Amount.
SHX	=	the number of Warrant shares exercised during the current Adjustment Period.
CP	=	the Average Market Price as of the then-current Adjustment Date.
PPSH	=	the number of Common Shares Held as of the immediately preceding Adjustment Date.
MPP	=	the lesser of ICP or the lowest Average Market Price as of any prior Adjustment Date (or ICP on the first Adjustment Date).

As indicated above, if as of any Adjustment Date the Average Market Price is below $2.25 (as such number shall be appropriately adjusted for any stock splits, recapitalizations or similar events), the Company may, in lieu of having the increase in the Specified Number include the number of Buyout Shares, elect to pay cash to the Holder in an amount equal to the Buyout Amount (B$). Such election must be made by written notice to the holders within five (5) business days after the applicable Adjustment Date and the Company must make payment therefor in cash (i) within sixty (60) days after the first Adjustment Date, if applicable and (ii) within five (5) business days after any subsequent applicable Adjustment Date.

(b) Prior to the First Adjustment Date, the Specified Number shall equal zero. For each Adjustment Date on which the number of Adjustment Shares determined in accordance with Section 1.3(a) is a positive number,

(1) on the First Adjustment Date, the Specified Number shall equal the number of Adjustment Shares; and

(2) on each subsequent Adjustment Date, the Specified Number shall equal (x) the Specified Number determined on the immediately preceding Adjustment Date plus (y) the number of Adjustment Shares determined on the current Adjustment Date less (z) the number of shares of Common Stock for which this Warrant was exercised during the most recently completed Quarterly Period.

(c) The number of Adjustment Shares may not be a negative number. For each Adjustment Date on which the number of Adjustment Shares determined in accordance with Section 1.2(a) is zero or would otherwise be a negative number, the Holder shall not be obligated to transfer any shares of Common Stock to the Company.

(d) On each Adjustment Date or within three Trading Days thereafter, the Holder shall give an Adjustment Notice in the form attached hereto to the Company accompanied by the spreadsheet referred to Section 1.3(e) used to calculate the Adjustment Shares. If the Holder fails to give an Adjustment Notice within three Trading Days after any Adjustment Date, the Company may notify the Holder of such failure and, if the Holder does not deliver such Adjustment Notice within three Trading Days after such notice of failure is given to the Holder, the Company shall give such Adjustment Notice to the Holder. Absent manifest error, the Adjustment Notice and such spreadsheet shall be binding on the Company and the Holder for purposes of making the determinations required by this Section 1.3. The Company and the Holder shall use their best efforts to promptly correct any error in any Adjustment Notice.

(e) A spreadsheet illustrating the application of the forgoing is annexed hereto and made a part hereof; such spreadsheet shall be used in calculating Adjustment Shares pursuant to this Section 1.3.

1.4 MAXIMUM SHARE LIMITATION; REPURCHASE RIGHTS. Provided that the Common Stock is listed for trading on Nasdaq or another market having the Shareholder Approval Rule or an equivalent rule, and provided that Shareholder Approval or the equivalent has not been obtained, this Warrant may not be exercised to purchase shares of Common Stock to the extent, and only to the extent, such exercise would cause the Total Common Shares of the Holder to exceed the Share Limit. If such conditions obtain and if an exercise in full of this Warrant and/or the Callable Warrant would, but for the preceding sentence and the other limitations contained in Sections 1.1 and 1.2 above, cause the Total Common Shares to exceed the Share Limit:

(a) If (i) (at the time of the Company's exercise of its right in this sentence) the Company shall be in compliance in all material respects with its obligations to the Holder (including, without limitation, its obligations under this Warrant, the Callable Warrant, the

Subscription Agreement and the Registration Rights Agreement), (ii) on the date the Repurchase Notice is given and at all times until the Repurchase Date, the Registration Statement is effective and available for use by the Holder for the resale of all of its Shares of Common Stock previously issued or issuable and (iii) on the date the Repurchase Notice is given and on the Repurchase Date, the Company has available unrestricted Cash and Cash Equivalent Balances not less than the aggregate amount to be paid to repurchase shares of Common Stock pursuant to Section 1.4 of this Warrant and the Other Class A Warrants, then the Company shall have the right to repurchase the shares of Common Stock issuable pursuant to the Warrant and/or the Callable Warrant held by the Holder in accordance with Section 1.4(b).

(b) To exercise its repurchase right, the Company shall give a Repurchase Notice, not more frequently than once in any period of 180 consecutive days, on the Trading Day immediately following an Adjustment Date. If the Repurchase Notice is timely given, the Company shall be obligated to repurchase such portion of the shares issuable pursuant to this Warrant and/or the Callable Warrant (in proportions designated by the Holder) which exceed the Share Limit on a Repurchase Date which is not less than 20 Trading Days or more than 30 Trading Days after the date of the Repurchase Notice, if this Warrant and/or the Callable Warrant is to be repurchased pursuant to this Section 1.4, the Company shall repurchase such Warrants as if such Warrants had been exercised, to the extent of the portion of the Warrants being repurchased, on the Repurchase Date and the shares of Common Stock issuable upon such exercise were held directly by the Holder and were being repurchased. On the Repurchase Date, the Company shall make payment to the Holder of the applicable Repurchase Price multiplied by the number of shares of Common Stock to be repurchased in immediately available funds to such account as specified by the Holder in writing to the Company at least one Trading Day prior to the Repurchase Date, provided that if such payment is not so made on the Repurchase Date, the Company shall be obligated to repurchase such number of shares at a purchase price equal to the Holder Repurchase Price per share. Notwithstanding anything to the contrary in the foregoing provisions of this Section 1.4, prior to the Repurchase Date, or such later date on which the Repurchase Price is paid, the Holder shall be free to exercise this Warrant as long as such exercise does not violate the first sentence of this Section 1.4.

(c) If the Company does not timely give a Repurchase Notice pursuant to subsection (b) above, the Company shall have the option by written notice to the Holder, and the Holder shall have the right to require the Company by written notice, to seek the Shareholder Approval applicable to an issuance of shares in excess of the Share Limit ("Excess Shares") as soon as possible, but in any event, not later than the 75th day after such election or the Holder's demand, and if the Company shall have failed to receive Shareholder Approval within five (5) Business Days of such 75th day, the Company shall, on such fifth Business Day, pay cash to such Holder in an amount equal to the Holder Repurchase Price multiplied by the number of Excess Shares. If the Company fails to pay the Holder Repurchase Price in full pursuant to this Section 1.4 within seven days after the date payable, the Company will pay interest thereon at a rate of 18% per annum or such lesser maximum amount that is permitted to be paid by applicable law, to the Holder, accruing daily from such fifth Business Day until such amount, plus all such interest thereon, is paid in full.

2. DELIVERY OF STOCK CERTIFICATES, ETC., ON EXERCISE. (a) As soon as practicable after the exercise of this Warrant, and in any event within three Trading Days

thereafter, the Company at its expense (including the payment by it of any applicable issue or stamp taxes) will cause to be issued in the name of and delivered to the Holder hereof, or as the Holder (upon payment by the Holder of any applicable transfer taxes) may direct, a certificate or certificates for the number of fully paid and nonassessable shares of Common Stock (or Other Securities) to which the Holder shall be entitled on such exercise, in such denominations as may be requested by the Holder, plus, in lieu of any fractional share to which the Holder would otherwise be entitled, cash equal to such fraction multiplied by the then current fair market value (as reasonably determined by the Company) of one full share, together with any other stock or other securities and property (including cash, where applicable) to which the Holder is entitled upon such exercise pursuant to Section 1 or otherwise. Upon exercise of this Warrant as provided herein, the Company's obligation to issue and deliver the certificates for Common Stock shall be absolute and unconditional, irrespective of the absence of any action by the Holder to enforce the same, any waiver or consent with respect to any provision thereof, the recovery of any judgment against any person or any action to enforce the same, any failure or delay in the enforcement of any other obligation of the Company to the Holder, or any setoff, counterclaim, recoupment, limitation or termination, or any breach or alleged breach by the Holder or any other person of any obligation to the Company, and irrespective of any other circumstance which might otherwise limit such obligation of the Company to the Holder in connection with such exercise. If the Company fails to issue and deliver the certificates for the Common Stock to the Holder pursuant to the first sentence of this paragraph as and when required to do so, in addition to any other liabilities the Company may have hereunder and under applicable law, the Company shall pay or reimburse the Holder on demand for all out-of-pocket expenses including, without limitation, reasonable fees and expenses of legal counsel incurred by the Holder as a result of such failure.

(b) If the Company fails to deliver to the Holder a certificate or certificates representing the shares of Common Stock pursuant to Section 2(a) by the third Trading Day after each date of exercise of this Warrant, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, $5,000 for each day after such third Trading Day until such certificates are delivered. The payment and acceptance of any cash penalty shall not preclude the Holder from proceeding under the next paragraph 2(c); provided that any amounts actually paid to the Holder under this paragraph 2(b) herein shall be deducted (but not below zero) from the amount otherwise recoverable under paragraph 2(c) below.

(c) In addition to any other rights available to the Holder, but subject to paragraph 2(b) above, if the Company fails to deliver to the Holder a certificate or certificates representing shares of Common Stock pursuant to Section 2(a) by the third Trading Day after the date of exercise of this Warrant, and if after such third Trading Day the Holder purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by the Holder of the shares of Common Stock which the Holder anticipated receiving upon such exercise (a "Buy-In"), then the Company shall pay (1) in cash to the Holder the amount by which (x) the Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (A) the number of shares of Common Stock that the Company was required to deliver pursuant to Section 2(a) to deliver to the Holder in connection with the exercise at issue by (B) the Market Price at the time of the sale giving rise to such purchase obligation and (2) deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its

exercise and delivery obligations under Section 2(a). For example, if the Holder purchases Common Stock having a total purchase price of $11,000 to cover a Buy-In with respect to an attempted exercise of shares of Common Stock with a Market Price on the date of exercise totaled $10,000, under clause (A) of the immediately preceding sentence the Company shall be required to pay the Holder $1,000. The Holder shall provide the Company written notice and appropriate documentation indicating the amounts payable to the Holder in respect of the Buy-In.

3. ADJUSTMENT FOR DIVIDENDS IN OTHER STOCK, PROPERTY, ETC.; RECLASSIFICATION, ETC. In case at any time or from time to time after the Issuance Date, all the holders of Common Stock (or Other Securities) shall have received, or (on or after the record date fixed for the determination of stockholders eligible to receive) shall have become entitled to receive, without payment therefor,

(b) other or additional stock or other securities or property (other than cash) by way of dividend, or

(c) any cash (excluding cash dividends payable solely out of earnings or earned surplus of the Company), or

(d) other or additional stock or other securities or property (including cash) by way of spin-off, split-up, reclassification, recapitalization, combination of shares or similar corporate rearrangement,

other than additional shares of Common Stock (or Other Securities) issued as a stock dividend or in a stock-split (adjustments in respect of which are provided for in Section 5), then and in each such case the Holder shall be entitled to receive, at the same time as holders of Common Stock, the amount of stock and other securities and property (including cash in the cases referred to in subdivisions (b) and (c) of this Section 3) which the Holder would have received if on the date thereof the Holder had been the holder of record of the Specified Number, after giving effect to all adjustments called for during such period by Section 4. Notwithstanding anything in this Section 3 to the contrary, no adjustments pursuant to this Section 3 shall actually be made until the cumulative effect of the adjustments called for by this Section 3 since the date of the last adjustment actually made would change the amount of stock or other securities and property which the Holder would hold by more than 1%.

4. EXERCISE UPON REORGANIZATION, CONSOLIDATION, MERGER, ETC. In case of any (1) merger or consolidation of the Company with or into another person, or (2) sale by the Company of more than one-half of the assets of the Company (on a book value basis) in one or a series of related transactions, or (3) tender or other offer or exchange (whether by the Company or another person) pursuant to which holders of Common Stock are permitted to tender or exchange their shares for other securities, stock, cash or property of the Company or another Person; then the Holder shall have the right thereafter to (A) exercise this Warrant for the shares of stock and other securities, cash and property receivable upon or deemed to be held by holders of Common Stock following such merger, consolidation or sale, and the Holder shall be entitled upon such event or series of related events to receive such amount of securities, cash and property as the Common Stock for which this Warrant could have been exercised immediately prior to such merger, consolidation or sale would have been entitled, (B) in the case of a merger

or consolidation, (x) require the surviving entity to issue to the Holder a warrant entitling the Holder to acquire shares of such entity's common stock, which warrant shall have terms identical (including with respect to exercise) to the terms of this Warrant and shall be entitled to all of the rights and privileges set forth herein and the agreements pursuant to which this Warrant was issued (including, without limitation, as such rights relate to the acquisition, transferability, registration and listing of such shares of stock other securities issuable upon exercise thereof), or (C) in the event of an exchange or tender offer or other transaction contemplated by clause (3) of this Section, tender or exchange this Warrant for such securities, stock, cash and other property receivable upon or deemed to be held by holders of Common Stock that have tendered or exchanged their shares of Common Stock following such tender or exchange, and the Holder shall be entitled upon such exchange or tender to receive such amount of securities, cash and property as the shares of Common Stock for which this Warrant could have been exercised immediately prior to such tender or exchange would have been entitled as would have been issued. In the case of clause (B), the exercise price applicable for the newly issued warrant shall be based upon the amount of securities, cash and property that each share of Common Stock would receive in such transaction and the Purchase Price immediately prior to the effectiveness or closing date for such transaction. The terms of any such merger, sale, consolidation, tender or exchange shall include such terms so as continue to give the Holder the right to receive the securities, cash and property set forth in this Section upon any conversion or redemption following such event. This provision shall similarly apply to successive such events.

5. ADJUSTMENT FOR EXTRAORDINARY EVENTS. In the event that after the Issuance Date the Company shall (i) issue additional shares of Common Stock as a dividend or other distribution on outstanding Common Stock, (ii) subdivide or reclassify its outstanding share of Common Stock, or (iii) combine its outstanding share of Common Stock into a smaller number of shares of Common Stock, then, in each event, the Specified Number shall, simultaneously with the happening of such event, be adjusted by multiplying the Specified Number in effect immediately prior to such event by a fraction, the numerator of which shall be the number of shares of Common Stock outstanding immediately after such event and the denominator of which shall be the number of shares of Common Stock outstanding immediately prior to such event, and the product so obtained shall thereafter be the Specified Number then in effect. The Specified Number, as so adjusted, shall be readjusted in the same manner upon the happening of any successive event or events described in this Section 5.

6. FURTHER ASSURANCES. Subject to the terms hereof, the Company will take all action that may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable shares of stock, free from all taxes, liens and charges with respect to the issue thereof, on the exercise of all or any portion of this Warrant from time to time outstanding.

7. NOTICES OF RECORD DATE, ETC. In the event of

(a) any taking by the Company of a record of the holders of any class of securities for the purpose of determining the holders thereof who are entitled to receive any dividend on, or any right to subscribe for, purchase or otherwise acquire any shares of stock of any class or any other securities or property, or to receive any other right, or

(b) any capital reorganization of the Company, any reclassification or recapitalization of the capital stock of the Company or any transfer of all or substantially all of the assets of the Company to or consolidation or merger of the Company with or into any other person (other than a wholly-owned subsidiary of the Company), or

(c) any voluntary or involuntary dissolution, liquidation or winding-up of the Company,

then and in each such event the Company will mail or cause to be mailed to the Holder, at least ten days prior to such record date, a notice specifying (i) the date on which any such record is to be taken for the purpose of such dividend, distribution or right, and stating the amount and character of such dividend, distribution or right, (ii) the date on which any such reorganization, reclassification, recapitalization, transfer, consolidation, merger, dissolution, liquidation or winding-up is to take place, and the time, if any is to be fixed, as of which the holders of record of Common Stock (or Other Securities) shall be entitled to exchange their shares of Common Stock (or Other Securities) for securities or other property deliverable on such reorganization, reclassification, recapitalization, transfer, consolidation, merger, dissolution, liquidation or winding-up, and (iii) the amount and character of any stock or other securities, or rights or options with respect thereto, proposed to be issued or granted, the date of such proposed issue or grant and the persons or class of persons to whom such proposed issue or grant is to be offered or made. Such notice shall also state that the action in question or the record date is subject to the effectiveness of a registration statement under the 1933 Act, or a favorable vote of stockholders, if either is required. Such notice shall be mailed at least ten days prior to the date specified in such notice on which any such action is to be taken or the record date, whichever is earlier.

8. RESERVATION OF STOCK, ETC., ISSUABLE ON EXERCISE OF WARRANTS. The Company will at all times reserve and keep available out of its authorized but unissued shares of capital stock, solely for issuance and delivery on the exercise of this Warrant, a sufficient number of shares of Common Stock (or Other Securities) to effect the full exercise of this Warrant and the exercise, conversion or exchange of any other warrant or security of the Company exercisable for, convertible into, exchangeable for or otherwise entitling the holder to acquire shares of Common Stock (or Other Securities), and if at any time the number of authorized but unissued shares of Common Stock (or Other Securities) shall not be sufficient to effect such exercise, conversion or exchange, the Company shall take such action as may be necessary to increase its authorized but unissued shares of Common Stock (or Other Securities) to such number as shall be sufficient for such purposes.

9. TRANSFER OF WARRANT. This Warrant shall inure to the benefit of the successors to and assigns of the Holder. This Warrant and all rights hereunder, in whole or in part, are registrable at the office or agency of the Company referred to below by the Holder hereof in person or by his duly authorized attorney, upon surrender of this Warrant properly endorsed.

10. REGISTER OF WARRANTS. The Company shall maintain, at the principal office of the Company (or such other office as it may designate by notice to the Holder hereof), a register 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 successor and prior owner

of such Warrant. The Company shall be entitled to treat the person in whose name this Warrant is so registered as the sole and absolute owner of this Warrant for all purposes.

11. EXCHANGE OF WARRANT. This Warrant is exchangeable, upon the surrender hereof by the Holder hereof at the office or agency of the Company referred to in Section 10, for one or more new Warrants of like tenor representing in the aggregate the right to subscribe for and purchase the number of shares of Common Stock which may be subscribed for and purchased hereunder, each of such new Warrants to represent the right to subscribe for and purchase such number of shares as shall be designated by said Holder hereof at the time of such surrender.

12. REPLACEMENT OF WARRANT. On receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant and, in the case of any such loss, theft or destruction of this Warrant, on delivery of an indemnity agreement or security reasonably satisfactory in form and amount to the Company or, in the case of any such mutilation, on surrender and cancellation of this Warrant, the Company at its expense will execute and deliver, in lieu thereof, a new Warrant of like tenor.

13. WARRANT AGENT. The Company may, by written notice to the Holder, appoint the transfer agent and registrar for the Common Stock as the Company's agent for the purpose of issuing shares of Common Stock (or Other Securities) on the exercise of this Warrant pursuant to Section 1, and the Company may, by notice to the Holder, appoint an agent having an office in the United States of America for the purpose of exchanging this Warrant pursuant to Section 11 and replacing this Warrant pursuant to Section 12, or either of the foregoing, and thereafter any such exchange or replacement, as the case may be, shall be made at such office by such agent.

14. REMEDIES. The Company stipulates that the remedies at law of the Holder in the event of any default or threatened default by the Company in the performance of or compliance with any of the terms of this Warrant are not and will not be adequate, and that such terms may be specifically enforced by a decree for the specific performance of any agreement contained herein or by an injunction against a violation of any of the terms hereof or otherwise.

15. NO RIGHTS OR LIABILITIES AS A STOCKHOLDER. This Warrant shall not entitle the Holder hereof to any voting rights or other rights as a stockholder of the Company. No provision of this Warrant, in the absence of affirmative action by the Holder hereof to purchase Common Stock, and no mere enumeration herein of the rights or privileges of the Holder hereof, shall give rise to any liability of the Holder for the Purchase Price or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

16. NOTICES, ETC. All notices and other communications from the Company to the registered Holder or from the registered Holder to the Company shall be delivered personally (which shall include telephone line facsimile transmission with answer back confirmation) or by courier and shall be effective upon receipt, addressed to each party at the address or telephone line facsimile transmission number for each party set forth in the Subscription Agreement or at such other address or telephone line facsimile transmission number as a party shall have provided to the other party in accordance with this provision.

17. TRANSFER RESTRICTIONS. By acceptance of this Warrant, the Holder represents to the Company that this Warrant is being acquired for the Holder's own account and for the purpose of investment and not with a view to, or for sale in connection with, the distribution thereof, nor with any present intention of distributing or selling this Warrant or the Common Stock issuable upon exercise of this Warrant. The Holder acknowledges and agrees that this Warrant and, except as otherwise provided in the Registration Rights Agreement, the shares of Common Stock issuable upon exercise of this Warrant (if any) have not been (and at the time of acquisition by the Holder, will not have been or will not be), registered under the 1933 Act or under the securities laws of any state, in reliance upon certain exemptive provisions of such statutes. The Holder further recognizes and acknowledges that (a) because this Warrant and, except as provided in the Registration Rights Agreement, the Common Stock issuable upon exercise of this Warrant (if any) are unregistered, they may not be eligible for resale, and may only be resold in the future pursuant to an effective registration statement under the 1933 Act and any applicable state securities laws, or pursuant to a valid exemption from such registration requirements and (b) this Warrant and the Common Stock issuable upon the exercise hereof are subject to the transfer restrictions and other terms, conditions and obligations set forth in the Registration Rights Agreement and in the Subscription Agreement. Unless the shares of Common Stock issuable upon exercise of this Warrant have theretofore been registered for resale under the 1933 Act, the Company may require, as a condition to the issuance of Common Stock upon the exercise of this Warrant a confirmation as of the date of exercise of the Holder's representations pursuant to this Section 17.

18. LEGEND. Except to the extent required by the Subscription Agreement, each certificate for shares issued upon exercise of this Warrant shall be free of any restrictive legend.

19. ATTORNEYS' FEES. In any litigation, arbitration or court proceeding between the Company and Holder relating hereto, the prevailing party shall be entitled to attorneys' fees and expenses and all costs of proceedings incurred in enforcing this Warrant; provided that the prevailing party may only recover attorney's fees and expenses aggregating up to 35% of the amount sought in good faith to be recovered.

20. AMENDMENT; WAIVER. This Warrant and any terms hereof may be changed, waived, discharged or terminated only by an instrument in writing signed by the party against which enforcement of such change, waiver, discharge or termination is sought.

21. MISCELLANEOUS. The corporate laws of the State of Delaware shall govern all issues concerning the relative rights of the Company and its stockholders. All other questions concerning the construction, validity, enforcement and interpretation of this Warrant shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof. The Company and the Holder hereby irrevocably submit to the exclusive jurisdiction of the state and federal courts sitting in the City of New York, borough of Manhattan, for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, or that such suit, action or proceeding is improper. Each of the Company and the Holder hereby irrevocably waives

personal service of process and consents to process being served in any such suit, action or proceeding by certified mail, return receipt requested, and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law.

IN WITNESS WHEREOF, the Company has caused this Warrant to be executed on its behalf by one of its officers thereunto duly authorized.

Dated: July 31, 2000

STEMCELLS, INC.

By: ----------

Title: ----------

FORM OF SUBSCRIPTION

STEMCELLS, INC.

(To be signed only on exercise of Warrant)

TO: STEMCELLS, INC.
525 Del Rey Avenue
Suite C
Sunnyvale, California 94086

Attention: Chief Financial Officer

1. The undersigned Holder of the attached original, executed Warrant hereby elects to exercise its purchase right under such Warrant with respect to _____ shares of Common Stock, as defined in the Warrant, of StemCells, Inc., a Delaware corporation (the "Company").

2. The undersigned Holder elects to pay the aggregate purchase price for such shares of Common Stock (the "Exercise Shares") (i) by lawful money of the United States or the enclosed certified or official bank check payable in United States dollars to the order of the Company in the amount of $_____, or (ii) by wire transfer of United States funds to the account of the Company in the amount of $_____, which transfer has been made before or simultaneously with the delivery of this Form of Subscription pursuant to the instructions of the Company.

3. The undersigned Holder represents and warrants that it is an accredited investor as defined under Rule 501(a) promulgated under the Securities Act of 1933, as amended.

4. Please issue a stock certificate or certificates representing the appropriate number of shares of Common Stock in the name of the undersigned or in such other name as is specified below:

Name:

Address:

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5. The undersigned Holder hereby represents to the Company that the exercise of the Warrant elected hereby does not violate Section 1.2 of the Warrant.

Dated: _____ ___, ____

HOLDER:

By:

(Signature must conform to name of Holder as specified on the face of the Warrant)

Name:
Title:

Address:

ADJUSTMENT NOTICE

TO: STEMCELLS, INC.
525 Del Ray Avenue
Suite C
Sunnyvale, California 94086

Attention: Chief Financial Officer

Facsimile No: 408-731-8674

This Adjustment Notice is given pursuant to the terms of the Common Stock Purchase Warrant, Class A, dated July 31, 2000, issued by STEMCELLS, INC., a Delaware corporation (the "Warrant"). Capitalized terms used herein and not otherwise defined herein have the respective meanings provided in the Warrant. Attached hereto is a copy of the spreadsheet used pursuant to Section 1.3(e) of the Warrant to prepare this notice. The undersigned Holder hereby notifies the Company as follows:

(1) Adjustment Date:

(2) Computation of number of Adjustment Shares ("AS") pursuant to Section 1.3(a):

(a) Common Shares Held as of prior Adjustment Date:

(b) To determine the Average Market Price, the ten lowest Market Prices during the 30 Trading Days during the Measurement Period were as follows:

DATE	PRICE ($)	DATE	PRICE ($)

(c) Lowest Average Market Price as of any previous Adjustment Date: $_____.

(d) Adjustment Shares: _____

(3) Specified Number on preceding Adjustment Date: _____

(4) Shares issued upon exercises during last Quarterly Period: _____

(5) Specified Number on Adjustment Date: _____

NAME OF HOLDER:

Date: ________________________ ___________________________________

By: _______________________________
Name:
Title:

EXHIBIT 4.9

NEITHER THESE SECURITIES NOR THE SECURITIES INTO WHICH THESE SECURITIES ARE EXERCISABLE HAVE BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION OR THE SECURITIES COMMISSION OF ANY STATE IN RELIANCE UPON AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR PURSUANT TO AN AVAILABLE EXEMPTION FROM THE REGISTRATION REQUIREMENTS THEREUNDER AND IN COMPLIANCE WITH APPLICABLE STATE SECURITIES OR BLUE SKY LAWS.

STEMCELLS, INC.

CALLABLE WARRANT

Warrant No. CW-1 Dated: July 31, 2000

STEMCELLS, INC., a Delaware corporation (the "Company"), hereby certifies that, for value received, MILLENNIUM PARTNERS, L.P., or its registered assigns ("Holder"), is entitled, subject to the terms set forth below, to purchase from the Company a total of 101,587 shares of common stock, $.01 par value per share (the "Common Stock"), of the Company (each such share, a "Warrant Share" and all such shares, the "Warrant Shares") at an exercise price equal to $4.7250 per share (as adjusted from time to time as provided in Section 9, the "Exercise Price"), at any time and from time to time from and after the date hereof and through and including July 31, 2005 (the "Expiration Date"), and subject to the following terms and conditions:

1. REGISTRATION OF WARRANT. The Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the "Warrant Register"), in the name of the record Holder hereof from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, and the Company shall not be affected by notice to the contrary.

2. REGISTRATION OF TRANSFERS AND EXCHANGES.

(a) The Company shall register the transfer of any portion of this Warrant in the Warrant Register, upon surrender of this Warrant, with the Form of Assignment attached hereto duly completed and signed, to the Transfer Agent or to the Company at the office specified in or pursuant to Section 3(b). Upon any such registration or transfer, a new warrant to purchase Common Stock, in substantially the form of this Warrant (any such new warrant, a "New Warrant"), evidencing the portion of this Warrant so transferred shall be issued to the transferee and a New Warrant evidencing the remaining portion of this Warrant not so

transferred, if any, shall be issued to the transferring Holder. The acceptance of the New Warrant by the transferee thereof shall be deemed the acceptance of such transferee of all of the rights and obligations of a holder of a Warrant.

(b) This Warrant is exchangeable, upon the surrender hereof by the Holder to the office of the Company specified in or pursuant to Section 3(b) for one or more New Warrants, evidencing in the aggregate the right to purchase the number of Warrant Shares which may then be purchased hereunder. Any such New Warrant will be dated the date of such exchange.

3. DURATION, EXERCISE AND REDEMPTION OF WARRANTS.

(a) This Warrant shall be exercisable by the registered Holder on any business day before 5:00 P.M., New York City time, at any time and from time to time on or after the date hereof to and including the Expiration Date. At 5:00 P.M., New York City time on the Expiration Date, the portion of this Warrant not exercised prior thereto shall be and become void and of no value.

(b) Subject to Sections 2(b), 5 and 10, upon surrender of this Warrant, with the Form of Election to Purchase attached hereto duly completed and signed, to the Company at its address for notice set forth in Section 13 and upon payment of the Exercise Price multiplied by the number of Warrant Shares that the Holder intends to purchase hereunder, in the manner provided hereunder, all as specified by the Holder in the Form of Election to Purchase, the Company shall promptly (but in no event later than 3 business days after the Date of Exercise (as defined herein)) issue or cause to be issued and cause to be delivered to or upon the written order of the Holder and in such name or names as the Holder may designate, a certificate for the Warrant Shares issuable upon such exercise, free of restrictive legends except (i) either in the event that a registration statement covering the resale of the Warrant Shares and naming the Holder as a selling stockholder thereunder is not then effective or the Warrant Shares are not freely transferable without volume restrictions pursuant to Rule 144(k) promulgated under the Securities Act of 1933, as amended (the "Securities Act"), or (ii) if this Warrant shall have been issued pursuant to a written agreement between the original Holder and the Company, as required by such agreement. Any person so designated by the Holder to receive Warrant Shares shall be deemed to have become holder of record of such Warrant Shares as of the Date of Exercise of this Warrant.

A "Date of Exercise" means the date on which the Company shall have received (i) this Warrant (or any New Warrant, as applicable), with the Form of Election to Purchase attached hereto (or attached to such New Warrant) appropriately completed and duly signed, and (ii) payment of the Exercise Price for the number of Warrant Shares so indicated by the holder hereof to be purchased.

(c) This Warrant shall be exercisable, either in its entirety or, from time to time, for a portion of the number of Warrant Shares. If less than all of the Warrant Shares which may be purchased under this Warrant are exercised at any time, the Company shall issue or cause to be issued, at its expense, a New Warrant evidencing the right to purchase the remaining number of Warrant Shares for which no exercise has been evidenced by this Warrant.

(d) In lieu of delivering physical certificates representing the Warrant Shares issuable upon conversion of this Warrant, provided the Company's transfer agent is participating in the Depository Trust Company ("DTC") Fast Automated Securities Transfer ("FAST") program, upon request of the Holder, the Company shall use its best efforts to cause its transfer agent to electronically transmit the Warrant Shares issuable upon exercise to the Holder, by crediting the account of the Holder's prime broker with DTC through its Deposit Withdrawal Agent Commission ("DWAC") system. The time periods for delivery described above shall apply to the electronic transmittals through the DWAC system. The Company agrees to coordinate with DTC to accomplish this objective.

(e) Commencing at any time after the date of the issuance of this Warrant, the Company shall have the right, upon fifteen (15) days notice to the Holder, to cancel this Warrant in full effective on such 15th day (the "Cancellation Date"). The Holder may exercise this Warrant at any time prior to the Cancellation Date. On the Cancellation Date, the Company shall pay in full and complete satisfaction of its obligations under the remaining portion of this Warrant to the Holder an amount in cash equal to (i) the number of shares of Common Stock then issuable hereunder multiplied by (ii) $8.64, as such number shall be appropriately adjusted for stock splits, recapitalizations and similar events minus the applicable Exercise Price as of the Cancellation Date, and the Holder shall surrender this Warrant to the Company for cancellation.

4. REGISTRATION RIGHTS. This Warrant and the Holder hereof are entitled to the benefits of, and subject to the terms and condition of and obligations under, that certain Registration Rights Agreement dated the date hereof between the Company and the original Holder (the "Registration Rights Agreement").

5. Intentionally left blank.

6. PAYMENT OF TAXES. The Company will pay all documentary stamp taxes attributable to the issuance of Warrant Shares upon the exercise of this Warrant; provided, however, that the Company shall not be required to pay any tax which may be payable in respect of any transfer involved in the registration of any certificates for Warrant Shares or Warrants in a name other than that of the Holder. The Holder shall be responsible for all other tax liability that may arise as a result of holding or transferring this Warrant or receiving Warrant Shares upon exercise hereof.

7. REPLACEMENT OF WARRANT. If this Warrant is mutilated, lost, stolen or destroyed, the Company shall issue or cause to be issued in exchange and substitution for and upon cancellation hereof, or in lieu of and substitution for this Warrant, a New Warrant, but only upon receipt of evidence reasonably satisfactory to the Company of such loss, theft or destruction and indemnity, if requested, satisfactory to it. Applicants for a New Warrant under such circumstances shall also comply with such other reasonable regulations and procedures and pay such other reasonable charges as the Company may prescribe.

8. RESERVATION OF WARRANT SHARES. The Company covenants that it will at all times reserve and keep available out of the aggregate of its authorized but unissued Common Stock, solely for the purpose of enabling it to issue Warrant Shares upon exercise of this Warrant

as herein provided, the number of Warrant Shares which are then issuable and deliverable upon the exercise of this entire Warrant, free from preemptive rights or any other actual contingent purchase rights of persons other than the Holder (taking into account the adjustments and restrictions of Section 9). The Company covenants that all Warrant Shares that shall be so issuable and deliverable shall, upon issuance and the payment of the applicable Exercise Price in accordance with the terms hereof, be duly and validly authorized, issued and fully paid and nonassessable.

9. CERTAIN ADJUSTMENTS. The Exercise Price and number of Warrant Shares issuable upon exercise of this Warrant are subject to adjustment from time to time as set forth in this Section. Upon each such adjustment of the Exercise Price pursuant to this Section, the Holder shall thereafter prior to the Expiration Date be entitled to purchase, at the Exercise Price resulting from such adjustment, the number of Warrant Shares obtained by multiplying the Exercise Price in effect immediately prior to such adjustment by the number of Warrant Shares issuable upon exercise of this Warrant immediately prior to such adjustment and dividing the product thereof by the Exercise Price resulting from such adjustment.

(a) If the Company, at any time while this Warrant is outstanding, (i) shall pay a stock dividend or otherwise make a distribution or distributions on shares of its Common Stock or on any other class of capital stock payable in shares of Common Stock (except dividends or distributions paid on preferred or other senior stock), (ii) subdivide outstanding shares of Common Stock into a larger number of shares, or (iii) combine outstanding shares of Common Stock into a smaller number of shares, the Exercise Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding treasury shares, if any) outstanding before such event and of which the denominator shall be the number of shares of Common Stock (excluding treasury shares, if any) outstanding after such event. Any adjustment made pursuant to this Section shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision or combination, and shall apply to successive subdivisions and combinations.

(b) In case of any reclassification of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is converted into other securities, cash or property, then the Holder shall have the right thereafter to exercise this Warrant only into the shares of stock and other securities and property receivable upon or deemed to be held by holders of Common Stock following such reclassification or share exchange, and the Holder shall be entitled upon such event to receive such amount of securities or property as such Holder would have been entitled to receive if such Holder had exercised this Warrant immediately prior to such reclassification or share exchange (net of the applicable Exercise Price). The terms of any such reclassification or share exchange shall include such terms so as to continue to give to the Holder the right to receive the securities or property set forth in this Section 9(b) upon any exercise following any such reclassification or share exchange.

(c) If the Company, at any time while this Warrant is outstanding, shall distribute to all holders of Common Stock (and not to holders of this Warrant) evidences of its indebtedness or assets or rights or warrants to subscribe for or purchase any security

(excluding those referred to in Sections 9(a), (b) and (d)), then in each such case the Exercise Price shall be determined by multiplying the Exercise Price in effect immediately prior to the record date fixed for determination of stockholders entitled to receive such distribution by a fraction of which the denominator shall be the Exercise Price determined as of the record date mentioned above, and of which the numerator shall be such Exercise Price on such record date less the then fair market value at such record date of the portion of such assets or evidence of indebtedness so distributed applicable to one outstanding share of Common Stock as determined by the Company's independent certified public accountants that regularly examine the financial statements of the Company (an "Appraiser").

(d) If at any time the Company or any subsidiary thereof, as applicable with respect to Common Stock Equivalents (as defined below), shall issue shares of Common Stock or rights, warrants, options or other securities or debt that is convertible into or exchangeable for shares of Common Stock ("COMMON STOCK EQUIVALENTS"), entitling any person or entity to acquire shares of Common Stock at a price per share less than the market price of the Common Stock at the time of issuance, except with respect to a Board Approved Transaction (as defined herein), forthwith upon such issue or sale, the Exercise Price shall be reduced to the price (calculated to the nearest cent) determined by multiplying the Exercise Price in effect immediately prior thereto by a fraction, the numerator of which shall be the sum of (i) the number of shares of Common Stock outstanding immediately prior to such issuance, and (ii) the number of shares of Common Stock which the aggregate consideration received (or to be received, assuming exercise or conversion in full of such Common Stock Equivalents) for the issuance of such additional shares of Common Stock would purchase at the Exercise Price, and the denominator of which shall be the sum of the number of shares of Common Stock outstanding immediately after the issuance of such additional shares. For purposes hereof, all shares of Common Stock that are issuable upon conversion, exercise or exchange of Common Stock Equivalents shall be deemed outstanding immediately after the issuance of such Common Stock Equivalents. Such adjustment shall be made whenever such Common Stock or Common Stock Equivalents are issued. However, upon the expiration of any Common Stock Equivalents the issuance of which resulted in an adjustment in the Exercise Price pursuant to this Section, the Exercise Price shall immediately upon such expiration be recomputed and effective immediately upon such expiration be increased to the price which it would have been (but reflecting any other adjustments in the Exercise Price made pursuant to the provisions of this Section after the issuance of such Common Stock Equivalents) had the adjustment of the Exercise Price made upon the issuance of such Common Stock Equivalents been made on the basis of offering for subscription or purchase only that number of shares of the Common Stock actually purchased upon the exercise of such Common Stock Equivalents actually exercised. Notwithstanding anything herein to the contrary, issuances of any stock or stock options under any bona fide employee benefit plan or compensation arrangement of the Company, shall not be subject to the provisions of this Section.

A "Board Approved Transaction" is a transaction involving a strategic alliance, acquisition of stock or assets, merger, collaboration, joint venture, partnership or similar arrangement of the Company with another corporation, partnership or other business entity (A) which is engaged in a business similar complementary or related to the business of the Company or (B) pursuant to which the Company issues securities with the primary purpose to directly or indirectly acquire, license or otherwise become entitled to use technology relevant to or useful in

the Company's business, so long as the Company's Board of Directors by resolution duly adopted approves such transaction in accordance with its duties under applicable law.

(e) In case of any (1) merger or consolidation of the Company with or into another Person, or (2) sale by the Company of more than one-half of the assets of the Company (on a market value basis) in one or a series of related transactions, or (3) tender or other offer or exchange (whether by the Company or another Person) pursuant to which holders of Common Stock are permitted to tender or exchange their shares for other securities, stock, cash or property of the Company or another Person; then the Holder shall have the right thereafter to (A) exercise this Warrant for the shares of stock and other securities, cash and property receivable upon or deemed to be held by holders of Common Stock following such merger, consolidation or sale, and the Holder shall be entitled upon such event or series of related events to receive such amount of securities, cash and property as the Common Stock for which this Warrant could have been exercised immediately prior to such merger, consolidation or sales would have been entitled, (B) in the case of a merger or consolidation, require the surviving entity to issue to the Holder a warrant entitling the Holder to acquire shares of such entity's common stock, which warrant shall have terms identical MUTATIS MUTANDIS (including with respect to exercise) to the terms of this Warrant and shall be entitled to all of the rights and privileges set forth herein and the agreements pursuant to which this Warrant was issued (including, without limitation, as such rights relate to the acquisition, transferability, registration and listing of such shares of stock or other securities issuable upon exercise thereof), or (C) in the event of an exchange or tender offer or other transaction contemplated by clause (3) of this Section 9(e), tender or exchange this Warrant for such securities, stock, cash and other property receivable upon or deemed to be held by holders of Common Stock that have tendered or exchanged their shares of Common Stock following such tender or exchange, and the Holder shall be entitled upon such exchange or tender to receive such amount of securities, cash and property as the shares of Common Stock for which this Warrant could have been exercised immediately prior to such tender or exchange would have been entitled as would have been issued (net of the applicable Exercise Price). In the case of clause (B), the exercise price applicable for the newly issued warrant shall be based upon the amount of securities, cash and property that each share of Common Stock would receive in such transaction and the Exercise Price immediately prior to the effectiveness or closing date for such transaction. The terms of any such merger, sale, consolidation, tender or exchange shall include such terms so as continue to give the Holder the right to receive the securities, cash and property set forth in this Section upon any conversion or exercise following such event. This provision shall similarly apply to successive such events.

(f) For the purposes of this Section 9, the following clauses shall also be applicable:

(i) RECORD DATE. In case the Company shall take a record of the holders of its Common Stock for the purpose of entitling them (A) to receive a dividend or other distribution payable in Common Stock or in securities convertible or exchangeable into shares of Common Stock, or (B) to subscribe for or purchase Common Stock or securities convertible or exchangeable into shares of Common Stock, then such record date shall be deemed to be the date of the issue or sale of the shares of Common Stock deemed to have been issued or sold upon the declaration of such dividend or the making of such other distribution or

the date of the granting of such right of subscription or purchase, as the case may be.

(ii) TREASURY SHARES. The number of shares of Common Stock outstanding at any given time shall not include shares owned or held by or for the account of the Company, and the disposition of any such shares shall be considered an issue or sale of Common Stock.

(g) All calculations under this Section 9 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be.

(h) If (i) the Company shall declare a dividend (or any other distribution) on its Common Stock; or (ii) the Company shall declare a special nonrecurring cash dividend on or a redemption of its Common Stock; or (iii) the Company shall authorize the granting to all holders of the Common Stock rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights; or (iv) the approval of any stockholders of the Company shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Company is a party, any sale or transfer of all or substantially all of the assets of the Company, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property; or (v) the Company shall authorize the voluntary dissolution, liquidation or winding up of the affairs of the Company, then the Company shall cause to be mailed to each Holder at their last addresses as they shall appear upon the Warrant Register, at least 30 calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, grant of rights or warrants, or if a record is not to be taken, the date as of which the holders of Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of Common Stock of record shall be entitled to exchange their shares of Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer, share exchange, dissolution, liquidation or winding up; provided, however, that the failure to mail such notice or any defect therein or in the mailing thereof shall not affect the validity of the corporate action required to be specified in such notice.

10. PAYMENT OF EXERCISE PRICE. The Holder shall pay the Exercise Price in one of the following manners:

(a) CASH EXERCISE. The Holder may deliver immediately available funds; or

(b) CASHLESS EXERCISE. At any time after the earlier to occur of the SEC Effective Date (as defined in the Registration Rights Agreement) and the date the initial registration statement filed pursuant to the Registration Rights Agreement is declared effective by the Commission, when a registration statement covering the resale of the Warrant Shares and naming the Holder as a selling stockholder thereunder is not then effective, the Holder may surrender this Warrant to the Company together with a notice of cashless exercise, in which

event the Company shall issue to the Holder the number of Warrant Shares determined as follows:

X = Y [(A-B)/A]

where:

X = the number of Warrant Shares to be issued to the Holder.

Y = the number of Warrant Shares with respect to which this Warrant is being exercised.

A = the average of the closing sale prices of the Common Stock for the five (5) trading days immediately prior to (but not including) the Date of Exercise.

B = the Exercise Price.

For purposes of Rule 144 promulgated under the Securities Act, it is intended, understood and acknowledged that the Warrant Shares issued in a cashless exercise transaction shall be deemed to have been acquired by the Holder, and the holding period for the Warrant Shares shall be deemed to have been commenced, on the issue date of this Warrant.

11. CERTAIN EXERCISE RESTRICTIONS.

(a) Notwithstanding anything to the contrary contained herein, the number of shares of Common Stock that may be acquired by the Holder upon exercise pursuant to the terms hereof shall not exceed a number that, when added to the total number of shares of Common Stock deemed beneficially owned by such Holder (other than by virtue of the ownership of securities or rights to acquire securities that have limitations on the Holder's right to convert, exercise or purchase similar to the limitation set forth herein), together with all shares of Common Stock deemed beneficially owned (other than by virtue of the ownership of securities or rights to acquire securities that have limitation set forth herein) by the Holder's "affiliates" (as defined in Rule 144 of the Securities Act) ("Aggregation Parties"), that would be aggregated for purposes of determining whether a group under Section 13(d) of the Securities Exchange Act of 1934, as amended, exists would exceed 9.99% of the total issued and outstanding shares of the Common Stock (the "Restricted Ownership Percentage"). Each Holder shall have the right (w) at any time and from time to time to reduce its Restricted Ownership Percentage immediately upon notice to the Company and (x) (subject to waiver) at any time and from time to time, to increase its Restricted Ownership Percentage immediately in the event of the announcement as pending or planned, of a merger or consolidation of the Company, a sale of all or substantially all of the assets of the Company or the acquisition by any third party (and/or such party's Aggregation Parties) of at least 51% of the Company's outstanding Common Stock.

(b) The Holder covenants at all times on each day (each such day being referred to as a "Covenant Day") as follows: during the balance of such Covenant Day and the succeeding sixty-one (61) days (the balance of such Covenant Day and the succeeding 61

days being referred to as the "Covenant Period") such Holder will not acquire shares of Common Stock pursuant to any right (including exercise of this Warrant) existing at the commencement of the Covenant Period to the extent the number of shares so acquired by such Holder and its Aggregation Parties (ignoring all dispositions) would exceed:

(x) the Restricted Ownership Percentage of the total number of shares of Common Stock outstanding at the commencement of the Covenant Period;

MINUS

(y) the number of share of Common Stock owned by such Holder and its Aggregation Parties at the commencement of the Covenant Period.

A new and independent covenant will be deemed to be given by the Holder as of each moment of each Covenant Day. No covenant will terminate, diminish or modify any other covenant. The Holder agrees to comply with each such covenant.

The Company's obligation to issue shares of Common Stock which would exceed such limited shall be suspended to the extent necessary until such time, if any, as shares of Common Stock may be issued in compliance with such restrictions.

12. FRACTIONAL SHARES. The Company shall not be required to issue or cause to be issued fractional Warrant Shares on the exercise of this Warrant. The number of full Warrant Shares which shall be issuable upon the exercise of this Warrant shall be computed on the basis of the aggregate number of Warrant Shares purchasable on exercise of this Warrant so presented. If any fraction of a Warrant Share would, except for the provisions of this Section, be issuable on the exercise of this Warrant, the Company shall pay an amount in cash equal to the Exercise Price multiplied by such fraction.

13. NOTICES. Any and all notices or other communications or deliveries hereunder shall be in writing and shall be deemed given and effective on the earliest of (i) the date of transmission, if such notice or communication is delivered via facsimile at the facsimile telephone number specified in this Section prior to 6:30 p.m. (New York City time) on a business day, (ii) the business day after the date of transmission, if such notice or communication is delivered via facsimile at the facsimile telephone number specified in this Section later than 6:30 p.m. (New York City time) on any date and earlier than 11:59 p.m. (New York City time) on such date, (iii) the business day following the date of mailing, if sent by nationally recognized overnight courier service, or (iv) upon actual receipt by the party to whom such notice is required to be given. The addresses for such communications shall be: (i) if to the Company, to 525 Del Rey Avenue, Suite C, Sunnyvale, California 94086, with a copy to Ropes & Gray, One International Place, Boston, Massachusetts, 02110, Attention: Geoffrey B. Davis, Esq., (facsimile number (617) 951-7050), or (ii) if to the Holder, to the Holder at the address or facsimile number appearing on the Warrant Register or such other address or facsimile number as the Holder may provide to the Company in accordance with this Section.

14. WARRANT AGENT. The Company shall serve as warrant agent under this Warrant. Upon thirty (30) days' notice to the Holder, the Company may appoint a new warrant agent. Any corporation into which the Company or any new warrant agent may be merged or any corporation resulting from any consolidation to which the Company or any new warrant agent shall be a party or any corporation to which the Company or any new warrant agent transfers substantially all of its corporate trust or shareholders services business shall be a successor warrant agent under this Warrant without any further act. Any such successor warrant agent shall promptly cause notice of its succession as warrant agent to be mailed (by first class mail, postage prepaid) to the Holder at the Holder's last address as shown on the Warrant Register.

15. MISCELLANEOUS.

(a) This Warrant shall be binding on and inure to the benefit of the parties hereto and their respective successors and assigns. Subject to the Subscription Agreement and applicable securities laws, this Warrant shall be freely transferable subject to applicable Securities Laws. This Warrant may be amended only in writing signed by the Company and the Holder and their successors and assigns.

(b) Subject to Section 15(a), above, nothing in this Warrant shall be construed to give to any person or corporation other than the Company and the Holder any legal or equitable right, remedy or cause under this Warrant. This Warrant shall inure to the sole and exclusive benefit of the Company and the Holder.

(c) The corporate laws of the State of Delaware shall govern all issues concerning the relative rights of the Company and its stockholders. All other questions concerning the construction, validity, enforcement and interpretation of this Warrant shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof. The Company and the Holder hereby irrevocably submit to the exclusive jurisdiction of the state and federal courts sitting in the City of New York, borough of Manhattan, for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, or that such suit, action or proceeding is improper. Each of the Company and the Holder hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by certified mail, return receipt requested, and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law.

(d) The headings herein are for convenience only, do not constitute a part of this Warrant and shall not be deemed to limit or affect any of the provisions hereof.

(e) In case any one or more of the provisions of this Warrant shall be invalid or unenforceable in any respect, the validity and enforceability of the remaining terms and provisions of this Warrant shall not in any way be affected or impaired thereby and the parties will attempt in good faith to agree upon a valid and enforceable provision which shall be

a commercially reasonable substitute therefor, and upon so agreeing, shall incorporate such substitute provision in this Warrant.

IN WITNESS WHEREOF, the Company has caused this Warrant to be duly executed by its authorized officer as of the date first indicated above.

STEMCELLS, INC.

By: ----------

Name: ----------

Title: ----------

FORM OF ELECTION TO PURCHASE

(To be executed by the Holder to exercise the right to purchase shares of Common Stock under the foregoing Warrant)

To StemCells, Inc:

In accordance with the Warrant enclosed with this Form of Election to Purchase, the undersigned hereby irrevocably elects to purchase _____ shares of common stock, $.01 par value per share, of STEMCELLS, INC. (the "Common Stock") and , if such Holder is not utilizing the cashless exercise provisions set forth in this Warrant, encloses herewith $_____ in cash, certified or official bank check or checks, which sum represents the aggregate Exercise Price (as defined in the Warrant) for the number of shares of Common Stock to which this Form of Election to Purchase relates, together with any applicable taxes payable by the undersigned pursuant to the Warrant.

The undersigned requests that certificates for the shares of Common Stock issuable upon this exercise be issued in the name of

PLEASE INSERT SOCIAL SECURITY OR
TAX IDENTIFICATION NUMBER

- ---

(Please print name and address)

If the number of shares of Common Stock issuable upon this exercise shall not be all of the shares of Common Stock which the undersigned is entitled to purchase in accordance with the enclosed Warrant, the undersigned requests that a New Warrant (as defined in the Warrant) evidencing the right to purchase the shares of Common Stock not issuable pursuant to the exercise evidenced hereby be issued in the name of and delivered to:

- ---

(Please print name and address)

- ---

- ---

Dated: , Name of Holder:

(Print)

(By:)
(Name:)
(Title:)
(Signature must conform in all respects to name of holder as specified on the face of the Warrant)

FORM OF ASSIGNMENT

[To be completed and signed only upon transfer of Warrant]

FOR VALUE RECEIVED, the undersigned hereby sells, assigns and transfers unto _____ the right represented by the within Warrant to purchase _____ shares of Common Stock of StemCells, Inc. to which the within Warrant relates and appoints _____ attorney to transfer said right on the books of StemCells, Inc. with full power of substitution in the premises.

Dated:

- ---------------, ----

(Signature must conform in all respects to name of holder as specified on the face of the Warrant)

Address of Transferee

In the presence of:

- -------------------------

EXHIBIT 10.48

REGISTRATION RIGHTS AGREEMENT

THIS REGISTRATION RIGHTS AGREEMENT, dated as of July 31, 2000 (this "Agreement"), is made by and between STEMCELLS, INC., a Delaware corporation (the "Company"), and the entity named on the signature page hereto (the "Initial Investor" or "Holder").

W I T N E S S E T H:

WHEREAS, in connection with the Subscription Agreement, dated as of July 31, 2000, between the Initial Investor and the Company (the "Subscription Agreement"), the Company has agreed, upon the terms and subject to the conditions of the Subscription Agreement, to issue and sell to the Initial Investor shares (the "Common Shares") of Common Stock, $.01 par value (the "Common Stock"), of the Company, and to issue a Callable Warrant (the "Callable Warrant") and a Common Stock Purchase Warrant, Class A (the "Class A Warrant") (collectively, the "Warrants") to purchase shares (the "Warrant Shares") of Common Stock; and

WHEREAS, to induce the Initial Investor to execute and deliver the Subscription Agreement, the Company has agreed to provide certain registration rights under the Securities Act of 1933, as amended, and the rules and regulations thereunder, or any similar successor statute (collectively, the "1933 Act"), and applicable state securities laws with respect to the Common Shares and the Warrant Shares;

NOW, THEREFORE, in consideration of the premises and the mutual covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Company and the Initial Investor hereby agree as follows:

1. DEFINITIONS.

(a) As used in this Agreement, the following terms shall have the following meanings:

"Investor" or "Investors" means the Initial Investor and any transferee or assignee who agrees to become bound by the provisions of this Agreement, or a similar agreement relating to Common Shares, Callable Warrants, Class A Warrants or Warrant Shares, in accordance with Section 9 hereof.

"Majority Holders" means those Investors who hold a majority in interest of the Registrable Securities.

"1934 Act" means the Securities Exchange Act of 1934, as amended.

"Permitted Transferee" means any person (1) who is an "accredited investor" as defined in Regulation D under the 1933 Act, and (2) who, immediately following the assignment of rights under this Agreement holds (x) at least 50,000 shares of Common Stock or (y) Warrants which at the time of such transfer are exercisable for at least 50,000 shares of Common Stock, or any combination thereof (the 50,000 share amounts referred to in this definition being subject to equitable adjustment from time to time on terms reasonably acceptable to the Majority Holders

for (i) stock splits, (ii) stock dividends, (iii) combinations, (iv) capital reorganizations, (v) issuance to all holders of Common Stock of rights or warrants to purchase shares of Common Stock and (vi) similar events relating to the Common Stock, in each such case which occur on or after the Closing Date).

"register," "registered," and "registration" refer to a registration effected by preparing and filing a Registration Statement or Statements in compliance with the 1933 Act and pursuant to Rule 415 under the 1933 Act or any successor rule providing for offering securities on a continuous basis ("Rule 415"), and the declaration or ordering of effectiveness of such Registration Statement by the SEC.

"Registrable Securities" means the Common Shares and the Warrant Shares, whether held by the Initial Investor or any other Investor. As to any particular securities, such securities shall cease to be Registrable Securities when they have been sold pursuant to an effective registration statement or in compliance with Rule 144 or are eligible to be sold pursuant to subsection (k) of Rule 144.

"Registration Period" means the period from the Closing Date to the earlier of (i) the date which is five years after the SEC Effective Date, (ii) the date on which each Investor may sell all of its Registrable Securities without registration under the 1933 Act pursuant to subsection (k) of Rule 144, without restriction on the manner of sale or the volume of securities which may be sold in any period and without the requirement for the giving of any notice to, or the making of any filing with, the SEC and (iii) the date on which the Investors no longer beneficially own any Registrable Securities.

"Registration Statement" means a registration statement of the Company under the 1933 Act, including any amendment thereto, required to be filed by the Company pursuant to this Agreement.

"Rule 144" means Rule 144 promulgated under the 1933 Act or any other similar rule or regulation of the SEC that may at any time permit a holder of any securities to sell securities of the Company to the public without registration under the 1933 Act.

"SEC" means the United States Securities and Exchange Commission.

"SEC Effective Date" means the date the Registration Statement is declared effective by the SEC.

"SEC Filing Date" means the date the Registration Statement is first filed with the SEC pursuant to Section 2(a).

(b) Capitalized terms defined in the introductory paragraph or the recitals to this Agreement shall have the respective meanings therein provided. Capitalized terms used herein and not otherwise defined herein shall have the respective meanings set forth in the Subscription Agreement.

2. REGISTRATION.

(a) Mandatory Registration. (1) The Company shall prepare and, on or prior to the date which is 45 days after the Closing Date, file with the SEC a Registration Statement on Form S-1 (or Form S-3, if the Company is eligible to use such form), which, on the date of filing with the SEC, covers the resale by the Initial Investor of a number of shares of Common Stock at least equal to the greater of (A) 1,800,000 shares of Common Stock or (B) the sum of (x) the number of Common Shares PLUS (y) the number of Warrant Shares issuable upon the exercise in full of the Callable Warrant PLUS (z) the number of Warrant Shares equal to 175% of the number of shares of Common Stock issuable upon the exercise of the Class A Warrant, determined as if the First Adjustment Date (as defined in the Class A Warrant) occurred on the Closing Date and the Class A Warrant was otherwise exercised in full for cash in accordance with the terms thereof on the Trading Day prior to the SEC Filing Date (in each case determined without regard to the limitations on beneficial ownership contained in the Warrants). If at any time the number of shares of Common Stock included in the Registration Statement required to be filed as provided in the first sentence of this Section 2(a) shall be insufficient to cover all of the number of Warrant Shares issuable upon exercise of the unexercised portion of the Warrants, then promptly, but in no event later than 30 days after such insufficiency shall occur (or, if later, 30 days after the date upon which the Company first becomes eligible to file a Registration Statement therefor if such ineligibility resulted from the indeterminate number of shares of Common Stock), the Company shall file with the SEC an additional Registration Statement on Form S-1 (or Form S-3, if the Company is eligible to use such form) (which shall not constitute a post-effective amendment to the Registration Statement filed pursuant to the first sentence of this Section 2(a)), covering such number of shares of Common Stock as shall be sufficient to permit such exercise. The Company shall use its best efforts to have such additional Registration Statement declared effective as soon as possible thereafter, and in any event by the 90th day following notice that such Registration Statement is required. For all purposes of this Agreement such additional Registration Statement shall be deemed to be the Registration Statement required to be filed by the Company pursuant to Section 2(a) of this Agreement, and the Company and the Investors shall have the same rights and obligations with respect to such additional Registration Statement as they shall have with respect to the initial Registration Statement required to be filed by the Company pursuant to this Section 2(a). Without the written consent of the Majority Holders, the Registration Statement shall not include securities to be sold for the account of any selling security holder other than the Investors and the holders of the registration rights described in Schedule 11(a).

(2) Prior to the SEC Effective Date or during any time subsequent to the SEC Effective Date when the Registration Statement for any reason is not available for use by any Investor for the resale of any Registrable Securities hereunder, the Company shall not file any other registration statement or any amendment thereto with the SEC under the 1933 Act or request the acceleration of the effectiveness of any other registration statement previously filed with the SEC, other than any registration statement registering securities issued (v) to holders of registration rights described in Schedule 11(a), (w) pursuant to compensation plans for employees, directors, officers, advisers or consultants of the Company and in accordance with the terms of such plans, (x) upon exercise of conversion, exchange, purchase or similar rights issued, granted or given by the Company and outstanding as of the date of this Agreement and disclosed in the SEC Reports or the Subscription Agreement, (y) pursuant to a public offering

underwritten on a firm commitment basis registered under the 1933 Act or (z) as part of a transaction involving a strategic alliance, acquisition of stock or assets, merger, collaboration, joint venture, partnership or other similar arrangement of the Company with another corporation, partnership or other business entity (A) which is engaged in a business similar, complementary or related to the business of the Company or (B) pursuant to which the Company issues securities with the primary purpose to directly or indirectly acquire, license or otherwise become entitled to use technology relevant to or useful in the Company's business, so long as in each case of this clause (z) the Board of Directors of the Company by resolution duly adopted (and a copy of which shall be furnished to the Investor promptly after adoption) duly approves such transaction in accordance with its duties under applicable law (each of the forgoing transactions a "Board Approved Transaction").

(b) Certain Offerings. If any offering pursuant to a Registration Statement pursuant to Section 2(d) hereof involves an underwritten offering, Investors who hold a majority in interest of the Registrable Securities subject to such underwritten offering shall have the right to select one legal counsel. The Investors who hold the Registrable Securities to be included in such underwriting shall pay all underwriting discounts and commissions and other fees and expenses of any investment banker or bankers and manager or managers (other than fees and expenses relating to registration of Registrable Securities under federal or state securities laws, which are payable by the Company pursuant to Section 5 hereof) with respect to their Registrable Securities and the fees and expenses of such legal counsel so selected by the Investors.

(c) Certain Payments. If: (1) the initial Registration Statement is not filed on or prior to the 45th day following the Closing Date (if the Company files such Registration Statement without affording the Holder the opportunity to review and comment on the same as required by Section 3(h) hereof, the Company shall not be deemed to have satisfied this clause (1)), or (2) the initial Registration Statement filed hereunder is not declared effective by the Commission on or prior to the 90th day following the Closing Date (the "Effectiveness Required Date"), or (3) after a Registration Statement is filed with and declared effective by the SEC, such Registration Statement ceases to be effective as to a material portion of the Registrable Securities at any time prior to the expiration of the Registration Period without being succeeded within ten business days by an amendment to such Registration Statement or by a subsequent Registration Statement filed with and declared effective by the SEC, or (4) the Common Stock shall be delisted or suspended from trading on the Nasdaq National Market or on any exchange or other principal market for the Common Stock for more than three (3) business days (which need not be consecutive days), or (5) the exercise rights of the Holders pursuant to the Warrants are suspended for any reason, or (6) an amendment to a Registration Statement is not filed by the Company with the SEC within ten business days of the SEC's notifying the Company that such amendment is required in order for such Registration Statement to be declared effective (any such failure or breach being referred to as an "Event," and for purposes of clauses (1), (2) and (5) the date on which such Event occurs, for purposes of clauses (3) and (6) the date upon which such 10 day period is exceeded, or for purposes of clause (4) the date on which such three business day period is exceeded, being referred to as "Event Date"), then, on the Event Date and each monthly anniversary thereof until the applicable Event is cured, the Company shall pay to each Holder 1.5% of the purchase price paid by such Holder pursuant to the Purchase Agreement, in cash, ("Delay Payments"). If the Company fails to pay any Delay Payments

pursuant to this Section in full within seven (7) days after the date payable, the Company will pay interest thereon at a rate of 18% per annum (or such lesser maximum amount that is permitted to be paid by applicable law) to the Holder, accruing daily from the date such Delay Payments are due until such amounts, plus all such interest thereon, are paid in full. The Delay Payments pursuant to the terms hereof shall apply on a pro-rata basis for any portion of a month prior to the cure of an Event. The Delay Payments shall not preclude the Holder from seeking appropriate additional damages and remedies for any such Events.

(d) Piggy-Back Registrations. If at any time the Company shall determine to prepare and file with the SEC a registration statement relating to an offering for its own account or the account of others under the 1933 Act of any of its equity securities, other than a registration statement registering securities issued (1) pursuant to compensation plans for employees, directors, officers, advisers or consultants of the Company and in accordance with the terms of such plans or (2) as part of a Board Approved Transaction, the Company shall send to each Investor who is entitled to registration rights under this Agreement written notice of such determination and, if within five (5) business days after receipt of such notice, an Investor shall so request in writing, the Company shall include in such Registration Statement all or any part of the Registrable Securities the Investor requests to be registered, except that if, in connection with any underwritten public offering for the account of the Company, the managing underwriter(s) thereof shall impose a limitation on the number of shares of Common Stock which may be included in the Registration Statement because, in such underwriter(s)' judgment, such limitation is necessary to effect an orderly public distribution, then the Company shall be obligated to include in such Registration Statement only such limited portion of the Registrable Securities with respect to which the Investor has requested inclusion hereunder. Any exclusion of Registrable Securities shall be made pro rata among the Investors seeking to include Registrable Securities, in proportion to the number of Registrable Securities sought to be included by such Investors; provided, however, that the Company shall not exclude any Registrable Securities unless the Company has first excluded all outstanding securities the holders of which are not entitled by right to inclusion of securities in such Registration Statement; and provided further, however, that, after giving effect to the immediately preceding proviso, any exclusion of Registrable Securities shall be made pro rata with holders of other securities having the right to include such securities in the Registration Statement, based on the number of securities for which registration is requested except to the extent such pro rata exclusion of such other securities is prohibited under any written agreement entered into by the Company with the holder of such other securities prior to the date of this Agreement, in which case such other securities shall be excluded, if at all, in accordance with the terms of such agreement. No right to registration of Registrable Securities under this Section 2(d) shall be construed to limit any registration required under Section 2(a) hereof. The obligations of the Company under this Section 2(d) may be waived as to all Investors by the Majority Holders and as to a particular Investor by such Investor and shall expire after the Company has afforded the opportunity for the Investor(s) to exercise registration rights under this Section 2(d) for two registrations; provided, however, that any Investor who shall have had any Registrable Securities excluded from any Registration Statement in accordance with this Section 2(d) shall be entitled to include in an additional Registration Statement filed by the Company the Registrable Securities so excluded. Notwithstanding any other provision of this Agreement, if the Registration Statement required to be filed pursuant to Section 2(a) of this Agreement shall have been ordered effective by the SEC and the Company shall have maintained the effectiveness of such Registration Statement as

required by this Agreement and if the Company shall otherwise have complied in all material respects with its obligations under this Agreement, then the Company shall not be obligated to register any Registrable Securities on such Registration Statement referred to in this Section 2(d).

(e) Eligibility for 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 eligibility for the use of Form S-3.

3. OBLIGATIONS OF THE COMPANY. In connection with the registration of the Registrable Securities, the Company shall:

(a) prepare promptly, and file with the SEC not later than 45 days after the Closing Date, a Registration Statement with respect to the number of Registrable Securities provided in Section 2(a), and thereafter to use its best efforts to cause each Registration Statement relating to Registrable Securities to become effective as soon as possible after such filing but in any event on or prior to the Effectiveness Required Date, and keep the Registration Statement effective pursuant to Rule 415 at all times during the Registration Period; submit to the SEC, within three Business Days after the Company learns that no review of the Registration Statement will be made by the staff of the SEC or that the staff of the SEC has no further comments on the Registration Statement, as the case may be, a request for acceleration of effectiveness of the Registration Statement to a time and date not later than 48 hours after the submission of such request; notify the Investors of the effectiveness of the Registration Statement on the date the Registration Statement is declared effective; and the Company represents and warrants to, and covenants and agrees with, the Investors that the Registration Statement (including any amendments or supplements thereto and prospectuses contained therein), at the time it is first filed with the SEC, at the time it is ordered effective by the SEC and at all times during which it is required to be effective hereunder other than any period after which the Company notifies the Investors pursuant to Section 3(f) until the time when the Investors may again sell Registrable Securities pursuant to the Registration Statement (and each such amendment and supplement at the time it is filed with the SEC and at all times during which it is available for use in connection with the offer and sale of the Registrable Securities) shall not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein, or necessary to make the statements therein, in light of the circumstances in which they were made, not misleading;

(b) prepare and file with the SEC such amendments (including post-effective amendments) and supplements to the Registration Statement and the prospectus used in connection with the Registration Statement as may be necessary to keep the Registration Statement effective at all times during the Registration Period, and, during the Registration Period, comply with the provisions of the 1933 Act with respect to the disposition of all Registrable Securities of the Company covered by the Registration Statement until such time as all of such Registrable Securities 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;

(c) furnish to each Investor whose Registrable Securities are included in the Registration Statement and its legal counsel, (1) 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 (2) such number of copies of a prospectus, including a preliminary prospectus, and all amendments and supplements thereto and such other documents, as such Investor may reasonably request in order to facilitate the disposition of the Registrable Securities owned by such Investor; notwithstanding the foregoing, prior to such disclosure and review, the Company shall notify the Holders if any portion of such documents contains material non-public information, in which case the Holders may decline to review such documents or portions thereof (the "Right to Decline Review");

(d) use commercially reasonable efforts to (i) register and qualify the Registrable Securities covered by the Registration Statement under such securities or blue sky laws of such jurisdictions as the Investors who hold a majority in interest of the Registrable Securities being offered reasonably request, (ii) prepare and file in those jurisdictions such amendments (including post-effective amendments) and supplements to such registrations and qualifications as may be necessary to maintain the effectiveness thereof at all times until the end of the Registration Period, (iii) take such other actions as may be necessary to maintain such registrations and qualifications in effect at all times during the Registration Period and (iv) take all other actions reasonably necessary or advisable to qualify the Registrable Securities for sale in such jurisdictions; provided, however, that the Company shall not be required in connection therewith or as a condition thereto (I) to qualify to do business in any jurisdiction where it would not otherwise be required to qualify but for this Section 3(d), (II) to subject itself to general taxation in any such jurisdiction, (III) to file a general consent to service of process in any such jurisdiction, (IV) to provide any undertakings that cause more than nominal expense or burden to the Company or (V) to make any change in its Certificate of Incorporation or by-laws, which in each case the Board of Directors of the Company determines in good faith to be contrary to the best interests of the Company and its stockholders;

(e) in the event that the Registrable Securities are being offered in an underwritten offering pursuant to Section 2(d), enter into and perform its obligations under an underwriting agreement, in usual and customary form, including, without limitation, customary indemnification and contribution obligations, with the underwriters of such offering;

(f) as promptly as practicable after becoming aware of such event or circumstance, notify each Investor of any event or circumstance of which the Company has knowledge, as a result of which the prospectus included in the 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 the Registration Statement to correct such untrue statement or omission, file such supplement or amendment with the SEC at such time as shall permit the Investors to sell Registrable Securities pursuant to the Registration Statement as promptly as practicable, and deliver a number of copies of such supplement or amendment to each Investor as such Investor may reasonably request;

(g) as promptly as practicable after becoming aware of such event, notify each Investor who holds Registrable Securities being sold (or, in the event of an underwritten offering, the managing underwriters) of the issuance by the SEC of any stop order or other suspension of effectiveness of the Registration Statement at the earliest possible time;

(h) not less than five Business Days prior to the filing of the Registration Statement or any related prospectus or any amendment or supplement thereto (including any document that would be incorporated or deemed to be incorporated therein by reference), the Company shall, (i) furnish to the Holders and their counsel copies of all such documents proposed to be filed, which documents (other than those incorporated or deemed to be incorporated by reference) will be subject to the review of such Holders and their counsel (subject to the Right to Decline Review), and (ii) cause its officers and directors, counsel and independent certified public accountants to respond to such inquiries as shall be necessary, in the reasonable opinion of respective counsel to such to conduct a reasonable investigation within the meaning of the 1933 Act. The Company shall not file the Registration Statement or any such prospectus or any amendments or supplements thereto to which the Holders of a majority of the Registrable Securities and their counsel shall reasonably object in good faith.

(i) make generally available to its security holders as soon as practical, but not later than ninety (90) days after the close of the period covered thereby, an earnings statement (in form complying with the provisions of Rule 158 under the 1933 Act) covering a twelve-month period beginning not later than the first day of the Company's fiscal quarter next following the effective date of the Registration Statement;

(j) [Omitted];

(k) make available for inspection by any Investor, and any attorney, accountant or other agent retained by any such Investor (collectively, the "Inspectors"), all pertinent financial and other records, pertinent corporate documents and properties of the Company (collectively, the "Records"), as shall be reasonably necessary to enable each Investor to exercise its due diligence responsibility, and cause the Company's officers, directors and employees to supply all information which any Inspector may reasonably request for purposes of such due diligence; provided, however, that each Inspector shall hold in confidence and shall not make any disclosure (except to an Investor) of any Record or other information which the Company determines in good faith to be confidential, and of which determination the Inspectors are so notified, unless (i) the disclosure of such Records is necessary to avoid or correct a misstatement or omission in any Registration Statement, (ii) the release of such Records is ordered pursuant to a subpoena or other order from a court or government body of competent jurisdiction or (iii) the information in such Records has been made generally available to the public other than by disclosure in violation of this or any other agreement. The Company shall not be required to disclose any confidential information in such Records to any Inspector until and unless such Inspector shall have entered into confidentiality agreements (in form and substance satisfactory to the Company) with the Company with respect thereto, substantially in the form of this Section 3(k). Each Investor agrees that it shall, upon learning that disclosure of such Records is sought in or by a court or governmental body of competent jurisdiction or through other means, give prompt notice to the Company and allow the Company, at the Company's own expense, to undertake appropriate action to prevent disclosure of, or to obtain a protective order for, the

Records deemed confidential. The Company shall hold in confidence and shall not make any disclosure of information concerning an Investor provided to the Company pursuant to Section 4(e) hereof unless (i) disclosure of such information is necessary to comply with federal or state securities laws or applicable rules and regulations of Nasdaq or other market or exchange, (ii) the disclosure of such information is necessary to avoid or correct a misstatement or omission in any Registration Statement, (iii) the release of such information is ordered pursuant to a subpoena or other order from a court or governmental body of competent jurisdiction or (iv) such information has been made generally available to the public other than by disclosure in violation of this or, to the knowledge of the Company, any other agreement. Each party agrees that it shall, upon learning that disclosure of such information concerning another party is sought in or by a court or governmental body of competent jurisdiction or through other means, give prompt notice to such other party and allow such other party, at such other party's own expense, to undertake appropriate action to prevent disclosure of, or to obtain a protective order for, such information;

(l) use its commercially reasonable efforts (i) to cause all the Registrable Securities covered by the Registration Statement 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 Registrable Securities are not then listed on the Nasdaq National Market or any such other securities market, to cause all of the Registrable Securities covered by the Registration Statement to be listed on the New York Stock Exchange, the American Stock Exchange or the Nasdaq SmallCap Market;

(m) provide a transfer agent and registrar, which may be a single entity, for the Registrable Securities not later than the effective date of the Registration Statement;

(n) cooperate with the Investors who hold Registrable Securities being offered to facilitate the timely preparation and delivery of certificates (not bearing any restrictive legends) representing Registrable Securities to be offered pursuant to the Registration Statement and enable such certificates to be in such denominations or amounts, as the case may be, as the Investors may reasonably request and registered in such names as the Investors may request; and, within three Business Days after a Registration Statement which includes Registrable Securities is ordered effective by the SEC, the Company shall deliver to the transfer agent for the Registrable Securities (with copies to the Investors whose Registrable Securities are included in such Registration Statement) an instruction substantially in the form attached hereto as EXHIBIT 1 and shall cause legal counsel selected by the Company to deliver to the Investors an opinion of such counsel in the form attached hereto as EXHIBIT 2 (with a copy to the Company's transfer agent);

(o) during the period the Company is required to maintain effectiveness of the Registration Statement pursuant to Section 3(a), the Company shall not bid for or purchase any Common Stock or any right to purchase Common Stock or attempt to induce any person to purchase any such security or right if such bid, purchase or attempt would in any way limit the right of the Investors to sell Registrable Securities by reason of the limitations set forth in Regulation M under the 1934 Act; and

(p) take all other reasonable actions requested by the Majority Holders necessary to expedite and facilitate disposition by the Investors of the Registrable Securities pursuant to the Registration Statement.

4. OBLIGATIONS OF THE INVESTORS. In connection with the registration of the Registrable Securities, the Investors shall have the following obligations:

(a) It shall be a condition precedent to the obligations of the Company to complete the registration pursuant to this Agreement with respect to the Registrable Securities of a particular Investor that such Investor shall furnish to the Company such information regarding itself, the Registrable Securities held by it and the intended method of disposition of the Registrable Securities held by it as shall be reasonably required to effect the registration of such Registrable Securities.

(b) Each Investor by such Investor's acceptance of the Registrable Securities agrees to cooperate with the Company as reasonably requested by the Company in connection with the preparation and filing of the Registration Statement hereunder, unless such Investor has notified the Company in writing of such Investor's election to exclude all of such Investor's Registrable Securities from the Registration Statement;

(c) In the event Investors holding a majority in interest of the Registrable Securities being registered determine to engage the services of an underwriter, each Investor agrees to enter into and perform such Investor's obligations under an underwriting agreement, in usual and customary form, including, without limitation, customary indemnification and contribution obligations, with the managing underwriter of such offering and take such other actions as are reasonably required in order to expedite or facilitate the disposition of the Registrable Securities, unless such Investor has notified the Company in writing of such Investor's election to exclude all of such Investor's Registrable Securities from the Registration Statement;

(d) Each Investor agrees that, upon receipt of any notice from the Company of the happening of any event of the kind described in Section 3(f) or 3(g), such Investor will immediately discontinue disposition of Registrable Securities pursuant to the Registration Statement covering such Registrable Securities until such Investor's receipt of the copies of the supplemented or amended prospectus contemplated by Section 3(f) or 3(g) and, if so directed by the Company, such Investor 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 Investor's possession of the prospectus covering such Registrable Securities current at the time of receipt of such notice;

(e) No Investor may participate in any underwritten registration hereunder unless such Investor (i) agrees to sell such Investor's Registrable Securities on the basis provided in any underwriting arrangements approved by the Investors entitled hereunder to approve such arrangements, (ii) completes and executes all questionnaires, powers of attorney, indemnities, underwriting agreements and other documents reasonably required under the terms of such underwriting arrangements and (iii) agrees to pay its pro rata share of all underwriting discounts and commissions and other fees and expenses of investment bankers and any manager or

managers of such underwriting and legal expenses of the underwriters applicable with respect to its Registrable Securities, in each case to the extent not payable by the Company pursuant to the terms of this Agreement; and

(f) Each Investor agrees to take all reasonable actions necessary to comply with the prospectus delivery requirements of the 1933 Act applicable to its sales of Registrable Securities and to assist the Company in carrying out its obligations hereunder.

5. EXPENSES OF REGISTRATION. All reasonable expenses (other than underwriting discounts and commissions and other fees and expenses of investment bankers engaged by Investors and other than brokerage commissions), incurred in connection with registrations, filings or qualifications pursuant to Sections 2 and 3, including, without limitation, all registration, listing and qualifications fees, printers and accounting fees and the fees and disbursements of counsel for the Company and one legal counsel for the Investors (in addition to the payment of the Initial Investor's expenses to the extent provided in the Subscription Agreement), shall be borne by the Company.

6. INDEMNIFICATION. In the event any Registrable Securities are included in a Registration Statement under this Agreement:

(a) To the extent permitted by law, the Company will indemnify and hold harmless each Investor who holds such Registrable Securities, the directors, if any, of such Investor, the officers, if any, of such Investor, each person, if any, who controls any Investor within the meaning of the 1933 Act or the 1934 Act, any underwriter (as defined in the 1933 Act) for the Investors, the directors, if any, of such underwriter and the officers, if any, of such underwriter, and each person, if any, who controls any such underwriter within the meaning of the 1933 Act or the 1934 Act (each, an "Indemnified Person"), against any losses, claims, damages, liabilities or expenses (joint or several) incurred (collectively, "Claims") to which any of them may become subject under the 1933 Act, the 1934 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 statements or omissions in or violations with respect to the Registration Statement, or any post-effective amendment thereof, or any prospectus included therein: (i) any untrue statement or alleged untrue statement of a material fact contained in the 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 1933 Act, the 1934 Act, any state securities law or any rule or regulation under the 1933 Act, the 1934 Act or any state securities law (the matters in the foregoing clauses (i) through (iii) being, collectively, "Violations"). Subject to the restrictions set forth in Section 6(d) with respect to the number of legal counsel, the Company shall reimburse the Investors and the other Indemnified Persons, promptly as such expenses are incurred and are due and payable, for any legal fees or

other reasonable expenses incurred by them in connection with investigating or defending any such Claim. Notwithstanding anything to the contrary contained herein, the indemnification agreement contained in this Section 6(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 Indemnified Person or underwriter for such Indemnified Person expressly for use in connection with the preparation of the Registration Statement, the prospectus or any such amendment thereof or supplement thereto, if such prospectus was timely made available by the Company pursuant to Section 3(c) hereof; (II) with respect to any preliminary prospectus shall not inure to the benefit of any Indemnified Person if the untrue statement or omission of material fact contained in the preliminary prospectus was corrected in the prospectus, as then amended or supplemented, if such prospectus was timely made available by the Company pursuant to Section 3(c) hereof; 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 and shall survive the transfer of the Registrable Securities by the Investors pursuant to Section 9.

(b) In connection with any Registration Statement in which an Investor is participating, each such Investor agrees to indemnify and hold harmless, to the same extent and in the same manner set forth in Section 6(a), the Company, each of its directors, each of its officers who signs the Registration Statement, each person, if any, who controls the Company within the meaning of the 1933 Act or the 1934 Act, any underwriter and any other stockholder selling securities pursuant to the Registration Statement or any of its directors or officers or any person who controls such stockholder or underwriter within the meaning of the 1933 Act or the 1934 Act (collectively and together with an Indemnified Person, an "Indemnified Party"), against any Claim to which any of them may become subject, under the 1933 Act, the 1934 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 Investor expressly for use in connection with such Registration Statement or any post-effective amendment thereof, or any prospectus included therein; and such Investor will reimburse any legal or other expenses reasonably incurred by any Indemnified Party, 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 6(b) shall not apply to amounts paid in settlement of any Claim if such settlement is effected without the prior written consent of such Investor, which consent shall not be unreasonably withheld; provided, further, however, that the Investor shall be liable under this Section 6(b) for only that amount of a Claim as does not exceed the amount of the proceeds to such Investor from the sale of Registrable Securities pursuant to such Registration Statement. Such indemnity shall remain in full force and effect regardless of any investigation made by or on behalf of such Indemnified Party and shall survive the transfer of the Registrable Securities by the Investors pursuant to Section 9. Notwithstanding anything to the contrary contained herein, the indemnification agreement contained in this Section 6(b) with respect to any preliminary prospectus shall not inure to the benefit of any Indemnified Party 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 the Registration Statement.

(d) Promptly after receipt by an Indemnified Person or Indemnified Party under this Section 6 of notice of the commencement of any action (including any governmental action), such Indemnified Person or Indemnified Party shall, if a Claim in respect thereof is to be made against any indemnifying party under this Section 6, deliver to the indemnifying party a written notice of the commencement thereof 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 Person or the Indemnified Party, as the case may be; provided, however, that an Indemnified Person or 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 Person or Indemnified Party and the indemnifying party would be inappropriate due to actual or potential differing interests between such Indemnified Person or Indemnified Party and any other party represented by such counsel in such proceeding. In such event, the Company shall pay for only one separate legal counsel for the Investors; such legal counsel shall be selected by the Investors holding a majority in interest of the Registrable Securities included in the Registration Statement to which the Claim relates. 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 Person or Indemnified Party under this Section 6, except to the extent that the indemnifying party is prejudiced in its ability to defend such action. The indemnification required by this Section 6 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.

7. CONTRIBUTION. 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 Section 6 to the fullest extent permitted by law; provided, however, that (a) 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 6, (b) no seller of Registrable Securities guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the 1933 Act) shall be entitled to contribution from any seller of Registrable Securities who was not guilty of such fraudulent misrepresentation and (c) contribution by any seller of Registrable Securities shall be limited in amount to the amount by which the net amount of proceeds received by such seller from the sale of such Registrable Securities exceeds the purchase price paid by such seller for such Registrable Securities.

8. REPORTS UNDER 1934 ACT. With a view to making available to the Investors the benefits of Rule 144, the Company agrees to:

(a) make and keep public information available, as those terms are understood and defined in Rule 144;

(b) file with the SEC in a timely manner all reports and other documents required of the Company under the 1933 Act and the 1934 Act; and

(c) furnish to each Investor so long as such Investor owns Registrable Securities, promptly upon request, (i) a written statement by the Company that it has complied with the reporting requirements of Rule 144 and the 1934 Act or describing any failure to so comply, (ii) a copy of the most recent annual or quarterly report of the Company and such other reports and documents so filed by the Company and (iii) such other information as may be reasonably requested to permit the Investors to sell such securities pursuant to Rule 144 without registration.

9. ASSIGNMENT OF THE REGISTRATION RIGHTS. The rights to have the Company register Registrable Securities pursuant to this Agreement shall be automatically assigned by the Investors to any Permitted Transferee only if: (a) the Investor agrees in writing with such Permitted Transferee to assign such rights, and a copy of such agreement is furnished to the Company within a reasonable time after such assignment, (b) except as otherwise provided in the Subscription Agreement, the Company is, within a reasonable time after such transfer or assignment, furnished with written notice of (i) the name and address of such Permitted Transferee and (ii) the securities with respect to which such registration rights are being transferred or assigned, (c) immediately following such transfer or assignment the further disposition of such securities by such Permitted Transferee is restricted under the 1933 Act and applicable state securities laws, and (d) at or before the time the Company receives the written notice contemplated by clause (b) of this sentence (or such later time within ten Business Days after the Company approves a Proposed Transferee pursuant to the Subscription Agreement) such Permitted Transferee agrees in writing with the Company to be bound by all of the provisions contained herein and in the Subscription Agreement. In connection with any such transfer the Company shall, at the cost and expense of the Permitted Transferee, promptly after such assignment take such actions as shall be reasonably acceptable to the Initial Investor and such Permitted Transferee to assure that the Registration Statement and related prospectus are available for use by such Permitted Transferee for sales of the Registrable Securities in respect of which the rights to registration have been so assigned; provided, however, that the Company shall not be required to breach any other obligation hereunder in taking such actions. In connection with any such assignment, each Investor shall have the right to assign to such Permitted Transferee such Investor's rights under the Subscription Agreement by notice of such assignment to the Company. Following such notice of assignment of rights under the Subscription Agreement, the Company shall be obligated to such Permitted Transferee to perform all of its covenants under the Subscription Agreement as if such Permitted Transferee were the Buyer under the Subscription Agreement.

10. AMENDMENT OF REGISTRATION RIGHTS. Any provision of this Agreement may be amended only with the written consent of the Majority Holders and the Company and, subject to the penultimate sentence of Section 2(d), the observance by the Company of any provision of this Agreement may be waived (either generally or in a particular instance and either retroactively or prospectively) only with the written consent of the Majority Holders. Any

amendment or waiver effected in accordance with this Section 10 shall be binding upon each Investor and the Company.

11. MISCELLANEOUS.

(a) Neither the Company nor any of its subsidiaries has entered, as of the date hereof, nor shall the Company or any of its subsidiaries, on or after the date of this Agreement, enter into any agreement with respect to its securities that is inconsistent with the rights granted to the Holders in this Agreement or otherwise conflicts with the provisions hereof. Except as and to the extent specified in Schedule 11(a) hereto, neither the Company nor any of its subsidiaries has previously entered into any agreement granting any registration rights with respect to any of its securities to any Person.

(b) Except as and to the extent specified in Schedule 11(a) hereto and except with the written consent of the Majority Holders, neither the Company nor any of its security holders (other than the Holders in such capacity pursuant hereto) may include securities of the Company in the Registration Statement other than the Registrable Securities, and the Company shall not after the date hereof enter into any agreement providing any such right to be so included to any of its security holders.

(c) A person or entity is deemed to be a holder of Registrable Securities whenever such person or entity owns of record such Registrable Securities. If the Company receives conflicting instructions, notices or elections from two or more persons or entities with respect to the same Registrable Securities, the Company shall act upon the basis of instructions, notice or election received from the registered owner of such Registrable Securities.

(d) Notices required or permitted to be given hereunder shall be in writing and shall be deemed to be sufficiently given when personally delivered (by hand, by courier, by telephone line facsimile transmission (with answer back confirmation) or other means) (i) if to the Company, at 525 Del Rey Avenue, Suite C, Sunnyvale, California 94086, Attention: Chief Executive Officer, facsimile number (408) 731-8674 with a copy to Ropes & Gray, One International Place, Boston, Massachusetts, 02110, Attention: Geoffrey B. Davis, Esq., (facsimile number (617) 951-7050), (ii) if to the Initial Investor, at 666 Fifth Avenue, New York, New York 10103, facsimile number (212) 841-6302, and (iii) if to any other Investor, at such address as such Investor shall have provided in writing to the Company, or at such other address as each such party furnishes by notice given in accordance with this Section 11(b), and shall be effective upon receipt.

(e) Failure of any party to exercise any right or remedy under this Agreement or otherwise, or delay by a party in exercising such right or remedy, shall not operate as a waiver thereof.

(f) This Agreement shall be enforced, governed by and construed in accordance with the laws of the State of New York applicable to agreements made and to be performed entirely within such State. In the event that any provision of this Agreement is invalid or unenforceable under any applicable statute or rule of law, then such provision shall be deemed inoperative to the extent that it may conflict therewith and shall be deemed modified to conform

with such statute or rule of law. Any provision hereof which may prove invalid or unenforceable under any law shall not affect the validity or enforceability of any other provision hereof. Each party hereby consents to the exclusive jurisdiction and venue of the federal and state courts located in New York, New York in any action or proceeding arising hereunder and to service of process by certified mail, return receipt requested (which shall constitute "personal service").

(g) This Agreement constitutes the entire agreement among the parties hereto with respect to the subject matter hereof. There are no restrictions, promises, warranties or undertakings, other than those set forth or referred to herein. This Agreement supersedes all prior agreements and understandings among the parties hereto with respect to the subject matter hereof.

(h) Subject to the requirements of Section 9 hereof, this Agreement shall inure to the benefit of and be binding upon the successors and assigns of each of the parties hereto.

(i) All pronouns and any variations thereof refer to the masculine, feminine or neuter, singular or plural, as the context may require.

(j) The headings in this Agreement are for convenience of reference only and shall not limit or otherwise affect the meaning hereof.

(k) [Omitted]

(l) Each party shall do and perform, or cause to be done and performed, all such further acts and things, and shall execute and deliver all such other agreements, certificates, instruments and documents, as the other party may reasonably request in order to carry out the intent and accomplish the purposes of this Agreement and the consummation of the transactions contemplated hereby.

(m) The language used in this Agreement will be deemed to be the language chosen by the parties to express their mutual intent, and no rules of strict construction will be applied against any party.

(n) This Agreement may be executed in two or more counterparts, each of which shall be deemed an original but all of which shall constitute one and the same agreement. This Agreement, once executed by a party, may be delivered to the other party hereto by telephone line facsimile transmission of a copy of this Agreement bearing the signature of the party so delivering this Agreement.

IN WITNESS WHEREOF, the parties have caused this Registration Rights Agreement to be duly executed by their respective officers thereunto duly authorized as of day and year first above written.

STEMCELLS, INC.

By:

Name:

Title:

THE INITIAL INVESTOR: MILLENNIUM PARTNERS, L.P.

By:

Name:

Title:

EXHIBIT 1
TO
REGISTRATION
RIGHTS AGREEMENT

[Company Letterhead]

[Date]

[TRANSFER AGENT'S NAME AND ADDRESS]

Ladies and Gentlemen:

This letter shall serve as our irrevocable authorization and direction to you (1) to transfer or re-register the certificates for the shares of Common Stock, $.01 par value (the "Common Stock"), of STEMCELLS, INC., a Delaware corporation (the "Company"), represented by certificate numbers _____ and _____ for an aggregate of _____ shares (the "Outstanding Shares") of Common Stock presently registered in the name of [Name of Investors] upon surrender of such certificate(s) to you, notwithstanding the legend appearing on such certificates, and (2) to issue shares (the "Warrant Shares") of Common Stock to or upon the order of the holder from time to time on exercise of the Callable Warrant, Common Stock Purchase Warrants, Class A (collectively, the "Warrants") exercisable for Common Stock issued by the Company upon receipt by you of a subscription form from such holder in the form enclosed herewith. The transfer or re-registration of the certificates for the Outstanding Shares by you should be made at such time as you are requested to do so by the record holder of the Outstanding Shares. The certificate issued upon such transfer or re-registration should be registered in such name as requested by the holder of record of the certificate surrendered to you and should not bear any legend which would restrict the transfer of the shares represented thereby. In addition, you are hereby directed to remove any stop-transfer instruction relating to the Outstanding Shares. Certificates for the Warrant Shares should not bear any restrictive legend and should not be subject to any stop-transfer restriction.

Contemporaneously with the delivery of this letter, the Company is delivering to you the following:

(a) a list showing the name and address of each holder of record of the Warrants and the date of issuance, Warrant number, and, in the case of the Callable Warrant, the initial fixed number of shares issuable upon exercise thereof;

(b) the form of subscription relating to the exercise of the Warrants; and

(c) an opinion of Iris Brest, Vice President and General Counsel of the Company, as to registration of the Outstanding Shares and the Warrant Shares for resale under the Securities Act of 1933, as amended.

Should you have any questions concerning this matter, please contact me.

Very truly yours,

STEMCELLS, INC.

By:

Name:
Title:

Enclosures
cc: [Names of Investors]

EXHIBIT 2
TO
REGISTRATION
RIGHTS AGREEMENT

[SEC Effective Date]

[Names and Addresses of Investors]

STEMCELLS, INC.
SHARES OF COMMON STOCK

Ladies and Gentlemen:

I am Vice President and General Counsel of STEMCELLS, INC., a Delaware corporation (the "Company"), and I understand that the Company has sold to [Names of Investors] (the "Holders") an aggregate of _____ shares (the "Common Shares") of the Company's Common Stock, $.01 par value (the "Common Stock"), and issued to the Holders a Callable Warrant, a Common Stock Purchase Warrant, Class A (collectively, the "Warrants"). The Common Shares were sold, and the Warrants were issued, to the Holders pursuant to a Subscription Agreement, dated as of July 31, 2000, by and between Millennium Partners, L.P. (the "Initial Investor") and the Company (the "Subscription Agreement"). Pursuant to the Registration Rights Agreement, dated as of July 31, 2000, by and between the Company and the Initial Investor (the "Registration Rights Agreement") entered into in connection with the purchase by the Initial Investor of the Common Shares, the Company agreed with each Holder, among other things, to register for resale (1) the Common Shares and (2) the shares (the "Warrant Shares") of Common Stock issuable upon exercise of the Warrants under the Securities Act of 1933, as amended (the "1933 Act"), upon the terms provided in the Registration Rights Agreement. The Common Shares and the Warrant Shares are referred to herein collectively as the "Shares." Pursuant to the Registration Rights Agreement, on _____, _____ the Company filed a Registration Statement on Form S-1 (File No. _____) (the "Registration Statement") with the Securities and Exchange Commission (the "SEC") relating to the Shares, which names the Holders as selling stockholders thereunder.

[Other introductory and scope of examination language to be inserted]

Based on the foregoing, I am of the opinion that:

(1) Since the Closing Date, the Company has timely filed with the SEC all forms, reports and other documents required to be filed with the SEC under the Securities 1934 Act of 1934, as amended (the "1934 Act"). All of such forms, reports and other documents complied,

when filed, in all material respects, with all applicable requirements of the 1933 Act and the 1934 Act;

(2) The Registration Statement and the Prospectus contained therein (other than the financial statements and financial schedules and other financial and statistical information contained or incorporated by reference therein, as to which I have not been requested to and do not express any opinion) comply as to form in all material respects with the applicable requirements of the 1933 Act and the rules and regulations promulgated thereunder; and

(3) The Registration Statement has become effective under the 1933 Act, to the best of my knowledge after due inquiry, no stop order proceedings with respect thereto have been instituted or threatened by the SEC. The Shares have been registered under the 1933 Act and may be resold by the respective Holders pursuant to the Registration Statement.

I have participated in the preparation of the Registration Statement and the Prospectus, including review and discussions with officers and other representatives of the Company, representatives of the independent public accountants for the Company, and your representatives at which the contents of the Registration Statement and the Prospectus contained therein and related matters were discussed, and, although I am not passing upon and do not assume any responsibility for the accuracy, completeness or fairness of the statements contained in the Registration Statement and the Prospectus contained therein, on the basis of the foregoing, nothing has come to my attention that leads me to believe either that the Registration Statement at the time the Registration Statement became effective contained an untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary to make the statements therein not misleading, or that the Prospectus contained in the Registration Statement, as of its date, contained an untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading (it being understood that I have not been requested to and do not express any view with respect to the financial statements and schedules and other financial and statistical data included or incorporated by reference in the Registration Statement or the Prospectus contained therein).

Paragraph (3) of this opinion may be relied upon by _____, Transfer Agent and Registrar (the "Transfer Agent"), as if addressed to the Transfer Agent.

Very truly yours,

cc: [TRANSFER AGENT]

EXHIBIT 10.49

==========

SUBSCRIPTION AGREEMENT

DATED AS OF JULY 31, 2000

BY AND BETWEEN

STEMCELLS, INC.

AND

MILLENNIUM PARTNERS, L.P.

COMMON STOCK, CALLABLE WARRANTS

AND

COMMON STOCK PURCHASE WARRANTS

==========

THIS SUBSCRIPTION AGREEMENT, dated as of July 31, 2000, by and between STEMCELLS, INC., a Delaware corporation (the "Company"), with headquarters located at 525 Del Rey Avenue, Suite C, Sunnyvale, CA 94086, and Millennium Partners, L.P., a Cayman Islands limited partnership (the "Buyer").

W I T N E S S E T H:

WHEREAS, the Buyer wishes to purchase, upon the terms and subject to the conditions of this Agreement, shares of Common Stock, $.01 par value (the "Common Stock"), of the Company and in connection therewith the Company is to issue to the Buyer warrants to purchase shares of Common Stock as provided in this Agreement; and

WHEREAS, the Company and the Buyer are executing and delivering this Agreement in reliance upon the exemption from securities registration afforded by Rule 506 of Regulation D as promulgated by the Securities and Exchange Commission (the "SEC") under the Securities Act of 1933, as amended (the "1933 Act");

NOW THEREFORE, in consideration of the premises and the mutual covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

1. AGREEMENT TO SUBSCRIBE; PURCHASE PRICE.

(a) SUBSCRIPTION. The Buyer hereby agrees to purchase from the Company, and the Company hereby agrees to sell to the Buyer, the number of shares (the "Common Shares") of Common Stock set forth on the signature page of this Agreement at the price per share and for the aggregate purchase price set forth on the signature page of this Agreement (the "Purchase Price"). The Purchase Price shall be payable in United States dollars. In connection with the purchase of the Common Shares by the Buyer, the Company shall issue to the Buyer, at the closing on the Closing Date (as defined herein), (1) Callable Warrants in the form attached hereto as ANNEX I (the "Callable Warrants") to purchase the number of shares of Common Stock set forth therein (subject to adjustment as provided in the Callable Warrants) and (2) Common Stock Purchase Warrants, Class A, in the form attached hereto as ANNEX II (the "Class A Warrants") to purchase the number of shares of Common Stock set forth therein (subject to adjustment as provided in the Class A Warrants). The Callable Warrants and the Class A Warrants are referred to herein collectively as the "Warrants." The shares of Common Stock issuable upon exercise of the Warrants are referred to herein as the "Warrant Shares." The Common Shares and the Warrant Shares are referred to herein collectively as the "Shares." The Shares and the Warrants are referred to herein collectively as the "Securities."

(b) THE CLOSING.

(1) TIMING. Subject to the fulfillment or waiver of the conditions set forth in Section 6 hereof, the purchase and sale of the Common Shares and Warrants shall take place at a closing

(the "CLOSING") on the date hereof or such other date as the Buyer and the Company may agree upon at the offices of Kleinberg, Kaplan, Wolff & Cohen, P.C.

(2) FORM AND Timing OF PAYMENT. The Buyer shall pay the Purchase Price for the Common Shares by delivering (A) 75% of the Purchase Price to the Company on the Closing Date and (B) 25% of the Purchase Price to the Company on the date on which the Registration Statement (as defined in the Registration Rights Agreement) becomes effective (or such later date which is two (2) business days after Buyer receives written notice of the date of such effectiveness). Upon Closing, the Company shall deliver (A) instructions to its registrar and transfer agent regarding the issuance of the certificates for all the Common Shares and shall cause its registrar and transfer agent to deliver such certificates to Buyer as soon as possible after Closing and (B) the Warrants, registered in the corporate securities records of the Company and on the certificates in the name of the Buyer or its nominee, to the Buyer (or Kleinberg, Kaplan, Wolff & Cohen, P.C. on behalf of the Buyer).

(c) METHOD OF PAYMENT. Payment of the Purchase Price for the Common Shares shall be made in U.S. Dollars by wire transfer of funds to an account designated by the Company.

As used in this Agreement, the term "Business Day" means any day other than a

Saturday, Sunday or other day on which commercial banks in the City of New York are authorized or required by law to remain closed.

2. BUYER REPRESENTATIONS, WARRANTIES, ETC.

The Buyer represents and warrants to, and covenants and agrees with, the Company as follows:

(a) ACCREDITED BUYER STATUS; SOPHISTICATED BUYER. The Buyer is an "accredited investor" as that term is defined in Rule 501(a) of Regulation D under the 1933 Act. The Buyer has such knowledge and experience in financial and business matters that it is capable of evaluating the merits and risks of investment in the Common Shares, the Warrants and Warrant Shares.

(b) INFORMATION. The Buyer and its advisors, if any, have been furnished with all materials relating to the business, finances and operations of the Company which have been requested and materials relating to the offer and sale of the Common Shares, the Warrants and Warrant Shares which have been requested by the Buyer. The Buyer and its advisors, if any, have been afforded the opportunity to ask questions of the Company. Neither such inquiries nor any other due diligence investigations conducted by the Buyer or its advisors, if any, or its representatives shall modify, amend or affect the Buyer's right to rely on the Company's representations and warranties contained in Section 3 below. The Buyer understands that its investment in the Common Shares, the Warrants and Warrant Shares involves a high degree of risk. The Buyer has sought such accounting, legal and tax advice as it has considered necessary to make an informed investment decision with respect to its acquisition of the Common Shares, the Warrants and Warrant Shares.

(c) LEGENDS. The Company shall issue certificates for the Common Shares, the Warrants and Warrant Shares to the Buyer without any legend except as described herein. The Buyer covenants that, in connection with any transfer of Shares by the Buyer pursuant to the registration statement contemplated by the Registration Rights Agreement, it will comply with the applicable prospectus delivery requirements of the 1933 Act, provided that copies of a current prospectus relating to such effective registration statement are or have been supplied to the Buyer.

(d) AUTHORIZATION; ENFORCEMENT. Each of this Agreement and the Registration Rights Agreement has been duly and validly authorized, executed and delivered on behalf of the Buyer and is a valid and binding agreement of the Buyer enforceable against the Buyer in accordance with its terms, subject as to enforceability to general principles of equity and to applicable bankruptcy, insolvency, reorganization, moratorium, liquidation and other similar laws relating to, or affecting generally, the enforcement of applicable creditors' rights and remedies. The Buyer has the requisite corporate power and authority to enter into and perform its obligations under this Agreement and the Registration Rights Agreement and each other agreement entered into by the parties hereto in connection with the transactions contemplated by this Agreement.

(e) NO CONFLICTS. The execution, delivery and performance of this Agreement and the Registration Rights Agreement by the Buyer and the consummation by the Buyer of the transactions contemplated hereby and thereby will not result in a violation of the certificate of incorporation, by-laws or other documents of organization of the Buyer.

(f) INVESTMENT REPRESENTATION. The Buyer is purchasing the Common Shares and the Warrants for its own account and not with a view to distribution in violation of any securities laws. The Buyer has been advised and understands that neither the Common Shares, the Warrants nor the Warrant Shares issuable upon exercise thereof have been registered under the 1933 Act or under the "blue sky" laws of any jurisdiction and may be resold only if registered pursuant to the provisions of the 1933 Act or if an exemption from registration is available, except under circumstances where neither such registration nor such an exemption is required by law. The Buyer has been advised and understands that the Company, in issuing the Common Shares and the Warrant, is relying upon, among other things, the representations and warranties of the Buyer contained in this Section 3 in concluding that such issuance is a "private offering" and is exempt from the registration provisions of the 1933 Act.

(g) RULE 144. The Buyer understands that there is no public trading market for the Warrants and that none is expected to develop. The Buyer understands that the Common Shares, the Warrants and the Warrant Shares received upon conversion or exercise thereof must be held indefinitely unless and until registered under the 1933 Act or an exemption from registration is available. The Buyer is aware of the provisions of Rule 144 promulgated under the 1933 Act.

(h) RELIANCE BY THE COMPANY. The Buyer understands that the Common Shares and the Warrants are being offered and sold in reliance on a transactional exemption from the registration requirements of Federal and state securities laws and that the Company is relying upon the truth and accuracy of the representations, warranties, agreements, acknowledgments and understandings of the Buyer set forth herein in order to determine the applicability of such exemptions and the suitability of the Buyer to acquire the Common Shares and the Warrants.

3. COMPANY REPRESENTATIONS, WARRANTIES, ETC.

The Company represents and warrants to, and covenants and agrees with, the Buyer that, except as set forth in the schedules attached hereto:

(a) ORGANIZATION AND QUALIFICATION; MATERIAL ADVERSE EFFECT. The Company is a corporation duly incorporated and existing in good standing under the laws of the State of Delaware and has the requisite corporate power to own its properties and to carry on its business as now being conducted. The Company does not have any Subsidiary other than StemCells California, Inc. (the "SUBSIDIARY"). The Subsidiary is duly organized, and validly existing and in good standing under the laws of its jurisdiction of formation. Except where specifically indicated to the contrary, all references in this Agreement to Subsidiary shall be deemed to refer to the Subsidiary of the Company. The Company is duly qualified as a foreign corporation to do business and is in good standing in every jurisdiction in which the nature of the business conducted or property owned by it makes such qualification necessary other than those in which the failure so to qualify would not have a Material Adverse Effect. "MATERIAL ADVERSE EFFECT" means any adverse effect on the business, operations, properties, prospects or financial condition of the Company and its Subsidiary, which is (either alone or together with all other adverse effects) material to the Company and its Subsidiary, taken as a whole, and any material adverse effect on the transactions contemplated under this Agreement, the Certificate and the Registration Rights Agreement, or any other agreement or document contemplated hereby or thereby.

(b) AUTHORIZATION; ENFORCEMENT. (i) The Company has all requisite corporate power and authority to enter into and perform this Agreement, the Registration Rights Agreement and the Warrants ("TRANSACTION DOCUMENTS") and to issue the Common Shares and the Warrants in accordance with the terms hereof, (ii) the execution and delivery of this Agreement, the Registration Rights Agreement and the Warrants by the Company and the consummation by it of the transactions contemplated hereby and thereby, including the issuance of the Common Shares and the Warrants, have been duly authorized by all necessary corporate action, and no further consent or authorization of the Company or its

Board of Directors (or any committee or subcommittee thereof) or stockholders is required, (iii) this Agreement, the Registration Rights Agreement and the Warrants have been duly executed and delivered by the Company, (iv) this Agreement, the Registration Rights Agreement and the Warrants constitute valid and binding obligations of the Company enforceable against the Company in accordance with their terms, except (A) as such enforceability may be limited by applicable bankruptcy, insolvency, reorganization, moratorium, liquidation or similar laws relating to, or affecting generally the enforcement of creditors' rights and remedies or by other equitable principles of general application, and (B) to the extent the indemnification provisions contained in this Agreement and the Registration Rights Agreement may be limited by applicable federal or state securities laws and (v) the Common Shares, the Warrants, and the Warrant Shares issuable upon the exercise thereof have been duly authorized and, upon issuance thereof and payment therefor in accordance with the terms of this Agreement, the Common Shares, the Warrants, and the Warrant Shares issuable upon the exercise thereof will be validly issued, fully paid and non-assessable, free and clear of any and all liens, claims and encumbrances.

(c) CAPITALIZATION. As of the date hereof, the authorized capital stock of the Company consists of (i) 45,000,000 shares of Common Stock, of which as of April 18, 2000, 19,510,409 shares were issued and outstanding, as of the date hereof, 4,057,313 shares are issuable and reserved for issuance pursuant to the Company's stock option and purchase plans and committed pursuant to pending acquisitions, and as of the date hereof, assuming a conversion price of $4.00 for the Company's 6% Cumulative Convertible Preferred Stock, approximately 456,563 shares are issuable pursuant to securities (other than options and purchase plans referred to above), exercisable or exchangeable for, or convertible into, shares of Common Stock, and approximately 838,126 shares are reserved for issuance pursuant to such securities and (ii) 1,000,000 shares of preferred stock, of which as of the date hereof, (A) 2,626 shares are currently designated as 6% Cumulative Convertible Preferred Stock, 1,500 shares of which are issued and outstanding and (B) 450,000 shares are designated as Junior Preferred Shares, none of which are issued or outstanding. All of such outstanding shares have been, or upon issuance will be, validly issued, fully paid and nonassessable. As of the date hereof, except as disclosed in SCHEDULE 3(c), (i) no shares of the Company's capital stock are subject to preemptive rights or any other similar rights or any liens or encumbrances suffered or permitted by the Company, (ii) there are no outstanding debt securities, (iii) there are no outstanding options, warrants, scrip, rights to subscribe to, calls or commitments of any character whatsoever relating to, or securities or rights convertible into, any shares of capital stock of the Company or its Subsidiary, or contracts, commitments, understandings or arrangements by which the Company or its Subsidiary is or may become bound to issue additional shares of capital stock of the Company or its Subsidiary or options, warrants, scrip, rights to subscribe to, calls or commitments of any character whatsoever relating to, or securities or rights convertible into, any shares of capital stock of the Company or its Subsidiary, (iv) there are no agreements or arrangements under which the Company or its

Subsidiary is obligated to register the sale of any of their securities under the Securities Act of 1933, as amended ("SECURITIES ACT" or "1933 Act") (except the Registration Rights Agreement and except as set forth on SCHEDULE 3(c)), (v) there are no outstanding securities of the Company or its Subsidiary which contain any redemption or similar provisions, and there are no contracts, commitments, understandings or arrangements by which the Company or its Subsidiary is or may become bound to redeem a security of the Company or its Subsidiary, (vi) there are no securities or instruments containing anti-dilution or similar provisions that will be triggered by the issuance of the Common Shares or the Warrants as described in this Agreement or the Warrants and (vii) the Company does not have any stock appreciation rights or "phantom stock" plans or agreements or any similar plan or agreement. The Company has furnished to the Buyer true and correct copies of the Company's Certificate of Incorporation, as amended and as in effect on the date hereof (the "CERTIFICATE OF INCORPORATION"), and the Company's By-laws, as in effect on the date hereof (the "BY-LAWS").

(d) NO CONFLICTS. The execution, delivery and performance of the Transaction Documents by the Company and the consummation by the Company of the transactions contemplated hereby and thereby and the issuance of Common Shares, the Warrants, and the Warrant Shares underlying the Warrants will not (i) result in a violation of the Certificate of Incorporation, any certificate of designations, preferences and rights of any outstanding series of preferred stock of the Company or the By-laws; (ii) conflict with, or constitute a default (or an event which with notice or lapse of time or both would become a default) under, or give to others any rights of termination, amendment, acceleration or cancellation of, any agreement, indenture or instrument to which the Company or its Subsidiary is a party, or (iii) result in a violation of any law, rule, regulation, order, judgment or decree (including United States federal and state securities laws and regulations and the rules and regulations of the Nasdaq National Market (the "PRINCIPAL MARKET") or other principal securities exchange or trading market on which the Common Stock is traded or listed) applicable to the Company or its Subsidiary or by which any property or asset of the Company or its Subsidiary is bound or affected. Neither the Company nor its Subsidiary is in violation of any term of, or in default under, (x) its certificate of incorporation, any certificate of designations, preferences and rights of any outstanding series of preferred stock or By-laws or their organizational charter or by-laws, respectively, (y) any material contract, agreement, mortgage, indebtedness, indenture, instrument, or (z) any judgment, decree or order or any statute, rule or regulation applicable to the Company or its Subsidiary, the non-compliance with which (in the cases of (y) and (z)) would cause a Material Adverse Effect. Except as specifically contemplated by this Agreement and as required under the 1933 Act or state "blue sky" laws, the Company is not required to obtain any consent, authorization or order of, or make any filing or registration with, any court, governmental agency or any regulatory or self-regulatory agency in order for it to execute, deliver or perform any of its obligations under, or contemplated by, the Transaction Documents or the issuance of the Common Shares and the Warrants in accordance with the terms hereof or thereof. All consents, authorizations, orders, filings and registrations which the

Company is required to obtain pursuant to the preceding sentence have been obtained or effected on or prior to the date hereof, or in the case of post-sale filings, will be made promptly after the date hereof. The Company complies with and is not in violation of the listing requirements of the Principal Market as in effect on the date hereof in all material respects and on each of the Closing Dates and is not aware of any existing facts which provide a basis for delisting or suspension of the Common Stock by the Principal Market.

(e) SEC DOCUMENTS; FINANCIAL STATEMENTS. Since December 31, 1998, the Company has filed all reports, schedules, forms, statements and other documents required to be filed by it with the SEC pursuant to the reporting requirements of the Securities Exchange Act of 1934, as amended (the "1934 Act") (all of the foregoing filed prior to the date hereof and all exhibits included therein and financial statements and schedules thereto and documents incorporated by reference therein being hereinafter referred to as the "SEC DOCUMENTS"). As of their respective dates, the SEC Documents complied in all material respects with the requirements of the 1934 Act and the rules and regulations of the SEC promulgated thereunder applicable to the SEC Documents, and none of the SEC Documents, at the time they were filed with the SEC, contained any untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading. As of their respective dates, the financial statements of the Company included in the SEC Documents complied as to form in all material respects with applicable accounting requirements and the published rules and regulations of the SEC with respect thereto. Such financial statements have been prepared in accordance with generally accepted accounting principles, consistently applied, during the periods involved (except (i) as may be otherwise indicated in such financial statements or the notes thereto, or (ii) in the case of unaudited interim statements, to the extent they may exclude footnotes or may be condensed or summary statements) and fairly present in all material respects the financial position of the Company as of the dates thereof and the results of its operations and cash flows for the periods then ended (subject, in the case of unaudited statements, to normal year-end audit adjustments). Neither the Company nor its Subsidiary or any of their officers, directors, employees or agents have provided the Buyer with any material, nonpublic information which was not publicly disclosed prior to the date hereof.

(f) ABSENCE OF CERTAIN CHANGES. Except as set forth in the SEC Documents identified on Schedule 3(f) hereto, since December 31, 1998 there has been no adverse change or adverse development in the business, properties, assets, operations, financial condition, prospects, liabilities or results of operations of the Company or its Subsidiary which has had or, to the knowledge of the Company or its Subsidiary, is reasonably likely to have a Material Adverse Effect. The Company has not taken any steps, and does not currently expect to take any steps, to seek protection pursuant to any bankruptcy law nor does the Company or its Subsidiary have any knowledge or reason to believe that its creditors intend to initiate involuntary bankruptcy proceedings.

(g) ABSENCE OF LITIGATION. There is no action, suit, proceeding, inquiry or investigation before or by any court, public board, government agency, self-regulatory organization or body pending or, to the knowledge of the Company or its Subsidiary, threatened against or affecting the Company, the Common Stock or any of the Company's Subsidiary or any of the Company's or the Company's Subsidiary's officers or directors in their capacities as such, which individually and in the aggregate, respectively, would be reasonably likely to result in liability to the Company in excess of $50,000 and $100,000, respectively.

(h) ACKNOWLEDGMENT REGARDING BUYER'S PURCHASE OF SHARES. The Company acknowledges and agrees that the Buyer is acting solely in the capacity of arm's length purchaser with respect to the Transaction Documents and the transactions contemplated hereby and thereby. The Company further acknowledges that the Buyer is not acting as financial advisor or fiduciary of the Company (or in any similar capacity) with respect to the Transaction Documents and the transactions contemplated hereby and thereby, and any advice given by the Buyer or any of its respective representatives or agents in connection with the Transaction Documents and the transactions contemplated hereby and thereby is merely incidental to the Buyer's purchase of the Common Shares. The Company further represents to the Buyer that the Company's decision to enter into the Transaction Documents has been based solely on the independent evaluation by the Company and its representatives.

(i) NO UNDISCLOSED EVENTS, LIABILITIES, DEVELOPMENTS OR CIRCUMSTANCES. No event, liability, development or circumstance has occurred or exists with respect to the Company or its Subsidiary or their respective business, properties, prospects, operations or financial condition, that would be required to be disclosed by the Company under applicable securities laws in a registration statement filed with the SEC relating to an issuance and sale by the Company of its Common Stock and which has not been publicly disclosed.

(j) NO INSIDE INFORMATION. The Company has not provided and, the Company shall not provide, the Buyer with any non-public information, except to the extent that the Buyer exercises its right to review a registration statement containing material non-public information (after receiving written notice of the existence of such content) and except in the case of the Buyer's exercising rights pursuant to Section 4(i) below.

(k) NO SECURITIES ACT REGISTRATION. The sale and issuance of the Common Shares and Warrants in accordance with terms of this Agreement and the issuance of Warrant Shares upon exercise of the Warrants are exempt from registration under the 1933 Act.

(l) EMPLOYEE RELATIONS. Neither the Company nor its Subsidiary is involved in any labor dispute nor, to the knowledge of the Company or its Subsidiary, is any such dispute threatened, the effect of which would be reasonably likely to result in a Material Adverse Effect. Neither the Company nor

its Subsidiary is a party to a collective bargaining agreement. The Company and its Subsidiary believe that relations between the Company and its Subsidiary and their respective employees are good. No executive officer (as defined in Rule 501(f) of the 1933 Act) whose departure would be adverse to the Company has notified the Company that such officer intends to leave the Company or otherwise terminate such officer's employment with the Company.

(m) INTELLECTUAL PROPERTY RIGHTS. The Company and its Subsidiary own or possess adequate rights or licenses to use all trademarks, trade names, service marks, service mark registrations, service names, patents, patent rights, copyrights, inventions, licenses, approvals, governmental authorizations, trade secrets and rights necessary to conduct their respective businesses as now conducted. None of the Company's trademarks, trade names, service marks, service mark registrations, service names, patents, patent rights, copyrights, inventions, licenses, approvals, government authorizations, trade secrets or other intellectual property rights have expired or terminated, or are expected to expire or terminate within two (2) years from the date of this Agreement except as would not have a Material Adverse Effect. The Company and its Subsidiary do not have any knowledge of any infringement by the Company or its Subsidiary of trademark, trade name rights, patents, patent rights, copyrights, inventions, licenses, service names, service marks, service mark registrations, trade secret or other similar rights of others, or of any such development of similar or identical trade secrets or technical information by others, and no claim, action or proceeding has been made or brought against, or to the Company's knowledge, is threatened against, the Company or its Subsidiary regarding trademarks, trade name rights, patents, patent rights, inventions, copyrights, licenses, service names, service marks, service mark registrations, trade secrets or other infringement. The Company and its Subsidiary have taken reasonable security measures to protect the secrecy, confidentiality and value of all of their intellectual properties.

(n) SHAREHOLDER APPROVAL RULE. The Company has not issued any shares of Common Stock or shares of any series of preferred stock or other securities convertible into, exchangeable for or otherwise entitling the holder to acquire shares of Common Stock which are subject to Rule 4460(i)(1)(D) of Nasdaq as in effect from time to time or any successor, replacement or similar provision thereof or of any other market on which the Common Stock is listed for trading (the "Shareholder Approval Rule") and which would be integrated with the sale of the Common Shares to the Buyer or the issuance of Warrant Shares upon exercise of the Warrants for purposes of the Shareholder Approval Rule.

(o) ENVIRONMENTAL LAWS. The Company and its Subsidiary (i) are in compliance with any and all applicable foreign, federal, state and local laws and regulations relating to the protection of human health and safety, the environment or hazardous or toxic substances or wastes, pollutants or contaminants ("ENVIRONMENTAL LAWS"), (ii) have received all permits, licenses or other approvals required of them under applicable Environmental Laws to conduct their respective businesses and (iii) are in compliance with all terms and conditions of

any such permit, license or approval where such noncompliance or failure to receive permits, licenses or approvals referred to in clauses (i), (ii) or (iii) above could have, individually or in the aggregate, a Material Adverse Effect.

(p) TITLE. The Company and its Subsidiary have good and marketable title in fee simple to all real property and good and marketable title to all personal property owned by them which is material to the business of the Company and its Subsidiary, in each case free and clear of all liens, encumbrances and defects except such as are described in SCHEDULE 3(p) or in the SEC Documents listed in SCHEDULE 3(p) or such as do not materially and adversely affect the value of such property and do not interfere with the use made and proposed to be made of such property by the Company or its Subsidiary. Any real property and facilities held under lease by the Company or its Subsidiary are held by them under valid, subsisting and enforceable leases with such exceptions as are not material and do not interfere with the use made and proposed to be made of such property and buildings by the Company and its Subsidiary.

(q) INSURANCE. The Company and its Subsidiary are insured by insurers of recognized financial responsibility against such losses and risks and in such amounts as management of the Company believes to be prudent and customary in the businesses in which the Company and its Subsidiary are engaged. Neither the Company nor any such Subsidiary has been refused any insurance coverage sought or applied for and neither the Company nor any such Subsidiary has any reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers as may be necessary to continue its business at a cost that would not materially and adversely affect the condition, financial or otherwise, or the earnings, business or operations of the Company and its Subsidiary taken as a whole.

(r) REGULATORY PERMITS. The Company and its Subsidiary possess all material certificates, authorizations and permits issued by the appropriate federal, state or foreign regulatory authorities, necessary to conduct their respective businesses, and neither the Company nor any such Subsidiary has received any notice of proceedings relating to the revocation or modification of any such certificate, authorization or permit.

(s) INTERNAL ACCOUNTING CONTROLS. The Company and its Subsidiary maintain a system of internal accounting controls sufficient to provide reasonable assurance that (i) transactions are executed in accordance with management's general or specific authorizations, (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting principles and to maintain asset accountability, (iii) access to assets is permitted only in accordance with management's general or specific authorization and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences.

(t) FOREIGN CORRUPT PRACTICES ACT. Neither the Company, nor any director, officer, agent, employee or other person acting on behalf of the Company or any Subsidiary has, in the course of acting for, or on behalf of, the Company, directly or indirectly used any corporate funds for any unlawful contribution, gift, entertainment or other unlawful expenses relating to political activity; directly or indirectly made any direct or indirect unlawful payment to any foreign or domestic government official or employee from corporate funds; violated or is in violation of any provision of the U.S. Foreign Corrupt Practices Act of 1977, as amended, or any similar treaties of the United States; or directly or indirectly made any bribe, rebate, payoff, influence payment, kickback or other unlawful payment to any foreign or domestic government or party official or employee.

(u) TAX STATUS. The Company and its Subsidiary has made or filed all United States federal and state income and all other tax returns, reports and declarations required by any jurisdiction to which it is subject and (i) has paid all taxes and other governmental assessments and charges, shown or determined to be due on such returns, reports and declarations, except those being contested in good faith and (ii) has set aside on its books provisions reasonably adequate for the payment of all taxes for periods subsequent to the periods to which such returns, reports or declarations apply. There are no unpaid taxes claimed to be due by the taxing authority of any jurisdiction, and the Company is not aware of any basis for any such claim.

(v) CERTAIN TRANSACTIONS. Except as set forth in the SEC Documents filed on EDGAR at least thirty (30) Trading Days prior to the date hereof and except for arm's length transactions pursuant to which the Company makes payments in the ordinary course of business upon terms no less favorable than the Company could obtain from third parties and other than the grant of stock options disclosed on SCHEDULE 3(c), none of the officers, directors or employees of the Company is presently a party to any transaction with the Company or its Subsidiary (other than for services as employees, consultants, officers and directors), including any contract, agreement or other arrangement providing for the furnishing of services to or by, providing for rental of real or personal property to or from, or otherwise requiring payments to or from any officer, director or such employee or, to the knowledge of the Company, any corporation, partnership, trust or other entity in which any officer, director or any such employee has a substantial interest or is an officer, director, trustee or partner.

(w) DILUTIVE EFFECT. The Company understands and acknowledges that the number of Common Shares issuable upon exercise of the Warrants purchased pursuant to this Agreement will increase in certain circumstances. The Company further acknowledges that, subject to such limitations as are expressly set forth in the Transaction Documents, its obligation to issue Common Shares upon exercise of the Warrants purchased pursuant to this Agreement, is absolute and unconditional regardless of the dilutive effect that such issuance may have on the ownership interests of other shareholders of the Company.

(x) APPLICATION OF TAKEOVER PROTECTIONS. There are no anti-takeover provisions contained in the Company's Certificate of Incorporation or otherwise which will be triggered as a result of the transactions contemplated by this Agreement, including, without limitation, the Company's issuance of the Common Shares and the Buyer's ownership of the Common Shares.

(y) RIGHTS PLAN. The Company confirms that no provision of the Company's rights plan will, under any present or future circumstances, delay, prevent or interfere with the performance of any of the Company's obligations under the Transaction Documents and such plan will not be "triggered" by such performance.

(z) OBLIGATIONS ABSOLUTE. Each of the Company and the Buyer agrees that, subject only to the conditions, qualifications and exceptions (if any) specifically set forth in the Transaction Documents, its obligations under the Transaction Documents are unconditional and absolute. Except to the extent (if any) specifically set forth in the Transaction Documents, each party's obligations thereunder are not subject to any right of set off, counterclaim, delay or reduction.

(aa) ISSUANCE OF COMMON SHARES. The Common Shares are duly authorized and reserved for issuance and, upon exercise of the Warrants in accordance with the terms thereof, such Common Shares will be validly issued, fully paid and non-assessable, free and clear of any and all liens, claims and encumbrances, and entitled to be traded on the Principal Market or the New York Stock Exchange or the American Stock Exchange, or the Nasdaq small cap market (collectively with the Principal Market, the "APPROVED MARKETS"), and the holders of such Common Shares shall be entitled to all rights and preferences accorded to a holder of Common Stock. As of the date of this Agreement, the outstanding shares of Common Stock are currently listed on the Principal Market.

(bb) MODEX. The Company owns approximately 126,193 shares of the common stock of Modex Therapeutics, Ltd.

(cc) BROKERS. The Company has taken no action which would give rise to any claim by any person for brokerage commissions, finder's fees or similar payments by the Buyer relating to this Agreement or the transactions contemplated hereby.

4. CERTAIN COVENANTS AND ACKNOWLEDGMENTS.

(a) TRANSFER RESTRICTIONS. The Company and the Buyer acknowledge and agree that (A) the Shares and the Warrants have not been and are not being registered under the provisions of the 1933 Act and, except as provided in the Registration Rights Agreement with respect to the resale of the Shares, the Shares have not been and are not being registered for resale under the 1933 Act, and the Securities may not be transferred unless (i) subsequently registered for resale thereunder or (ii) the Buyer 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 or transferred may be sold or transferred pursuant to an exemption from such registration (unless waived) and (B) any resale of the Securities made in reliance on Rule 144 promulgated under the 1933 Act ("Rule 144") may be made only in accordance with the terms of Rule 144 and further, if Rule 144 is not applicable, any such resale of 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 used in the 1933 Act, may require compliance with some other exemption under the 1933 Act or the rules and regulations of the SEC thereunder.

(b) RESTRICTIVE LEGEND. (1) The Buyer acknowledges and agrees that the Warrants shall bear a restrictive legend in substantially the following form:

> The securities represented by this certificate have not been registered under the Securities Act of 1933, as amended. The securities have been acquired for investment and may not be resold, transferred or assigned in the absence of an effective registration statement for the securities under the Securities Act of 1933, as amended, or an opinion of counsel that registration is not required under said Act.

(2) The Buyer further acknowledges and agrees that until such time as the Shares have been registered for resale under the 1933 Act as contemplated by the Registration Rights Agreement, the certificates for the Shares may bear a restrictive legend in substantially the following form:

> The securities represented by this certificate have not been registered under the Securities Act of 1933, as amended. The securities have been acquired for investment and may not be resold, transferred or assigned in the absence of an effective registration statement for the securities under the Securities Act of 1933, as amended, or an opinion of counsel that registration is not required under said Act.

(3) Once the Registration Statement required to be filed by the Company pursuant to Section 2 of the Registration Rights Agreement has been declared effective, thereafter (1) upon request of the Buyer the Company will substitute certificates without restrictive legend for certificates for all Shares issued prior to the date such Registration Statement is declared effective by the SEC which bear such restrictive legend and remove any stop-transfer restriction relating thereto promptly, but in no event later than three Trading Days (as defined herein) after surrender of such certificates by the Buyer and (2) the Company shall not place any restrictive legend on certificates for Warrant Shares or impose any stop-transfer restriction thereon. As used in this Agreement, "Trading Day" means a day on whichever of (x) the national securities exchange, (y) Nasdaq or (z) the Nasdaq SmallCap Market (if at the time such market constitutes the principal securities market for the Common Stock) is open for general trading.

(c) REGISTRATION RIGHTS AGREEMENT. The parties hereto agree to enter into the Registration Rights Agreement in the form attached hereto as ANNEX III on or before the Closing Date.

(d) FORM D. The Company agrees to file a Form D with respect to the Securities as required under Regulation D and to provide a copy thereof to the Buyer promptly

after such filing. The Buyer agrees to cooperate with the Company in connection with such filing and, upon request of the Company, to provide all information relating to the Buyer reasonably required for such filing.

(e) AUTHORIZATION FOR TRADING; REPORTING STATUS. On or before the Closing Date, the Company shall, if required, file a notification for listing of additional shares with the Nasdaq relating to the Shares and shall provide evidence of such filing to the Buyer. So long as the Buyer beneficially owns any of the Shares or the Warrants, the Company covenants to timely file (or obtain extensions in respect thereof and file within the applicable grace period) all reports required to be filed by the Company after the date hereof pursuant to Section 13(a) or 15(d) of the Exchange Act; provided, however, that if the Company is not required to file reports pursuant to such sections, it will prepare and furnish to the Purchasers and make publicly available in accordance with Rule 144(c) promulgated under the Securities Act such information as is required for the Purchasers to sell the Securities under Rule 144 promulgated under the Securities Act.

(f) USE OF PROCEEDS. Neither the Company nor any Subsidiary owns or has any present intention of acquiring any "margin stock" as defined in Regulation G (12 CFR Part 207) of the Board of Governors of the Federal Reserve System ("margin stock"). The proceeds of sale of the Shares will be used for general working capital purposes and in the operation of the Company's business. None of such proceeds will be used, directly or indirectly (1) to make any loan to or investment in any other person (other than financing the Company's subsidiaries in the ordinary course of business or in connection with an acquisition of another corporation or business or assets of another corporation or business) or (2) for the purpose, whether immediate, incidental or ultimate, of purchasing or carrying any margin stock or for the purpose of maintaining, reducing or retiring any indebtedness which was originally incurred to purchase or carry any stock that is currently a margin stock or for any other purpose which might constitute the transactions contemplated by this Agreement a "purpose credit" within the meaning of such Regulation G. Neither the Company nor any agent acting on its behalf has taken or will take any action which might cause this Agreement or the transactions contemplated hereby to violate Regulation G, Regulation T or any other regulation of the Board of Governors of the Federal Reserve System or to violate the 1934 Act, in each case as in effect now or as the same may hereafter be in effect.

(g) BLUE SKY LAWS. The Company shall take such action as shall be necessary to qualify, or to obtain an exemption for, the Common Shares for sale to the Buyer and the Warrants for issuance to the Buyer pursuant to this Agreement and the Warrant Shares for issuance to the Buyer upon exercise of the Warrants under such of the securities or "blue sky" laws of jurisdictions as shall be applicable to the sale of the Common Shares and the issuance of the Warrants pursuant to this Agreement and the issuance to the Buyer of Warrant Shares upon exercise of the Warrants. The Company shall furnish copies of all filings, applications, orders and grants or confirmations of exemptions relating to such securities or "blue sky" laws.

(h) EXPENSES. The parties shall each bear their own expenses in connection with this Agreement, the other Transaction Documents and the transactions contemplated hereby and thereby; provided, however, that the Company shall pay or reimburse the Buyer for all reasonable expenses (including, without limitation, legal fees and expenses of counsel to the

Buyer and the Buyer's due diligence expenses) not in excess of $25,000 incurred by the Buyer in connection with this Agreement and the transactions contemplated hereby. In addition, the Company or the Buyer, as the case may be, shall pay on demand all expenses incurred by the other party, including reasonable attorneys' fees and expenses, as a consequence of, or in connection with any default or breach of any of the defaulting or breaching party's obligations set forth in any of such agreements or instruments and the enforcement of any right of, including the collection of any payments due, the other party under any of such agreements or instruments, including any action or proceeding relating to such enforcement, or any order, injunction or other process seeking to restrain a party from paying any amount due the other party, in which the other party prevails, provided that such reimbursable legal fees and expenses do not exceed, in each instance, 35% of the amount sought in good faith to be recovered.

(i) CERTAIN ISSUANCES OF SECURITIES. Unless the Company obtains the approval of its stockholders as required by the Shareholder Approval Rule or a waiver thereof from Nasdaq, the Company will not issue any shares of Common Stock or shares of any series of preferred stock or other securities convertible into, exchangeable for, or otherwise entitling the holder to acquire, shares of Common Stock which would be subject to the requirements of the Shareholder Approval Rule and which would be integrated with the sale of the Common Shares and issuance of the Warrants to the Buyer or the issuance of Warrant Shares upon exercise of the Warrants for purposes of the Shareholder Approval Rule.

During the period from the date of this Agreement through December 31, 2000, the Company shall not, without the prior written consent of the Buyer (which may be withheld in its sole discretion) file any registration statement for any securities of the Company (or securities underlying convertible, exchangeable or exercisable securities) other than (A) pursuant to the Registration Rights Agreement, (B) with respect to a bona fide secondary public offering of newly issued shares of Common Stock, (C) with respect to Approved Transactions or (D) in connection with any financing transaction in which shares of Common Stock are issued or are issuable upon exercise or conversion of securities issued in such transaction and the effective purchase price per share of such Common Stock at the time of consummation of such transaction is greater than the price per share set forth on the signature page hereto (as appropriately adjusted to for any stock splits, recapitalizations or similar events to allow for a meaningful comparison). As used herein, "Approved Transaction" means (i) a bona fide issuance pursuant to a compensation or similar arrangement with employees, officers, directors, or consultants, (ii) a bank financing or (iii) as part of a transaction involving a strategic alliance, acquisition of stock or assets, merger, collaboration, joint venture, partnership or other similar arrangement of the Company with another corporation, partnership or other business entity (A) which is engaged in a business similar, complementary or related to the business of the Company or (B) pursuant to which the Company issues securities with the primary purpose to directly or indirectly acquire, license or otherwise become entitled to use technology relevant to or useful in the Company's business, so long as in each case of this clause (iii) the Board of Directors of the Company by resolution duly adopted duly approves such transaction in accordance with its duties under applicable law.

During the period from the date of execution and delivery of this Agreement until the earlier of (a) the date (after Closing) on which the Buyer no longer holds any Common Shares acquired hereunder or (b) the last Adjustment Date (as defined in the Class A Warrants).

Date (the "Co-Investment Period"), Millennium Partners, L.P. ("Millennium") shall have a right to participate in all capital raising transactions as set forth in this Section 4(i). Millennium shall have the right to co-invest, on the same terms as the other investors in such transactions, in any future offerings of the Company's securities issued in capital raising transactions (other than securities issued in connection with strategic investments, bank financings and compensation or similar arrangements with employees, officers, directors and consultants), for up to 100% of the principal amount of such offerings.

During the Co-Investment Period, the Company shall give written notice to Millennium (subject to the "Right to Decline Review" as defined in the Registration Rights Agreement) upon the closing of a private sale of securities either (A) issued at a discount to market value, (B) having variable conversion or exercise price features or (C) similar to the Class A Warrants (a "PRIVATE FINANCING TRANSACTION"), in each case excluding any Approved Transactions, Millennium shall have ten (10) business days from receipt of such notice to deliver a written notice to the Company that it elects to exercise its right to co-invest in such Financing Transaction, which notice shall indicate the percentage (up to 100%) of the Financing Transaction with respect to which Millennium is co-investing. In the event that any of the consideration to be issued to the Company in a Financing Transaction consists of consideration other than cash, Millennium shall have the right to provide the cash equivalent as determined in good faith by the Board of Directors of the Company. This right of co-invest shall continue even if the Buyer elects not to co-invest in one or more Financing Transactions.

In addition, and without limiting the foregoing, the Buyer shall also have the right during the Co-Investment Period, with respect to one Private Financing Transaction (excluding an Approved Transaction) to prohibit one potential investor in such Private Financing Transaction from participating therein so long as the Buyer (or another investor designated or arranged by the Buyer and reasonably acceptable to the Company), replaces the investment in the Company that would have been made by such prohibited investor. Until such right is exercised, the Company shall give the Buyer at least five (5) business days' notice prior to the closing of any Private Financing Transaction.

(j) CERTAIN TRADING RESTRICTIONS. The Buyer agrees that on the Closing Date, the Buyer will have no short position in the Common Stock. The Buyer agrees that on and after the Closing Date until the Buyer no longer holds any Securities, the Buyer will not engage in any short sales or other hedging transactions (including swaps, options or derivative securities) relating to the Shares; unless at the time of any such transaction the Company is then in breach of its obligations to have the Buyer's Securities duly registered under the Registration Rights Agreement; and PROVIDED, HOWEVER, the Buyer may engage in such short sales and/or hedging activity provided that (i) the Buyer's short position does not exceed the number of Warrant Shares then issuable upon exercise of the Callable Warrants, (ii) no such short sales shall be at a per share price below $3.9375 (as such figure shall be appropriately adjusted for any stock splits, recapitalizations or similar events), and (iii) the aggregate amount of such short sales made on any one day shall not exceed 5% of the total trading volume on such day.

(k) COMMERCIALLY REASONABLE EFFORTS. Each of the parties shall use commercially reasonable efforts timely to satisfy each of the conditions to the other party's

obligations to sell and purchase the Common Shares set forth in Section 7 or 8, as the case may be, of this Agreement on or before the Closing Date.

5. OPTION TO PURCHASE ADDITIONAL SECURITIES.

(a) At the option of Millennium, Millennium may purchase additional shares of Common Stock (the "OPTION SHARES") for a purchase price per share equal to 110% of the average of the closing bid prices for the Company's Common Stock (as reported on Nasdaq or other market on which the Common Stock is principally traded) over the five (5) Trading Days immediately preceding the date of the Option Notice (defined below) (which purchase price per share shall not in any case be less than the price per share set forth on the signature page hereto (subject to appropriate adjustment for stock splits, recapitalizations and similar events) for an aggregate purchase price of up to Three Million U.S. Dollars ($3,000,000).

(b) This option may be exercised in whole or in part, at any time and from time to time commencing on the Closing Date until the first anniversary of the Closing Date. Upon delivery of a notice by Millennium exercising its option hereunder ("Option Notice"), the Company shall be obligated to sell, issue and deliver to Millennium, and Millennium shall be obligated to purchase, the Option Shares specified in the option exercise notice, subject to the terms of this Section 5(b). Closing of any such purchase and sale (each an "Option Closing") shall take place in the same manner as the Closing. At the Option Closing, the Company shall deliver certificates evidencing the Option Shares being purchased against the payment of the purchase price therefor, which Option Closing shall occur within three (3) Trading Days of delivery of the Option Notice by Buyer. The Option Shares and the holders thereof shall be subject to the terms, conditions and obligations applicable to the Common Shares under this Agreement and the Registration Rights Agreement.

(c) In addition to issuing to Millennium the Option Shares, at each Option Closing the Company shall also issue to Millennium a number of Callable Warrants and Class A Warrants such that the number of each of such Warrants bears the same proportion to the number of Option Shares issued at the Option Closing as the Callable Warrants and Class A Warrants issued hereunder on the Closing Date bear to the number of Common Shares issued hereunder on the Closing Date; provided that the Callable Warrants shall have an initial exercise price (subject to adjustment as provided therein) equal to 120% of the average of the closing bid prices of the Common Stock (as reported on Nasdaq or other market on which the Common Stock is principally traded) for the five (5) Trading Days immediately preceding the date of the Option Notice for such Option Closing (which initial exercise price shall not in any case be less than the initial exercise price of the Callable Warrant issued on the Closing Date (subject to appropriate adjustment for any stock splits, recapitalizations or similar events). All Option Shares and shares of Common Stock underlying any Callable Warrants and Class A Warrants issued at an Option Closing shall have the same registration rights, and shall be subject to the same terms, conditions and obligations, as provided in the Registration Rights Agreement, and upon each Option Closing the Company shall enter into a new or supplemental registration rights agreement covering all such securities in the same form as the Registration Rights Agreement. All Option Shares and shares of Common Stock underlying any Callable Warrants and Class A Warrants

issued at an Option Closing, and the holders thereof, shall have the same rights, and shall be subject to the same terms, conditions and obligations, as provided in this Agreement and each such holder shall be deemed to be a Buyer for all purposes hereunder. At each Option Closing, the Company shall execute and deliver all documents reasonably requested by Millennium, including without limitation, to the extent so requested, a new subscription agreement in the same form as this Agreement and the documents referred to in Sections 8(c), 8(d) and 8(e) below with reference to such Option Closing instead of the Closing hereunder. The Company shall at all times during the period that this option is exercisable have duly reserved a sufficient number of shares of Common Stock to satisfy in full the option hereunder at such time.

(d) (i) Notwithstanding anything to the contrary contained herein, the number of Option Shares that may be acquired by the Buyer shall not exceed a number that, when added to the total number of shares of Common Stock deemed beneficially owned by the Buyer (other than by virtue of the ownership of securities or rights to acquire securities that have limitations on the Buyer's right to convert, exercise or purchase similar to the limitation set forth herein), together with all shares of Common Stock deemed beneficially owned (other than by virtue of the ownership of securities or rights to acquire securities that have limitation set forth herein) by the Buyer's "affiliates" (as defined in Rule 144 of the Securities Act) ("Aggregation Parties"), that would be aggregated for purposes of determining whether a group under Section 13(d) of the Securities Exchange Act of 1934, as amended, exists would exceed 9.99% of the total issued and outstanding shares of the Common Stock (the "Restricted Ownership Percentage"). The Buyer shall have the right (w) at any time and from time to time to reduce its Restricted Ownership Percentage immediately upon notice to the Company and (x) (subject to waiver) at any time and from time to time, to increase its Restricted Ownership Percentage immediately in the event of the announcement as pending or planned, of a merger or consolidation of the Company, a sale of all or substantially all of the assets of the Company or the acquisition by any third party (and/or such party's Aggregation Parties) of at least 51% of the Company's outstanding Common Stock.

(ii) The Buyer covenants at all times on each day (each such day being referred to as a "Covenant Day") as follows: during the balance of such Covenant Day and the succeeding sixty-one (61) days (the balance of such Covenant Day and the succeeding 61 days being referred to as the "Covenant Period") the Buyer will not acquire shares of Common Stock pursuant to any right (including exercise of this option) existing at the commencement of the Covenant Period to the extent the number of shares so acquired by the Buyer and its Aggregation Parties (ignoring all dispositions) would exceed:

(x) the Restricted Ownership Percentage of the total number of shares of Common Stock outstanding at the commencement of the Covenant Period; MINUS

(y) the number of share of Common Stock owned by the Buyer and its Aggregation Parties at the commencement of the Covenant Period.

A new and independent covenant will be deemed to be given by the Buyer as of each moment of each Covenant Day. No covenant will terminate, diminish or modify any other covenant. The Buyer agrees to comply with each such covenant.

The Company's obligation to issue shares of Common Stock which would exceed such limits shall be suspended to the extent necessary until such time, if any, as shares of Common Stock may be issued in compliance with such restrictions.

(iii) Notwithstanding anything contained herein, unless shareholder approval is obtained in accordance with the Shareholder Approval Rule, or the Common Stock is no longer listed or quoted on a market subject to the Shareholder Approval Rule or an equivalent rule, the Company shall not issue shares of Common Stock hereunder to the extent that the total number of shares of Common Stock issued to the Buyer under this Agreement (including the Warrants) would exceed 3,902,081 (as such number shall be appropriately adjusted for any stock splits, recapitalizations or similar events).

6. CLOSING DATE.

Subject to the satisfaction or waiver of the conditions set forth in Sections 7 and 8, the date and time of the issuance and sale of the Common Shares and the issuance of the Warrants shall be 12:00 noon, New York City time, on the Closing Date.

7. CONDITIONS TO THE COMPANY'S OBLIGATION TO SELL - AND ISSUE.

The Buyer understands that the Company's obligation to sell the Common Shares and issue the Warrants to the Buyer pursuant to this Agreement is conditioned upon the satisfaction of the following conditions precedent on or before the Closing Date (any or all of which may be waived by the Company in its sole discretion):

(a) The receipt and acceptance by the Company of this Agreement as evidenced by execution of this Agreement by the Company and delivery of an executed counterpart of this Agreement to the Buyer or its legal counsel;

(b) Delivery by the Buyer to the Company of good funds for payment of 75% of the Purchase Price for the Common Shares in accordance with Section 1(b) hereof; and

(c) The accuracy in all material respects on the Closing Date of the representations and warranties of the Buyer contained in this Agreement as if made on the Closing Date and the performance by the Buyer on or before the Closing Date of all covenants and agreements of the Buyer required to be performed on or before the Closing Date, and receipt by the Company of a certificate, dated the Closing Date, of a duly authorized signatory of the Buyer confirming such matters and such other matters as the Company may reasonably request.

8. CONDITIONS TO THE BUYER'S OBLIGATION TO PURCHASE.

The Company understands that the Buyer's obligation to purchase the Common Shares and acquire the Warrants on the Closing Date is conditioned upon the satisfaction of the following conditions precedent on or before the Closing Date (any or all of which may be waived by the Buyer in its sole discretion):

(a) The receipt and acceptance by the Buyer of this Agreement as evidenced by execution of this Agreement by the Buyer and delivery of an executed counterpart of this Agreement to the Company or its legal counsel;

(b) Delivery by the Company to the Buyer (or its counsel) of the certificates for the Common Shares, the Callable Warrants and the Class A Warrants in accordance with this Agreement;

(c) The accuracy in all material respects on the Closing Date of the representations and warranties of the Company contained in this Agreement as if made on the Closing Date and the performance by the Company on or before the Closing Date of all covenants and agreements of the Company required to be performed on or before the Closing Date, and receipt by the Buyer of a certificate, dated the Closing Date, of the Chief Executive Officer of the Company confirming such matters and such other matters as the Buyer may reasonably request;

(d) The receipt by the Buyer of a certificate, dated the Closing Date, of the Secretary of the Company certifying (1) the Certificate of Incorporation, as amended, and By-Laws of the Company as in effect on the Closing Date and (2) all resolutions of the Board of Directors (and committees thereof) of the Company relating to this Agreement and the transactions contemplated hereby;

(e) Receipt by the Buyer on the Closing Date of an opinion of Ropes & Gray, dated the Closing Date, in such form, scope and substance reasonably satisfactory to the Buyer, to the effect set forth in ANNEX IV attached hereto.

(f) From the date hereof to the Closing Date, trading in the Company's Common Stock shall not have been suspended by the SEC and trading in securities generally as reported by Nasdaq shall not have been suspended or limited, and the Common Stock shall be listed on Nasdaq.

(g) No statute, rule, regulation, executive order, decree, ruling or injunction shall have been enacted, entered, promulgated or endorsed by any court or governmental authority of competent jurisdiction which prohibits the consummation of any of the transactions contemplated by this Agreement, the Warrants or the Registration Rights Agreement. The NASD shall not have objected or indicated that it may object to the consummation of any of the transactions contemplated by this Agreement.

(h) The Company and the Buyer shall have executed and delivered the Registration Rights Agreement.

(i) The Company shall have delivered to the Buyer such other documents relating to the transactions contemplated by this Agreement as the Buyer or its counsel may reasonably request.

9. MISCELLANEOUS.

(a) GOVERNING LAW. The corporate laws of the State of Delaware shall govern all issues concerning the relative rights of the Company and its stockholders. All other questions concerning the construction, validity, enforcement and interpretation of this Agreement shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the City of New York, borough of Manhattan, for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is improper. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law.

(b) COUNTERPARTS. This Agreement may be executed in counterparts and by the parties hereto on separate counterparts, all of which together shall constitute one and the same instrument. A facsimile transmission of this Agreement bearing a signature on behalf of a party hereto shall be legal and binding on such party. Although this Agreement is dated as of the date first set forth above, the actual date of execution and delivery of this Agreement by each party is the date set forth below such party's signature on the signature page hereof. Any reference in this Agreement or in any of the documents executed and delivered by the parties hereto in connection herewith to (1) the date of execution and delivery of this Agreement by the Buyer shall be deemed a reference to the date set forth below the Buyer's signature on the signature page hereof, (2) the date of execution and delivery of this Agreement by the Company shall be deemed a reference to the date set forth below the Company's signature on the signature page hereof and (3) the date of execution and delivery of this Agreement or the date of execution and delivery of this Agreement by the Buyer and the Company shall be deemed a reference to the later of the dates set forth below the signatures of the parties on the signature page hereof.

(c) HEADINGS, ETC. The headings, captions and footers of this Agreement are for convenience of reference and shall not form part of, or affect the interpretation of, this Agreement.

(d) SEVERABILITY. If any provision of this Agreement shall be invalid or unenforceable in any jurisdiction, such invalidity or unenforceability shall not affect the validity or enforceability of the remainder of this Agreement or the validity or enforceability of this Agreement in any other jurisdiction.

(e) AMENDMENTS. No amendment, modification, waiver, discharge or termination of any provision of this Agreement nor consent to any departure by the Buyer or the Company therefrom shall in any event be effective unless the same shall be in writing and signed by the party to be charged with enforcement, and then shall be effective only in the specific instance and for the purpose for which given. No course of dealing between the parties hereto shall operate as an amendment of this Agreement.

(f) WAIVERS. Failure of any party to exercise any right or remedy under this Agreement or otherwise, or delay by a party in exercising such right or remedy, or any course of dealings between the parties, shall not operate as a waiver thereof or an amendment hereof, nor shall any single or partial exercise of any such right or power, or any abandonment or discontinuance of steps to enforce such a right or power, preclude any other or further exercise thereof or exercise of any other right or power.

(g) NOTICES. Any notices required or permitted to be given under the terms of this Agreement shall be delivered personally (which shall include telephone line facsimile transmission with answer back confirmation) or by courier and shall be effective upon receipt, in the case of the Company addressed to the Company at its address shown in the introductory paragraph of this Agreement, Attention: Chief Executive Officer (telephone line facsimile transmission number (408) 731-8674, with a copy to Ropes & Gray, One International Place, Boston, Massachusetts, 02110, Attention: Geoffrey B. Davis, Esq., (facsimile number (617) 951-7050), or, in the case of the Buyer, at its address or telephone line facsimile transmission number shown on the signature page of this Agreement, with a copy to Kleinberg, Kaplan, Wolff & Cohen, P.C., 551 Fifth Avenue, New York, New York 10176, Attn: Martin D. Sklar, Esq. (facsimile number (212) 986-8866) or such other address or telephone line facsimile transmission number as a party shall have provided by notice to the other party in accordance with this provision.

(h) ASSIGNMENT. Prior to the Closing Date, the Buyer may not assign its rights and obligations under this Agreement. Any transfer of the Shares or the Warrants by the Buyer after the Closing Date shall be made in accordance with Section 4. After the Closing Date, the Buyer shall have the right to assign its rights and obligations under this Agreement in connection with any transfer of the Securities upon execution by any transferee of an instrument reasonably satisfactory to the Company pursuant to which the transferee agrees with the Company to be bound as a Buyer by the terms and conditions of this Agreement.

(i) SURVIVAL OF REPRESENTATIONS AND WARRANTIES. The respective representations, warranties, covenants and agreements of the Buyer and the Company contained in this Agreement or made by or on behalf of them, respectively, pursuant to this Agreement shall survive the delivery of and payment for the Common Shares and shall remain in full force and effect regardless of any investigation made by or on behalf of them or any person controlling or advising any of them.

(j) ENTIRE AGREEMENT. This Agreement and its Schedules and Annexes set forth the entire agreement between the parties hereto with respect to the subject matter hereof and supersede all prior agreements and understandings, whether written or oral, with respect thereto.

(k) TERMINATION. Either party shall have the right to terminate this Agreement by giving notice to the other party at any time at or prior to the Closing Date if:

(i) the other party shall have failed, refused, or been unable at or prior to the date of such termination of this Agreement to perform any of its obligations hereunder the performance of which was due at the time of termination;

(ii) any other condition of the terminating party's obligations hereunder is not fulfilled at the time such condition was to be fulfilled; or

(iii) the closing shall not have occurred on a Closing Date on or before August 3, 2000, other than solely by reason of a breach of this Agreement by the terminating party.

Any such termination shall be effective upon the giving of notice thereof by the terminating party. Upon such termination, neither party shall have any further obligation to the other party hereunder; provided, however, that nothing herein shall relieve a breaching party of any liability it may have to the other party as a result of such breach.

(l) FURTHER ASSURANCES. Each party to this Agreement will perform any and all acts and execute any and all documents as may be necessary and proper under the circumstances in order to accomplish the intents and purposes of this Agreement and to carry out its provisions.

(m) PUBLIC STATEMENTS, PRESS RELEASES, ETC. The Company and the Buyer shall have the right to approve before issuance any press releases or any other public statements with respect to the transactions contemplated hereby; PROVIDED, HOWEVER, that the Company shall be entitled, without the prior approval of the Buyer, to make any press release or other public disclosure with respect to such transactions as is required by applicable law or Nasdaq regulation (although the Buyer shall be consulted by the Company in connection with any such press release or other public disclosure prior to its release and shall be provided with a copy thereof).

(n) CONSTRUCTION. The language used in this Agreement will be deemed to be the language chosen by the parties to express their mutual intent, and no rules of strict construction will be applied against any party.

(o) INDEMNIFICATION. In consideration of the Buyer's execution and delivery of the this Agreement and the Registration Rights Agreement and acquiring the Common Shares hereunder and in addition to all of the Company's other obligations under this Agreement or the transaction documents contemplated hereby, the Company shall defend, protect, indemnify and hold harmless the Buyer and all of its partners, officers, directors, employees, members and direct or indirect investors and any of the foregoing person's agents or other representatives (including, without limitation, those retained in connection with the transactions contemplated by this Agreement) (collectively, the "INDEMNITEES") from and against any and all actions, causes of action, suits, claims, losses, costs, penalties, fees, liabilities and damages, and expenses in connection therewith (irrespective of whether any such Indemnitee is a party to the action for which indemnification hereunder is sought), and including reasonable attorneys' fees and disbursements (the "INDEMNIFIED LIABILITIES"), incurred by any Indemnitee as a result of, or arising out of, or relating to (a) any misrepresentation or breach of any representation or warranty made by the Company in this Agreement or the other transaction documents contemplated hereby or any other certificate or document contemplated hereby or thereby, (b) any breach of any covenant, agreement or obligation of the Company contained in this Agreement or the other transaction documents contemplated herein or any other certificate or document contemplated hereby or thereby, (c) any cause of action, suit or claim brought or made against such Indemnitee

by a third party and arising out of or resulting from (i) the execution, delivery, performance, breach by the Company or enforcement of this Agreement or the other transaction documents contemplated hereby or any other certificate, instrument or document contemplated hereby or thereby, (ii) any transaction financed or to be financed in whole or in part, directly or indirectly, with the proceeds of the issuance of the Shares or (iii) the status of the Buyer or holder of the Shares or Warrants as an investor in the Company and (d) the enforcement of this Section. Notwithstanding the foregoing, Indemnified Liabilities shall not include any liability of any Indemnitee arising solely out of such Indemnitee's gross negligence, willful misconduct or fraudulent action(s). To the extent that the foregoing undertaking by the Company may be unenforceable for any reason, the Company shall make the maximum contribution to the payment and satisfaction of each of the Indemnified Liabilities which is permissible under applicable law. Except as otherwise set forth herein, the mechanics and procedures with respect to the rights and obligations under this section shall be the same as those set forth in the Registration Rights Agreement, including, without limitation, those procedures with respect to the settlement of claims and Company's right to assume the defense of claims.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, this Agreement has been duly executed by the Buyer and the Company by their respective officers or other representatives thereunto duly authorized on the respective dates set forth below.

NUMBER OF SHARES: 923,521

PRICE PER SHARE: $4.33125

AGGREGATE PURCHASE PRICE: $4,000,000.00

MILLENNIUM PARTNERS, LP

By:

Name:
Title:

Date: As of July 31, 2000

Address: 666 Fifth Avenue
New York, New York 10103

Facsimile: (212) 841-6302

STEMCELLS, INC.

By:

Name:
Title:

Date: As of July 31, 2000

SCHEDULES

Disclosure Schedule

ANNEXES

Annex I	Form of Callable Warrant
Annex II	Form of Common Stock Purchase Warrant, Class A
Annex III	Form of Registration Rights Agreement
Annex IV	Form of Opinion of Counsel to Be Delivered on Closing Date

Exhibit 23.1

Consent of Independent Auditors

We consent to the reference to our firm under the caption "Experts" and to the use of our report dated April 14, 2000 in the Registration Statement (Form S-1 No. 333-) and related Prospectus of StemCells, Inc. (formerly CytoTherapeutics, Inc.) for the registration of 3,205,486 shares of its common stock.

Providence, Rhode Island
September 7, 2000