AS FILED WITH THE SECURITIES AND EXCHANGE COMMISSION ON JUNE 29, 2001

REGISTRATION NO. 333-61726

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SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

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

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

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

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

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

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

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

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

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

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

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

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

CALCULATION OF REGISTRATION FEE

TITLE OF EACH CLASS OF SECURITIES TO BE REGISTERED	AMOUNT TO BE REGISTERED	PROPOSED MAXIMUM OFFERING PRICE PER SHARE	PROPOSED MAXIMUM AGGREGATE OFFERING PRICE	AMOUNT OF REGISTRATION FEE

Common Stock, par value $.01 per share.....	up to 10,000,000(1)	(2)	$31,914,894(3)	$7,979
Common Stock, par value $.01 per share(4)...	350,000	$3.15(5)	$ 1,102,500	$ 276
Total:.....	10,350,000		$33,017,394	$8,255(6)

(1) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(o) of the Securities Act of 1933.

(2) The price per share will vary based on the volume-weighted average daily price of the Company's common stock during the drawdown periods described in this registration statement.

(3) This represents the maximum fair market value of shares sold to Sativum Investments Limited under the common stock purchase agreement. The maximum net proceeds the Company can receive is $30,000,000 less an aggregate cash placement fee of 3% of net proceeds payable to its placement agents Pacific Crest Securities, Inc. and Granite Financial Group, Inc.

(4) Issuable upon exercise of the warrants issued to Sativum Investments Limited, Pacific Crest Securities, Inc. and Granite Financial Group, Inc.

(5) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(c) of the Securities Act of 1933, based on the average of the high and low prices as reported on the Nasdaq National Market on May 18, 2001.

(6) Paid May 25, 2001

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

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STEMCELLS, INC.
10,350,000 SHARES OF COMMON STOCK

This prospectus relates to up to 10,000,000 shares of common stock that may be issued from time to time at our discretion pursuant to a common stock purchase agreement with Sativum Investments Limited, a British Virgin Islands corporation, and 350,000 shares of common stock issuable upon the exercise of warrants issued to Sativum, Pacific Crest Securities, Inc. and Granite Financial Group, Inc. in connection with the common stock purchase agreement. See "Common Stock Purchase Agreement" beginning on page 54.

We will receive the net sale price of any common stock that we sell to Sativum pursuant to the common stock purchase agreement or that we issue upon the exercise of the warrants by Sativum, Pacific Crest or Granite. Sativum, Pacific Crest and Granite may resell those shares pursuant to this prospectus. The price at which we will sell the shares to Sativum pursuant to the common stock purchase agreement will be equal to 94% of the average of the volume weighted average price of our common stock during the twenty trading days immediately following our request to draw down an investment by Sativum under the common stock purchase agreement.

Sativum is an "underwriter" within the meaning of the Securities Act of 1933 in connection with its sales.

Our common stock is listed on the Nasdaq National Market under the symbol "STEM." The last reported sales price for our common stock on the Nasdaq National Market on June 28, 2001 was $4.49 per share.

THE SECURITIES OFFERED HEREBY INVOLVE A HIGH DEGREE OF RISK.
SEE "RISK FACTORS" BEGINNING ON PAGE 6.

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

THE DATE OF THIS PROSPECTUS IS JULY 2, 2001.

TABLE OF CONTENTS

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 engaged in research and development efforts focused on the identification, isolation and expansion of stem cells as the underlying technology for developing potential cell transplant therapies. Stem cells are key cells in the body that produce all of the functional mature cell types found in normal, healthy individuals. Our goal is to develop therapies that will use stem cells to repopulate or repair tissues, such as those of the brain, pancreas or liver, that have been damaged or lost as a result of disease or injury. All of our programs are currently at the discovery or pre-clinical stage.

Many diseases, such as Alzheimer's, Parkinson's and other degenerative diseases of the brain or nervous system, involve the failure of organs that cannot be transplanted. Other diseases, such as hepatitis and diabetes, involve organs such as the liver or pancreas that can be transplanted, but there is a very limited supply of those organs available for transplant. We estimate based on information available to us from the Alzheimer's Association, the Centers for Disease Control, the Family Caregiver's Alliance and the Spinal Cord Injury Information Network, that these conditions affect more than 18 million people in the United States and account for more than $150 billion annually in health care costs.

We believe that our stem cell technologies, if successfully developed, may provide the basis for effective therapies for these and other conditions. Our aim is to return patients to productive lives and significantly reduce the substantial health care costs often associated with these diseases and disorders. We have made significant progress toward developing stem cell therapies for the nervous system by identifying and characterizing the human central nervous system stem cell. We have also made significant advances in our search for the stem cells of the pancreas and the liver by identifying novel markers on the surface of cells so they can be isolated and tested to determine whether they are stem cells.

We have established our intellectual property position with respect to stem cell therapies for each of these three areas--the central nervous system, the pancreas and the liver--by patenting or seeking patent protection for our discoveries and by 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. 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: We were formerly known as CytoTherapeutics and were 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 a different technology, 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 of stem cell technologies.

RECENT DEVELOPMENTS

SALE OF MODEX SHARES

On April 30, 2001, we sold 103,577 shares in Modex Therapeutics, Ltd., a Swiss biotherapeutics company, for a net price of 87.30 Swiss Francs per share, which converts to approximately $50.30, for total proceeds of approximately $5,200,000, net of commissions and fees. We no longer hold any shares of Modex. See "Business--Corporate Collaboration."

COMMON STOCK PURCHASE AGREEMENT RELATING TO EQUITY LINE

On May 10, 2001, we entered into a common stock purchase agreement with Sativum Investments Limited for the potential future issuance and sale of up to $30,000,000 of our common stock, subject to restrictions and other obligations that are described throughout this prospectus. We, at our sole discretion, may draw down on this facility, sometimes termed an equity line, from time to time, and Sativum is obligated to purchase shares of our common stock at a 6% discount to a volume weighted average market price over the 20 trading days following the drawdown notice. Our volume weighted average market price is calculated by adding the total dollars traded in every transaction in a given trading day and dividing that number by the total number of shares traded during that trading day. We are limited with respect to how often we can exercise a drawdown and the amount of each drawdown. For more details on the equity line, see "Common Stock Purchase Agreement" elsewhere in this prospectus.

ISSUANCE OF NEW PATENTS

On June 7, 2001, we announced the issuance to us of two new patents that further our proprietary position in our neural and pancreatic research programs. The first patent is a process patent that covers a novel method to separate neural stem cells for growth in culture. The second patent covers a unique model useful for identifying stem cells for the pancreas and liver. With these new patents, we now own or have exclusive license to 25 issued U.S. patents in the neural stem cell field, as well as fifteen U.S. applications, including two that have been allowed, and pending foreign counterparts.

ISSUANCE OF SHARES AND WARRANTS TO MILLENNIUM PARTNERS

On June 8, 2001, Millennium Partners, L.P. exercised an option to purchase $2,000,000 of our common stock. At the closing on June 21, 2001, Millennium purchased 457,750 shares of our common stock at $4.3692 per share. We received $1,500,000 of the purchase price at the closing on June 21, 2001, and we will receive the remaining $500,000 upon effectiveness of a registration statement covering the shares purchased by Millennium and issuable upon exercise of the warrants received by Millennium. Millennium also received a warrant to purchase 50,352 shares of our common stock at a price per share of $4.7664. This warrant is callable by us at any time at $7.944 per underlying share. In addition, Millennium received an adjustable warrant similar to the adjustable warrant issued to Millennium on August 3, 2000. See "Description of Capital Stock--Warrants." The registration statement of which this prospectus forms a part does not cover the shares purchased by or issuable to Millennium.

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

THE OFFERING

Common stock offered.....	Up to 10,350,000 shares of common stock. None of these shares will be offered by us. Up to 10,000,000 of these shares may be offered for resale by Sativum Investments Limited. We may require Sativum to purchase up to $30,000,000 of shares of our common stock from time to time at our discretion at a discount to a market-based price at the time of each sale to Sativum. The number of shares sold by us to Sativum and resold by this prospectus may be significantly lower than 10,000,000 shares. See "Common Stock Purchase Agreement and "Risk Factors--Risks Related to the Equity Line and Our Financial Condition." The remaining 350,000 shares, issuable upon the exercise of warrants, may be offered for resale by this prospectus by Sativum, Pacific Crest Securities Inc., Granite Financial Group Inc. or their transferees.
Common stock to be outstanding after this offering.....	Up to 36,808,211 shares of common stock, assuming that 10,350,000 shares are issued under the common stock purchase agreement and the warrants. We are not permitted to issue more than 3,922,606 shares pursuant to the common stock purchase agreement without stockholder approval, which we have not yet sought or received. In calculating the number of shares of common stock, we did not include 4,133,926 shares issuable upon exercise of options outstanding as of March 31, 2001, warrants or shares issuable upon conversion of our 6% cumulative convertible preferred stock. See "Capitalization."
Use of proceeds.....	We will not receive any of the proceeds of the resale of shares by Sativum, Pacific Crest or Granite. We will, however, receive proceeds from sales of shares to Sativum under the common stock purchase agreement and upon exercise of warrants by Sativum, Pacific Crest or Granite, and we intend to use these net proceeds for general corporate purposes. See "Use of Proceeds."
Nasdaq National market symbol.....	STEM

SUMMARY CONSOLIDATED FINANCIAL DATA

The following tables summarize the consolidated financial data for our business. You should read this table together with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and notes included elsewhere in this prospectus.

	YEAR ENDED DECEMBER 31,			THREE MONTHS ENDED MARCH 31,	
	1998	1999	2000	2000	2001
	(IN THOUSANDS, EXCEPT INCOME PER SHARE DATA)				
CONSOLIDATED STATEMENT OF OPERATIONS DATA:					
Revenue from collaborative agreements and grants	$ 8,803	$ 5,022	$ 74	$ --	$ 100
Gain on sale of investment	--	--	1,428	--	2,550
Research and development expenses	17,659	9,984	5,979	907	1,644
ECT wind-down expenses	--	6,048	3,327	234	--
Net income (loss)	$(12,628)	$(15,709)	$(11,125)	$(1,794)	$ 269

	AS OF DECEMBER 31, 2000	AS OF MARCH 31, 2001
	(IN THOUSANDS)	
CONSOLIDATED BALANCE SHEET DATA:		
Cash, cash equivalents and marketable securities	$ 6,069	$ 4,499
Restricted investments	16,356	8,413
Total assets	29,795	21,507
Long-term debt, including capitalized leases	2,605	2,521
Stockholders' equity	22,982	15,462

In July 1999 we began restructuring the company to focus solely on our stem cell technology. As part of this restructuring we terminated all activities related to our former encapsulated cell technology and we relocated our headquarters from Rhode Island to California. The results shown for the year ended December 31, 1999 and 2000 includes $6,047,806 and $3,327,360, respectively, in expenses related to the restructuring. For more information on this restructuring see "Business" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and notes included elsewhere in this prospectus.

During 2000, in connection with our investment in Modex Therapeutics, Ltd., a Swiss biotechnology company that completed an initial public offering on June 23, 2000, we realized a $1,427,686 gain and recognized an increase in value related to our remaining holdings of $16,356,334 as of December 31, 2000. During the three months ended March 31, 2001, we realized a gain of $2,550,000 in connection with further sales of Modex shares. After a subsequent sale on April 30, 2001, we no longer hold any shares of Modex. For more information on Modex, see "Recent Developments" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and notes included elsewhere in this prospectus.

RISK FACTORS

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

RISKS RELATED TO OUR BUSINESS

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

Our stem cell technology is at the early pre-clinical stage for the brain stem cell and at the discovery phase for the liver and pancreas stem cells and has not yet led to the development of any product. We may fail to discover the stem cells we are seeking, to develop any products, to obtain regulatory approvals, to enter clinical trials, or to commercialize any products. Any product using stem cell technology may fail to:

- survive and persist in the desired location;

- provide the intended therapeutic benefits;

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

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

In addition, our products may cause undesirable side effects. Results of early pre-clinical research may not be indicative of the results that will be obtained in later stages of pre-clinical or clinical research. If regulatory authorities do not approve our products, or if we fail to maintain regulatory compliance, we would have limited ability to commercialize our products, and our business and results of operations would be harmed. Furthermore, because stem cells are a new form of therapy, the marketplace may not accept any products we may develop.

If we do succeed in developing products, we will face many potential obstacles such as the need to obtain regulatory approvals, and to develop or obtain manufacturing, marketing and distribution capabilities. In addition, we will face substantial additional risks such as product liability.

WE HAVE PAYMENT OBLIGATIONS RESULTING FROM REAL PROPERTY OWNED OR LEASED BY US IN RHODE ISLAND, WHICH DIVERTS FUNDING FROM OUR STEM CELL RESEARCH AND DEVELOPMENT.

Prior to our reorganization in 1999 and the consolidation of our business in California, we carried out our encapsulated cell therapy programs in Lincoln, Rhode Island, where we also had our administrative offices. Although we have vacated the Rhode Island facilities, we remain obligated to make lease payments and operating costs of approximately $1,200,000 per year for our former science and administrative facility, which we have leased through June 30, 2013, and debt service payments and operating costs of approximately $1,000,000 per year for our former encapsulated cell therapy pilot manufacturing facility, which we own. We are currently seeking to sublease the science and administrative facility 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. In March 2001, our landlord approved a sublease of part of the premises.

WE MAY NEED BUT FAIL TO OBTAIN PARTNERS TO SUPPORT OUR STEM CELL DEVELOPMENT EFFORTS AND TO COMMERCIALIZE OUR TECHNOLOGY.

Equity and debt financings alone may not be sufficient to fund the cost of developing our stem cell technologies, and we may need to rely on our ability to reach partnering arrangements to provide

financial support for our stem cell discovery and development efforts. In addition, in order to successfully develop and commercialize our technology, we may need to enter into a wide variety of arrangements with corporate sponsors, pharmaceutical companies, universities, research groups and others. While we have engaged, and expect to continue to engage, in discussions regarding such arrangements, we have not reached any agreement, and we may fail to obtain any such agreement on terms acceptable to us. Even if we enter into these arrangements, we may not be able to satisfy our obligations under them or renew or replace them after their original terms expire. Furthermore, these arrangements may require us to grant certain rights to third parties, including exclusive marketing rights to one or more products, may require us to issue securities to our collaborators or may contain other terms that are burdensome to us. If any of our collaborators terminates its relationship with us or fails to perform its obligations in a timely manner, the development or commercialization of our technology and potential products may be adversely affected.

WE HAVE A HISTORY OF OPERATING LOSSES AND WE MAY FAIL TO OBTAIN REVENUES OR BECOME PROFITABLE.

We have incurred $130,229,646 in operating losses through March 31, 2001 and expect to continue to incur substantial operating losses in the future in order to conduct our research and development activities, and, if those activities are successful, to fund clinical trials and other expenses. These expenses include the cost of acquiring technology, product testing, acquiring regulatory approvals, establishing production, marketing, sales and distribution programs and administrative expenses. We have not earned any revenues from sales of any product. All of our past revenues have been derived from, and any revenues we may obtain for the foreseeable future are expected to be derived from, cooperative agreements, research grants, investments and interest on invested capital. We currently have no cooperative agreements and we have received only two research grants for our stem cell technology, and we may not obtain any such agreements or additional grants in the future or receive any revenues from them.

IF WE ARE UNABLE TO PROTECT OUR PATENTS AND PROPRIETARY RIGHTS, OUR BUSINESS, FINANCIAL CONDITION AND RESULTS OF OPERATION WILL BE HARMED.

We own or license a number of patents and pending patent applications covering human nerve stem cell cultures, central nervous system stem cell cultures, neuroblast cultures, peripheral nervous system stem cell cultures, and an animal model for liver failure. Patent protection for products such as those we propose to develop is highly uncertain and involves complex and continually evolving factual and legal questions. The governmental authorities that consider patent applications can deny or significantly reduce the patent coverage requested in an application before or after issuing the patent. Consequently, we do not know whether any of our pending applications will result in the issuance of patents, or if any existing or future patents will provide sufficient protection or significant commercial advantage or if others will circumvent these patents. We cannot be certain that we were the first to make the inventions covered by each of our pending patent applications or that we were the first to file patent applications for such inventions because patent applications are secret until patents are issued in the United States or until the applications are published in foreign countries, and because publication of discoveries in the scientific or patent literature often lags behind actual discoveries. Patents may not issue from our pending or future patent applications or, if issued, may not be of commercial benefit to us, or may not afford us adequate protection from competing products. In addition, third parties may challenge our patents or governmental authorities may declare them invalid. In the event that a third party has also filed a patent application relating to inventions claimed in our patent applications, we may have to participate in proceedings to determine priority of invention. This could result in substantial uncertainties and cost for us, even if the eventual outcome is favorable to us, and the outcome might not be favorable to us. Even if a patent issues, a court could decide that the patent was issued invalidly.

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

IF OTHERS ARE FIRST TO DISCOVER AND PATENT THE STEM CELLS WE ARE SEEKING TO DISCOVER, WE COULD BE BLOCKED FROM FURTHER WORK ON THOSE STEM CELLS.

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

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

A number of pharmaceutical, biotechnology and other companies, universities and research institutions have filed patent applications or have received patents relating to cell therapy, stem cells and other technologies potentially relevant to or necessary for our expected products. We cannot predict which, if any, of the applications will issue as patents. If third party patents or patent applications contain claims infringed by our technology and these claims are valid, we may be unable to obtain licenses to these patents at a reasonable cost, if at all, and may also be unable to develop or obtain alternative technology. If we are unable to obtain such licenses at a reasonable cost, our business could be significantly harmed.

We have obtained rights from universities and research institutions to technologies, processes and compounds that we believe may be important to the development of our products. Licensors may cancel our licenses or convert them to non-exclusive licenses if we fail to use the relevant technology or otherwise breach these agreements. Loss of these licenses could expose us to the risks of third party patents and/or technology. We can give no assurance that any of these licenses will provide effective protection against our competitors.

WE COMPETE WITH COMPANIES THAT HAVE SIGNIFICANT ADVANTAGES OVER US.

The market for therapeutic products that address degenerative diseases is large and competition is intense. We expect competition to increase. We believe that our most significant competitors will be fully integrated pharmaceutical companies and more established biotechnology companies, such as Biogen, Inc. and Genzyme, an Elan Corporation. These companies already produce or are developing treatments for degenerative diseases that are not stem cell-based, and they have significantly greater capital resources and expertise in research and development, manufacturing, testing, obtaining regulatory approvals and marketing than we do. Many of these potential competitors have significant products approved or in development that could be competitive with our potential products, and also operate large, well-funded research and development programs. In addition, we expect to compete with smaller companies such as NeuralStem and Layton Bioscience and with universities and other research institutions who are developing treatments for degenerative diseases that are stem cell-based.

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

The relative speed with which we and our competitors can develop products, complete the clinical testing and approval processes, and supply commercial quantities of a product to market will affect our

ability to gather market acceptance and market share. With respect to clinical testing, competition may delay progress by limiting the number of clinical investigators and patients available to test our potential products.

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

Our research and development efforts, as well as any future clinical trials, and the manufacturing and marketing of any products we may develop, will be subject to and restricted by extensive regulation by governmental authorities in the United States and other countries. The process of obtaining U.S. Food and Drug Administration and other necessary regulatory approvals is lengthy, expensive and uncertain. We or our collaborators may fail to obtain the necessary approvals to commence or continue clinical testing or to manufacture or market our potential products in reasonable time frames, if at all. In addition, the U.S. Congress and other legislative bodies may enact regulatory reforms or restrictions on the development of new therapies that could adversely affect the regulatory environment in which we operate or the development of any products we may develop.

We base our research and development on the use of human stem and progenitor cells obtained from fetal tissue. The federal and state governments and other jurisdictions impose restrictions on the use of fetal tissue. These restrictions change from time to time and may become more onerous. Additionally, we may not be able to identify or develop reliable sources for the cells necessary for our potential products--that is, sources that follow all state and federal guidelines for cell procurement. Further, we may not be able to obtain such cells in the quantity or quality sufficient to satisfy the commercial requirements of our potential products. As a result, we may be unable to develop or produce our products in a profitable manner.

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

WE DEPEND ON A LIMITED NUMBER OF KEY PERSONNEL.

We are highly dependent on the principal members of our management and scientific staff and some of our outside consultants, including the members of our scientific advisory board, our chief executive officer, each of our vice presidents and the directors of our neural stem cell and liver stem cell programs. Although we have entered into employment agreements with some of these individuals, they may terminate their agreements at any time. We currently have outside consultants and interim personnel, rather than permanent employees, in key management and scientific positions. Loss of services of any of these individuals could have a material adverse effect on our operations because these individuals possess management experience or specialized scientific skills that we do not otherwise have and that we may not be able to replace. In addition, our operations are dependent upon our ability to attract and retain additional qualified scientific and management personnel. We may not be able to attract and retain the personnel we need on acceptable terms given the competition for experienced personnel among pharmaceutical, biotechnology and health care companies, universities and research institutions. If we lose the services of these key personnel or are unable to attract and retain additional qualified personnel, we may have to delay, reduce or eliminate some or all of our research and development programs.

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

In both domestic and foreign markets, sales of potential products are likely to depend in part upon the availability and amounts of reimbursement from third party health care payor organizations,

including government agencies, private health care insurers and other health care payors, such as health maintenance organizations and self-insured employee plans. There is considerable pressure to reduce the cost of therapeutic products, and government and other third party payors are increasingly attempting to contain health care costs by limiting both coverage and the level of reimbursement for new therapeutic products, and by refusing, in some cases, to provide any coverage for uses of approved products for disease indications for which the U.S. Food and Drug Administration has not granted marketing approval. Significant uncertainty exists as to the reimbursement status of newly approved health care products. We can give no assurance that reimbursement will be provided by such payors at all or without substantial delay, or, if such reimbursement is provided, that the approved reimbursement amounts will be sufficient to enable us to sell products we develop on a profitable basis. Changes in reimbursement policy could also adversely affect the willingness of pharmaceutical companies to collaborate with us on the development of our stem cell technology.

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

RISKS RELATED TO THE EQUITY LINE AND OUR FINANCIAL CONDITION

WE HAVE LIMITED LIQUIDITY AND CAPITAL RESOURCES AND MAY NOT OBTAIN THE SIGNIFICANT CAPITAL RESOURCES WE WILL NEED TO SUSTAIN OUR RESEARCH AND DEVELOPMENT EFFORTS.

We have limited liquidity and capital resources and must obtain substantial additional capital to support our research and development programs, for acquisition of technology and intellectual property rights, and, to the extent we decide to undertake these activities ourselves, for pre-clinical and clinical testing of our anticipated products, pursuit of regulatory approvals, establishment of production capabilities, establishment of marketing and sales capabilities and distribution channels, and general administrative expenses. If we do not obtain the necessary capital resources, we may have to delay, reduce or eliminate some or all of our research and development programs or license our technology or any potential products to third parties rather than commercializing them ourselves.

If we are unable to draw down on the equity line or choose not to do so, we intend to pursue our needed capital resources through equity and debt financings, corporate alliances, grants and collaborative research arrangements. We may fail to obtain the necessary capital resources from any such sources when needed or on terms acceptable to us. Our ability to complete any such arrangements successfully will depend upon market conditions and, more specifically, on continued progress in our research and development efforts. We are prohibited from entering into other stand-by equity based credit facilities during the term of the common stock purchase agreement.

WE MAY BE UNABLE TO ACCESS ALL OR PART OF OUR EQUITY LINE.

If the trading volume and/or price of our common stock falls below established levels, then we will not be able to draw down all of the $30 million committed by Sativum pursuant to the equity line. In addition, we may choose not to draw down some or all of the equity line. If we do not receive stockholder approval to issue more than 3,922,606 shares under the equity line, we also will not be able to access some of the funds in the equity line. Furthermore, if our common stock is delisted from the Nasdaq National Market, or if we experience a material adverse change to our business, operations, properties or financial condition that is not cured within 30 days of the change, the common stock purchase agreement will terminate. If we are unable to meet the conditions to a drawdown in the common stock purchase agreement, we will not be able to draw down any funds until those conditions are met. See "Common Stock Purchase Agreement."

OUR COMMON STOCK PURCHASE AGREEMENT WITH SATIVUM AND THE ISSUANCE OF SHARES TO SATIVUM THEREUNDER MAY CAUSE SIGNIFICANT DILUTION TO OUR STOCKHOLDERS OR CONTRIBUTE TO A PERCEIVED RISK OF DILUTION.

The resale by Sativum of the common stock that it purchases from us will increase the number of our publicly traded shares, which could depress the market price of our common stock. Moreover, because all the shares we sell to Sativum will be available for immediate resale, the prospect of our sales to Sativum could depress the market price for our common stock. The shares of our common stock issuable to Sativum under the equity line will be sold at a 6% discount to the volume-weighted average daily price of our common stock during the applicable drawdown period, and the proceeds paid to us upon each drawdown will be net of an aggregate 3% placement fee to our placement agents, Pacific Crest Securities Inc. and Granite Financial Group, Inc., so we will be required to issue more shares than would be necessary at a market price to receive a given amount of cash proceeds. If we require Sativum to purchase our common stock at a time when our stock price is low, our existing common stockholders will experience substantial dilution. The perceived risk of dilution may cause some stockholders to sell their shares or encourage short sales, which may contribute to a downward movement in the market price of our common stock.

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

Our common stock is quoted on the Nasdaq National Market. In order to continue to be included in the Nasdaq National Market, a company must meet Nasdaq's maintenance criteria. The maintenance criteria most applicable to us requires a minimum bid price of $1.00 per share, $4,000,000 in net tangible assets and $5,000,000 market value of the public float. The public float excludes shares held directly or indirectly by any of our officers, directors and holders of 10% or more of our outstanding common stock. As of March 31, 2001, we had approximately $15.4 million of net tangible assets. As of May 24, 2001, the market value of our public float was approximately $71.6 million, and the lowest bid price of our common stock since March 31, 2001 was $1.47. We cannot assure you that we will continue to meet these listing criteria. The issuance by us of shares of common stock to Sativum, or the subsequent resale by Sativum of those shares, in either case at a discount to the market price, may cause the trading price of our common stock to fall to a level below the Nasdaq minimum bid price requirement. Failure to meet these maintenance criteria may result in the delisting of our common stock from the Nasdaq National Market. If our common stock is delisted and in order to have our common stock relisted on the Nasdaq National Market, we would be required to meet the criteria for initial listing, which are more stringent than the maintenance criteria. Accordingly, we cannot assure you that if we were delisted we would be able to have our common stock relisted on the Nasdaq National Market.

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

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.

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 of the proceeds from the sale of shares offered by Sativum under this prospectus. However, we will receive the net sale price of any common stock we sell to Sativum under the terms of the common stock purchase agreement described in this prospectus. We intend to use the net proceeds from any sales to Sativum primarily for general corporate purposes. Our management will have significant flexibility and discretion in applying the net proceeds received by us. Pending any use, we will invest the net proceeds of any common stock sold to Sativum in short-term, investment grade, interest-bearing securities.

PRICE RANGE OF COMMON STOCK

Our common stock is quoted on the Nasdaq National Market under the symbol "STEM." The following table sets forth the high and low sale prices of our common stock for the periods indicated on the Nasdaq National Market.

	COMMON STOCK PRICE	
	HIGH	LOW
First Quarter 1999	$ 1.78	$1.16
Second Quarter 1999	$ 1.37	$0.53
Third Quarter 1999	$ 2.38	$0.69
Fourth Quarter 1999	$ 1.62	$1.00
First Quarter 2000	$20.00	$1.38
Second Quarter 2000	$ 8.06	$2.00
Third Quarter 2000	$11.67	$3.53
Fourth Quarter 2000	$ 6.75	$2.25
First Quarter 2001	$ 3.75	$1.72
Second Quarter 2001 (through June 28)	$ 6.15	$1.47

There were approximately 287 record holders of our common stock as of April 25, 2001. On June 28, 2001, the reported last sale price on the Nasdaq National Market for our common stock was $4.49 per share.

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 within the next five years. 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 March 31, 2001. This table excludes:

- 4,133,926 shares of common stock issuable upon the exercise of outstanding stock options and warrants as follows:

a) as of March 31, 2001, 3,164,618 shares of common stock issuable upon the exercise of stock options pursuant to our stock option plans at a weighted average price of $4.11 per share.

b) 622,469 shares of common stock issuable upon the exercise of warrants held by Millennium Partners, at an exercise price of $0.01 per share.

c) 171,839 shares of common stock issuable upon the exercise of warrants held by Millennium Partners at a weighted average exercise price of $4.89 per share.

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

e) 75,000 shares of common stock issuable upon the exercise of warrants at $6.58 per share held by holders of our 6% cumulative convertible preferred stock.

- 457,750 shares of common stock sold to Millennium Partners on June 21, 2001 and shares issuable upon exercise of an adjustable warrant issued to Millennium on June 21, 2001.

- The right of the holders of our 6% cumulative convertible preferred stock to convert their shares of preferred stock into shares of common stock at $3.77 per share.

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 MARCH 31, 2001 (UNAUDITED)
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
Common stock, par value $0.01 per share, 45,000,000 shares authorized, 21,458,211 shares issued	214,612
Additional paid-in-capital	137,608,696
Accumulated deficit	(130,229,646)
Accumulated other comprehensive income	8,412,650
Deferred compensation	(2,044,609)
Total stockholders' equity	$ 15,461,703

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, 1996, 1997, 1998, 1999 and 2000 and for the years then ended are derived from our consolidated financial statements, which have been audited by Ernst & Young LLP, our independent auditors. The selected consolidated financial data as of March 31, 2001, and for the three months ended March 31, 2000 and 2001 are derived from our unaudited financial statements. In the opinion of our 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 three months ended March 31, 2001 are not necessarily indicative of the results that may be expected for the year ended December 31, 2001 or any other future period.

	YEAR ENDED DECEMBER 31,					THREE MONTHS ENDED MARCH 31, (UNAUDITED)	
	1996	1997	1998	1999	2000	2000	2001
	(IN THOUSANDS, EXCEPT INCOME PER SHARE DATA)						
CONSOLIDATED STATEMENT OF OPERATIONS DATA:							
Revenue from collaborative agreements and grants	$ 7,104	$ 10,617	$ 8,803	$ 5,022	$ 74	$ --	$ 100
Gain on sale of investment	--	--	--	--	1,428	--	2,550
Research and development expenses	17,130	18,604	17,659	9,984	5,979	907	1,644
Acquired research and development	--	8,344	--	--	--	--	--
ECT wind-down and corporate relocation expenses	--	--	--	6,048	3,327	234	--
Net income (loss)	$(13,759)	$(18,114)	$(12,628)	$(15,709)	$(11,125)	$(1,794)	$ 269
Basic and diluted net income (loss) per share applicable to common stockholders before cumulative effect of a change in accounting principle	$ (0.89)	$ (1.08)	$ (0.69)	$ (0.84)	$ (0.57)	$ (0.09)	$ 0.01
Cumulative effect of a change in accounting principle	--	--	--	--	(0.01)	--	--
Net income (loss) per share applicable to common stockholders	$ (0.89)	$ (1.08)	$ (0.69)	$ (0.84)	$ (0.58)	$ (0.09)	$ 0.01
Shares used in computing basic net income (loss) per share	15,430	16,704	18,291	18,706	20,068	19,330	20,989
Shares used in computing diluted income (loss) per share	15,430	16,704	18,291	18,706	20,068	19,330	22,405

	AS OF DECEMBER 31,					AS OF MARCH 31,
	1996	1997	1998	1999	2000	2001
	(IN THOUSANDS)					
CONSOLIDATED BALANCE SHEET DATA:						
Cash, cash equivalents and marketable securities	$42,607	$29,050	$17,386	$ 4,760	$ 6,069	$ 4,499
Restricted investments	--	--	--	--	16,356	8,413
Total assets	58,397	44,301	32,866	15,781	29,795	21,507
Long-term debt, including capitalized leases	8,223	4,108	3,762	2,937	2,605	2,521
Redeemable common stock	8,159	5,583	5,249	5,249	--	--
Stockholders' equity	34,747	28,900	17,897	3,506	22,982	15,462

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 THREE MONTHS ENDED MARCH 31, 2001 AND 2000 AND THE YEARS ENDED DECEMBER 31, 2000, 1999 AND 1998 SHOULD BE READ IN CONJUNCTION WITH THE "SELECTED CONSOLIDATED FINANCIAL DATA" SECTION OF THIS PROSPECTUS AND OUR CONSOLIDATED FINANCIAL STATEMENTS AND NOTES TO THOSE STATEMENTS AND OTHER FINANCIAL INFORMATION INCLUDED ELSEWHERE IN THIS PROSPECTUS. THE FORWARD-LOOKING STATEMENTS IN THIS DISCUSSION REGARDING OUR EXPECTATIONS REGARDING OUR FUTURE PERFORMANCE, LIQUIDITY AND CAPITAL RESOURCES AND OTHER NON-HISTORICAL STATEMENTS IN THIS DISCUSSION INVOLVE NUMEROUS RISKS AND UNCERTAINTIES AS DESCRIBED IN THE "RISK FACTORS" SECTION OF THIS PROSPECTUS. OUR ACTUAL RESULTS MAY DIFFER MATERIALLY FROM THOSE CONTAINED IN ANY FORWARD-LOOKING STATEMENTS.

RESULTS OF OPERATIONS

OVERVIEW

Since our inception in 1988, we have been primarily engaged in research and development of human therapeutic products. At the beginning of 1999, our corporate headquarters, most of our employees, and the main focus of our operations were primarily devoted to a different technology--encapsulated cell therapy, 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 California. As a result of a restructuring in the second half of 1999, our sole focus is now on our stem cell technology. The year 2000 was a year of transition, in which we completed the consolidation and restructuring of our operations. Comparisons with results of operations prior to 2000 are correspondingly less meaningful than they may be under other circumstances.

We were known as CytoTherapeutics, Inc., until May 23, 2000, when we changed our name to StemCells, Inc.

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 our operations. There are no such collaborative research arrangements at this time and there can be no assurance that such 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, sale of marketable securities and the initiation or termination of research collaborations, in addition to the winding-down of terminated research and development programs referred to above.

THREE MONTHS ENDED MARCH 31, 2001 AND 2000

For the three months ended March 31, 2001, revenues from grants totaled $100,000. There was no such revenue for the three months ended March 31, 2000.

On January 9, 2001, we sold 22,616 Modex shares for a net price of 182.00 Swiss francs per share, which converts to $112.76 per share, for total proceeds and a realized gain of $2,550,000.

Research and development expenses totaled $1,644,257 for the three months ended March 31, 2001, compared with $906,632 for the same period in 2000. The increase of $737,625 or 81% from 2000 to 2001 was primarily attributable to the related costs of an increase in personnel from 11 full time employees to 19 full time employees to facilitate the expansion of our research programs and initiate development and the cost of leasing a larger facility.

General and administrative expenses were $996,862 for the three months ended March 31, 2001, compared with $657,714 for the same period in 2000. The increase of $339,148, or 52%, from 2000 to 2001 was primarily attributable to the related costs of an increase in personnel from 5 full time employees to 8 full time employees, which included the hiring of senior management personnel as part of the restructuring and consolidation of our operations in California and the cost of leasing a larger facility.

Wind-down expenses related to our ECT research, our Rhode Island operations and the transfer of our headquarters to California for the three months ended March 31, 2000 were $234,386. In December 2000, we created a reserve of $1,780,578 related to the carrying costs for the Rhode Island facilities through 2001. At March 31, 2001 the reserve was $1,381,946.

Interest income for the three months ended March 31, 2001 and 2000 was $79,041 and $73,332 respectively. Interest expense of $64,460 for the three months ended March 31, 2001 was booked against the wind-down reserve created in 2000 for the whole of 2001, as the expense was part of the bond payments related to the Rhode Island facilities. Interest expense for the same period in 2000 was $68,858. The decrease in 2001 was attributable to lower outstanding debt and capital lease balances in 2001 compared to 2000.

Other income for the three months ended March 31, 2001 was $180,389, which was a refund from the Citizens Bank of Rhode Island for an overpayment of property taxes in prior years.

Net income for the three months ended March 31, 2001 was $268,541 or $0.01 per share, as compared to net loss of $1,794,258, or $0.09 per share, for the comparable period in 2000. The decrease in net loss of $2,062,800 or 115% from the same period in 2000 was primarily attributable to a realized gain of $2,550,230 from the sale of a portion of our Modex investment, offset by an increase in expenses attributable to an increase in personnel and the costs associated with our move to a larger facility.

YEARS ENDED DECEMBER 31, 2000, 1999 AND 1998

Revenues totaled $74,000, $5,022,000 and $8,803,000 for the years ending December 31, 2000, 1999 and 1998, respectively. Revenues for 2000 are from Neurotech, S.A. in return for the assignment of our intellectual property assets relating to Encapsulated Cell Technology. Revenues for 1999 and 1998 were from collaborative agreements, earned primarily from a Development, Marketing and License Agreement with AstraZeneca Group plc, which was signed in March 1995. The decrease in revenues from 1998 to 1999 to 2000 resulted primarily from the June 1999 termination of the Astra agreement.

Research and development expenses totaled $5,979,000 in 2000, as compared to $9,984,000 in 1999 and $17,659,000 in 1998. The decrease of $4,005,000, or 40%, from 1999 to 2000 and the decrease of $7,675,000 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.

General and administrative expenses were $3,361,000 in 2000, compared with $4,927,000 in 1999 and $4,603,000 in 1998. The decrease of $1,566,000 or 32%, from 1999 to 2000 was primarily attributable to the relocation of our headquarters to a smaller facility as well as a reduction of personnel.

Wind-down expenses related to our ECT research, our Rhode Island operations and the transfer of our headquarters to California totaled $3,327,000 and $6,048,000 for 2000 and 1999, respectively. No such expenses were incurred in 1998. 1999 expenses included accruals of approximately $1.6 million for employee severance costs, $1.9 million in losses and reserves for the write-down of related patents and fixed assets, $1.2 million for our costs of settlement of a 1989 funding agreement with RIPSAT, $700,000 of estimated additional carrying costs through June 30, 2000, and other related expenses totaling $760,000.

During 2000, we incurred approximately $290,000 of costs in excess of the amounts accrued as of December 31, 1999 for the carrying costs, including lease payments, property taxes and utilities, through the expected June 30, 2000 disposition of the Rhode Island facilities. During the third and fourth quarters of 2000 we incurred additional $1.3 million in carrying costs for the Rhode Island facilities, because we were unable to dispose of them as we had expected. We have created a reserve of $1,780,000 related to the carrying costs for the Rhode Island facilities through 2001. In February 2001, we subleased portions of the facilities and are actively seeking to sublease, assign or sell our remaining interests in the properties. However, there can be no assurance that we will be able to dispose of these facilities in a reasonable time, if at all.

Interest income for the years ended December 31, 2000, 1999 and 1998 totaled $303,000, $564,000 and $1,254,000, respectively. The average cash and investment balances were $5,668,000, $10,663,000 and $21,795,000 in 2000, 1999 and 1998, respectively. The decrease in interest income from 1998 to 1999 to 2000 was attributable to lower average balances.

In 2000, interest expense was $273,000, compared to $335,000 in 1999 and $472,000 in 1998. The decrease from 1998 to 1999 to 2000 was attributable to lower outstanding debt and capital lease balances.

During the second quarter 2000 we realized a $1,427,000 gain in connection with the sale of a portion of our investment in Modex. Modex Therapeutics, Ltd., a Swiss biotechnology company that completed an initial public offering on June 23, 2000, and is publicly traded on the Swiss Neue Market exchange.

The net loss in 2000, 1999 and 1998 was $11,125,000, $15,709,000, and $12,628,000, respectively. The loss per share was $0.58, $.84 and $.69 in 2000, 1999 and 1998, respectively. The decrease from 1999 to 2000 is primarily attributable to the wind-down of our encapsulated cell technology research and our Rhode Island operations and offset by the elimination of revenue from the Astra Agreement. 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 California and an accrual for the our estimate of the costs of settlement of a funding agreement with RIPSAT.

LIQUIDITY AND CAPITAL RESOURCES

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

We had unrestricted cash and cash equivalents totaling $4,499,000 at March 31, 2001. Cash equivalents are invested in money market funds.

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

In the third quarter of 1999, we announced restructuring plans to wind down operations relating to our ECT and to focus our resources on the research and development of our platform of proprietary stem cell technologies. We terminated approximately 68 full time employees and, in October 1999, relocated our corporate headquarters to California. As part of our restructuring of operations and relocation of corporate headquarters to California, we identified a significant amount of excess fixed assets. In December 1999, we completed the disposition of those excess fixed assets, from which we received more than $746,000.

On December 30, 1999 we sold our ECT and assigned our intellectual property assets in it 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 addition, we retained certain non-exclusive rights to use ECT in combination with our proprietary stem cell technologies and in the field of vaccines for prevention and treatment of infectious diseases.

In July 1999, as a result of our decision to close our Rhode Island facilities, the Rhode Island Partnership for Science and Technology, or RIPSAT, alleged that we were in default under a June, 1989 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, or IRBA, and the Rhode Island Industrial Facilities Corporation, or RIIFC. We agreed to pay RIPSAT $1,172,000 in full satisfaction of all of our obligations to them under the Funding Agreement. At the same time, IRBA agreed to return to us the full amount of our debt service reserve, comprising approximately $610,000 of principal and interest, relating to the bonds we had with IRBA and RIIFC. The $610,000 debt service reserve was transferred directly to RIPSAT, leaving the remainder of approximately $562,000 to be paid by us. 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 with us 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 entered into a Settlement Agreement with Genentech under which Genentech released us 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 without any impact on our liquidity and capital resources. 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.

We continue to have outstanding obligations in regard to our former facilities in Lincoln, Rhode Island, including lease payments and operating costs of approximately $1,200,000 per year associated with our former research laboratory and corporate headquarters building, and debt service payments and operating costs of approximately $1,000,000 per year with respect to our pilot manufacturing and cell processing facility. We are actively seeking to sublease, assign or sell our 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 our 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 we were able to obtain from outside investors. The face value of the shares of preferred stock is 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. Any unconverted preferred stock will be converted to common stock, at the applicable conversion price, on April 13, 2002. 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. We received $3 million of the purchase price at the closing and received 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 is entitled, pursuant to an adjustable warrant issued on August 3, 2000 in connection with the sale of common stock to the Fund, to purchase additional shares of common stock for $0.01 per share. The adjustments to the adjustable warrant are calculated on eight dates beginning six months from the closing and every three months thereafter. The number of additional shares the Fund may 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. On January 27, 2001, the Fund's adjustable warrant became exercisable for 463,369 shares of our common stock, and the Fund purchased all of those shares on March 30, 2001, for $4,634. On April 27, 2001, the Fund's adjustable warrant became exercisable for an additional 622,469 shares of our common stock, and the warrant has not been exercised with respect to those shares. The Fund also received on August 3, 2000 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 was granted an option for twelve months to purchase up to $3 million of additional common stock. On August 23, 2000 the Fund exercised $1,000,000 of its option to purchase additional common stock at $5.53 per share. The Fund paid $750,000 of the purchase price in connection with the closing on August 30, 2000, and paid the remaining $250,000 upon effectiveness of a registration statement covering the shares owned by the Fund. At the closing on August 30, 2000, we issued to the Fund an adjustable warrant similar to the one issued on August 3, 2000. This adjustable warrant was canceled by agreement between us and the Fund on November 1, 2000. The Fund also received on August 23, 2000 a warrant to purchase up to 19,900 shares of common stock at $6.03 per share. This warrant is callable by us at any time at $10.05 per underlying share.

On June 8, 2001, the Fund exercised its remaining option to purchase $2 million of our common stock. At the closing on June 21, 2001, the Fund purchased 457,750 shares of our common stock at $4.3692 per share. The Fund paid $1,500,000 of the purchase price at the closing and will pay the remainder upon effectiveness of a registration statement covering the shares purchased by the Fund and issuable upon exercise of the warrants received by the Fund. The registration statement of which this prospectus forms a part does not cover the shares purchased by or issuable to the Fund. In connection with the closing, the Fund received an adjustable warrant similar to the adjustable warrant issued on August 3, 2000. The Fund also received a warrant to purchase 50,352 shares of our common stock at a price per share of $4.7664. This warrant is callable by us at any time at $7.944 per underlying share.

We have sold all of our shares of Modex Therapeutics, Ltd. Our final sale of Modex shares occurred on April 30, 2001, when we realized a gain of $5,232,168 net of commissions and other fees. All other sales occurred prior to March 31, 2001. In addition, on April 30, 2001, we sold Modex our rights to future payments under the agreement between us and Neurotech S.A. for $300,000.

On May 10, 2001, we entered into a common stock purchase agreement with Sativum Investments Limited for the potential future issuance and sale of up to $30,000,000 of our common stock, subject to restrictions and other obligations that are described throughout this prospectus. We, at our sole discretion, may draw down on this facility, sometimes termed an equity line, from time to time, and Sativum is obligated to purchase shares of our common stock at a 6% discount to a volume weighted average market price over the 20 trading days following the drawdown notice. We are limited with respect to how often we can exercise a drawdown and the amount of each drawdown. For more details on the equity line, see "Common Stock Purchase Agreement" elsewhere in this prospectus.

We have limited liquidity and capital resources and must obtain significant additional capital resources in the future in order to sustain our 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 our 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 our ability to obtain partnering support for our stem cell technology. 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 our intellectual property rights, equipment, facilities or investments, government grants and funding from collaborative arrangements, if obtainable, to fund our operations.

We may, but are not required to, draw down on the equity line from time to time as necessary and possible under the terms of the facility. We also intend to pursue opportunities to obtain additional financing in the future through grants and collaborative research arrangements. We are permitted under the terms of the equity line to pursue unrelated debt and equity financing other than other stand-by equity based credit facilities. The source, timing and availability of any future financing will depend principally upon market conditions, interest rates and, more specifically, on our progress in our exploratory, preclinical and future clinical development programs. Lack of necessary funds may require us to delay, reduce or eliminate some or all of our research and product development programs or to license our 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 our operations through December 2001. Our cash requirements may vary, however, depending on numerous factors. If for some reason we are not able to drawdown on the equity line, lack of necessary funds may require us to delay, scale back or eliminate some or all of our research and product development programs and/or our capital expenditures or to license our potential products or technologies to third parties.

RECENT ACCOUNTING PRONOUNCEMENT

In June 1998, the Financial Accounting Standards Board issued SFAS No. 133, "Accounting for Derivative Instruments and Hedging Activities" (SFAS 133). The statement requires us to recognize all derivatives on the balance sheet at fair value. Derivatives that are not hedges must be adjusted to fair value through income. If the derivative is a hedge, depending on the nature of the hedge, changes in fair value of derivatives are either offset against the change in fair value of assets, liabilities, or firm commitments through earnings or recognized in other comprehensive income until the hedged item is recognized in earnings. Because we had no derivative instruments and do not currently engage in hedging activities, the adoption of Statement No. 133 on January 1, 2001 had no impact on our results of operations or financial position.

OVERVIEW

We are engaged in research aimed at the development of therapies that would use stem and progenitor cells derived from fetal or adult sources to treat, and possibly cure, human diseases and injuries such as Parkinson's disease, hepatitis, diabetes, and spinal cord injuries. The body uses certain key cells known as stem cells to produce all the functional mature cell types found in normal organs of healthy individuals. Progenitor cells are cells that have already developed from the stem cells, but can still produce one or more types of mature cells within an organ.

Many diseases, such as Alzheimer's, Parkinson's, and other degenerative diseases of the brain or nervous system, involve the failure of organs that cannot be transplanted. Other diseases, such as hepatitis and diabetes, involve organs such as the liver or pancreas that can be transplanted, but there is a very limited supply of those organs available for transplant. We estimate, based on information available to us from the Alzheimer's Association, the Centers for Disease Control, the Family Caregiver's Alliance and the Spinal Cord Injury Information Network, that these conditions affect more than 18 million people in the United States and account for more than $150 billion annually in health care costs.

Our proposed therapies are based on the transplanting of healthy human stem and progenitor cells to repair or replace central nervous system, pancreas 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 significant progress in research regarding stem cells of the central nervous system through the advances we have made in the isolation, purification and transplantation of central nervous system 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 an intellectual property position in all three areas of our stem cell research--the central nervous system, the pancreas and the liver--by patenting our discoveries and entering into exclusive licensing arrangements. We believe that, if successfully developed, our platform of stem cell technologies may create the basis for therapies that would address a number of conditions with significant unmet medical needs.

We were formerly known as CytoTherapeutics, Inc. Until mid-1990 we had programs in a different technology, encapsulated cell therapy, as well as stem cell programs. We now focus exclusively on the discovery, development and commercialization of our proprietary platform of stem cell technologies. Effective May 2000 we changed our name to StemCells, Inc.

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 that are essential to life. When cells are damaged or destroyed, they no longer produce, metabolize or accurately regulate these substances. Impaired cellular function is associated with the progressive decline common to many degenerative diseases of the nervous system, such as Parkinson's disease, Alzheimer's disease and amyotrophic lateral sclerosis. 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 the 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

We believe that, if successfully developed, 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 or from donors. Cells obtained from the same person who will receive them may be abnormal if the patient is ill or the tissue is contaminated with disease-causing cells. Also, obtaining the cells often requires significant surgical procedures. The challenge, therefore, has been three-fold:

- to identify the stem cells;

- to create techniques and processes that we can use to expand these rare cells in sufficient quantities for effective transplants; and

- to establish a bank of normal human stem or progenitor cells that we can use for transplantation 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 central nervous system, or CNS, stem and progenitor cells. We believe this is the first reproducible process for growing normal human CNS stem cells. More recently, we have discovered markers on the cell surface that identify the human CNS stem cells. This allows us to purify them and eliminate other unwanted cell types. Together, these discoveries enable us to select normal human CNS 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, cells modified by a cancer gene, an unpurified mixture of many different cell types, or animal derived cells. 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. In our research, we have shown that hosts accept CNS stem cells that are transplanted into them, and that the cells continue to migrate and specialize to produce mature neurons and glial cells.

More generally, because the stem cell is the pivotal cell that produces all the functional mature cell types in an organ, we believe these cells, if successfully identified and developed for transplantation, may serve as platforms for five major areas of regenerative medicine and biotechnology:

- tissue repair and replacement,

- correction of genetic disorders,

- drug discovery and screening,

- gene discovery and use, and

- diagnostics.

We will be pursuing alliances in these key areas.

OUR PLATFORM OF STEM CELL TECHNOLOGIES

Stem cells have two defining characteristics:

- some of the cells developed from stem cells produce all the kinds of mature cells making up the particular organ; and

- they "self renew"--that is, other cells developed from stem cells are themselves new stem cells, thus permitting the process to continue again and again.

Stem cells exist for many systems of the human body: the blood and immune system; the central and peripheral nervous systems (including the brain); and the liver, pancreas endocrine, and skin systems. These cells are responsible for organ regeneration during normal cell replacement and, to a limited extent, after injury. We believe that further research and development will allow stem cells to 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 disease, injury or genetic defect has damaged or destroyed.

We also believe that the person or entity that first identifies and isolates a stem cell and defines methods to culture 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 central nervous system stem and progenitor cells in our proprietary chemically defined medium. Our published studies show that these cultured and expanded cells give rise to all three major cell types of the central nervous system. Also, a separate study that we sponsored that used these cultured stem and progenitor cells showed that the cells are accepted, migrate, and successfully specialize to produce neurons and glial cells.

More recently, we announced the results of a new study that showed that markers present on the surface of freshly obtained brain cells can successfully isolate human central nervous system stem cells. We believe this is the first reproducible process for isolating highly purified populations of well-characterized normal human central nervous system 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 to therapies that are based on cells derived from cancer cells, cells modified by a cancer gene, an unpurified mixture of cell types, or animal-derived cells. We have also filed an improved process patent for the growth and expansion of these purified normal human central nervous system 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 for them. 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 to research and develop human central nervous system stem and progenitor cell-based therapies for these diseases.

We continue to research the islet stem cell in the human pancreas and the liver stem cell. Islet cells are the cells that produce insulin, so 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 sites, such as bone marrow or peripheral blood cell transplants, where transplantation of the patient's own cells is now feasible. In a few additional areas, including the liver, transplantation of donor organs 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 loss of nervous system tissue.

REPLACED CELLS PROVIDE NORMAL FUNCTION

Because stem cells can duplicate themselves, or self-renew, and specialize into the multiple kinds of cells that are commonly lost in various diseases, transplanted stem cells may be able to migrate limited distances to the proper location within the body, to expand and specialize 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 research the isolation and development of a series of stem and progenitor cells that would 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. The table is qualified in its entirety by reference to the more detailed descriptions of such programs appearing elsewhere in this prospectus. We continually evaluate our research and product development and reallocate resources in light of experimental results, commercial potential, availability of third party funding, likelihood of near-term efficacy, collaboration success or significant technology enhancement, or other relevant factors. Our research and product development programs are in early stages of development and will require substantial resources to commercialize.

RESEARCH AND PRODUCT DEVELOPMENT PROGRAMS

PROGRAM DESCRIPTION AND OBJECTIVE	STAGE/STATUS(1)
HUMAN NEURAL STEM CELL	PRECLINICAL
Repair or replace damaged central nervous system tissue (including spinal cord, degenerated retinas and tissue affected by certain genetic disorders)	- Demonstrated IN VITRO the ability to initiate and expand stem cell-containing human neural cultures and specialization into three types of central nervous system cells - Demonstrated the ability of neurosphere-initiating stem cells from human brain - Demonstrated in rodent studies that transplanted human brain-derived stem cells are accepted and properly specialized into the three major cell types of the central nervous system
PANCREAS ISLET STEM CELL	RESEARCH
Repair or replace damaged pancreas islet tissue	- Identified markers on the surface of cells to isolate and culture islet stem cells of the pancreas - Commenced small animal testing
LIVER STEM CELL	RESEARCH
Repair or replace damaged liver tissue including tissue resulting from certain metabolic genetic diseases	- Demonstrated the production of hepatocytes from purified mouse hematopoietic stem cells - Identified IN VITRO culture assay for growth of human bipotent liver progenitor cells that can produce both bile duct and hepatocytes - Showed that the IN VITRO culture of human bipotent liver cells can also grow human hepatitis virus

(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

Currently, our portfolio of stem cell technology results from our exclusive licensing of central nervous system, 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. We believe that therapies using stem cells represent a fundamentally new approach to the treatment of diseases caused by lost or damaged tissue. We 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.

BRAIN STEM AND PROGENITOR CELL RESEARCH AND DEVELOPMENT PROGRAM

We began our work with central nervous system stem and progenitor cell cultures in collaboration with NeuroSpheres, Ltd., in 1992. We believe NeuroSpheres first invented these cultures. Further, NeuroSpheres granted us exclusive, worldwide licenses, encompassing all uses, to numerous inventions

and associated patents and patent applications. These inventions and associated patents and patent applications are subsequently noted in the section entitled "License Agreements and Sponsored Research Agreements--NeuroSpheres, Ltd."

In 1997, our scientists invented a reproducible method for growing human central nervous system, stem and progenitor cells in cultures. In preclinical IN VITRO and early IN VIVO studies, we demonstrated that these cells specialize into all three of the cell types of the central nervous system, or CNS. Because of 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 CNS 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 transplanted and accepted into the brains of rodents where they subsequently migrated and specialized into the appropriate cell types for the site of the brain into which they were placed.

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 CNS and other stem and progenitor cells or their specialized progeny. Also in 1998, our researchers devised methods to advance the IN VITRO culture and passage of human CNS stem cells that resulted in a 100-fold increase in CNS stem and progenitor cell production after 6 passages. The US Patent and Trademark Office has since allowed a patent on those methods. We are expanding our preclinical efforts toward the goal of selecting the proper indications to pursue.

In December 1998, we announced that the U.S. Patent and Trademark Office had granted patent No. 5,851,832. This patent covered our methods for the human CNS cell cultures containing central nervous system stem cells, for compositions of human CNS cells expanded by these methods, and for use of these cultures in human transplantation. These human CNS 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 U.S. 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 stem cells and also allowed a separate patent application for our media for culturing human CNS stem cells.

Also in 1999, we announced the filing of a U.S. patent application covering our proprietary process for the direct isolation of normal human CNS stem cells based on the markers found to be present on the surface of freshly obtained brain cells. Since the filing of this patent application, our researchers have completed a study designed to identify, isolate and culture human CNS stem cells using this proprietary process. In November 1999, we announced the study's first results: Our researchers, by using our proprietary markers on the surface of the cell, had succeeded in identifying, isolating and purifying human CNS 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 CNS stem cells. The unmodified cells are normal human CNS stem cells and, therefore, may be especially suitable for transplantation. In addition, the cells may provide a safer and more effective alternative to therapies based on cells derived from cancer cells or from an unpurified mix of many different cell types, or from animal derived cells.

In January 2000, we reported what we regard as an even more important result: In long term animal studies, our researchers took purified and expanded stem cells and transplanted them into the normal brains of immunodeficient mouse hosts, where they took hold and grew into neurons and glial cells.

Throughout the study, the transplanted human CNS 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 CNS 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 brain cells.

As noted above, human CNS stem and progenitor cells harvested and purified and expanded using our proprietary processes may be useful for creating therapies for the treatment of degenerative brain 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 also expanding some unwanted cell types;

- 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 and function of the brain is absent. Brain-derived stem cell cultures might be genetically modified to produce those proteins. The modified brain stem cells could be transplanted into patients with these genetic diseases;

- the efficient acceptance 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. In addition, this technology could 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 nerve cells.

PANCREAS STEM CELLS DISCOVERY RESEARCH PROGRAMS

Nora Sarvetnick, Ph.D., of The Scripps Research Institute, in collaboration with some of our senior researchers, has conducted our discovery program directed to the identification, isolation and culturing of the pancreas stem and progenitor cells. It is our intention to bring the research on stem and progenitor cells of the pancreas in house. We expect that Dr. Sarvetnick will continue to consult with us.

According to diabetes and juvenile diabetes foundations, between 800,000 and 1.5 million Americans have Type 1 diabetes, which is 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.

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 pancreas 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 markers on the cell surface unique to the pancreas 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 markers on the cell surface. Dr. Sarvetnick and her research team identified these novel markers as being unique to the pancreas 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 pancreas stem and progenitor cells using 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. In addition, we 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, our researchers devised a culture assay that we will use in our efforts to identify liver stem and progenitor cells. In addition to supporting the growth of an early human liver bipotent progenitor cell, it is 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 IN VITRO 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. Further, we 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 THERAPY 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 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. Failing to meet this criteria caused AstraZeneca to terminate the collaboration in June 1999.

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 platform of stem cell technology. 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 California. We subleased a portion of our former corporate headquarters building and our pilot manufacturing and cell processing facility in Rhode Island are actively seeking to sublease, assign or sell our interest in the remainder.

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 transferred these rights to royalties and other payments to Modex. 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.

SUBSIDIARY

STEMCELLS CALIFORNIA, INC.

On September 26, 1997, we acquired by merger the California corporation StemCells, Inc., currently StemCells California, Inc., 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 COLLABORATIONS

CORPORATE INVESTMENT

In July 1996, we, together with certain founding scientists, established Modex Therapeutics, Ltd., a Swiss biotherapeutics company, to pursue extensions of our former technology of ECT for certain applications outside the central nervous system. We, along with the scientists, formed Modex, headquartered in Lausanne, Switzerland, to integrate technologies developed by us and by several other institutions to develop products to treat 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 continued to hold approximately 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. After Modex's IPO, we owned 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 Neue Market exchange on January 2, 2001 was 210.00 Swiss francs, or approximately $130.39, per share. On January 9, 2001, we sold 22,616 Modex shares for a net price of 182.00 Swiss francs per share, which converts to $112.76 per share, for total proceeds of approximately $2,550,000. In connection with this sale, we agreed not to resell any more of our remaining 103,577 Modex shares until April 12, 2001. On April 30, 2001, we sold our remaining 103,577 Modex shares for a net price of 87.30 Swiss francs per share, which converts to approximately $50.30, for proceeds from that sale of approximately $5,200,000.

LICENSE AGREEMENTS AND SPONSORED RESEARCH AGREEMENTS

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. In addition, we 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.

Our research agreement with Scripps expired on November 14, 2000. It is our intention to bring the research on stem and progenitor cells of the pancreas in house. Dr. Nora Sarvetnick, who led the

research at Scripps, will continue to consult with us. Our license agreements with Scripps are not affected by the expiration of the research agreement. They will terminate upon expiration, revocation or invalidation of the patents licensed to us, unless governmental regulations require a shorter term. In addition, these license agreements are subject to early termination if we breach without curing our obligations under the agreement or if we declare bankruptcy, and we can terminate the license agreements at any time upon notice. Upon the initiation of the Phase II trial for our first product using Scripps licensed technology, we must pay Scripps $50,000 and upon completion of that Phase II trial we must pay Scripps an additional $125,000. Upon approval of the first product for sale in the market, we must pay Scripps $250,000. Our license agreements with the California Institute of Technology will expire upon expiration, revocation, invalidation or abandonment of the patents licensed to us. We can terminate any of these license agreements by giving 30 days' notice to the California Institute of Technology. Either party can terminate these license agreements upon a material breach by the other party. We issued 12,800 shares of common stock amounting to $10,000 to the California Institute of Technology upon execution of the license agreements, and we must pay an additional $10,000 upon the issuance of the patent licensed to us under the relevant agreement. In addition, we will pay $5,000 on the anniversary of the issuance of the patent licensed to us under the relevant agreement. These amounts are creditable against royalties we must pay under the license agreements. The maximum royalties that we will have to pay to the California Institute of Technology will be $2 million per year, with an overall maximum of $15 million. Once we pay the $15 million maximum royalty, the licenses will become fully paid and irrevocable.

LICENSE AGREEMENTS

We entered into a number of license agreements with commercial and 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 possess 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.

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. Celgene has now acquired Signal. Each agreement with Signal will terminate at the expiration of all patents licensed under it, but the licensing party can terminate earlier if the other party breaches its obligations under the agreement or declares bankruptcy. Further, the party receiving the license can terminate the agreement at any time upon notice to the other party. Under these agreements, we must reimburse Signal for payments it must make to the University of California based on products we develop and for 50% of certain other payments Signal must make.

NEUROSPHERES, LTD.

In March 1994, we entered into a Contract Research and License Agreement with NeuroSpheres, Ltd., which was clarified in a License Agreement dated as of April 1, 1997. Under the agreement as clarified, we obtained an exclusive patent license from NeuroSpheres in the field of transplantation, subject to a limited right of NeuroSpheres to purchase a nonexclusive license from us, which right was not exercised and has expired. We developed additional intellectual property relating to the subject matter of the license. We entered into an additional license agreement with NeuroSpheres as of October 30, 2000, under which we obtained an exclusive license in the field of non-transplant uses, such as drug discovery and drug testing, so that together the licenses are exclusive for all uses of the technology. We made up-front payments to NeuroSpheres of 65,000 shares of our common stock in October 2000 and $50,000 in January 2001, and we will make additional cash payments when milestones are achieved in the non-transplant field, or in any products employing NeuroSpheres patents for generating cells of the blood and immune system from neural stem cells. In addition we reimbursed Neurospheres for patent costs amounting to $341,000. Milestone payments would total $500,000 for each product that is approved for market. Our agreements with NeuroSpheres will terminate at the expiration of all patents licensed to us, but can terminate earlier if we breach without curing our obligations under the agreement or if we declare bankruptcy. We would have a security interest in the licensed technology in the event that NeuroSpheres declares bankruptcy.

MANUFACTURING

The keys to successful commercialization of brain stem and progenitor cells are efficacy, safety, consistency of the product, and economy of the process. We expect to address these issues through appropriate testing and by 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. In addition, the carrier may be used to improve the stability and acceptance of the stem cells or their progeny. Our stem and progenitor cell programs are still in an early stage and, therefore, all of the issues surrounding the 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. We intend 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 possess an aggressive program of vigorously seeking and protecting our intellectual property which we believe might be useful in connection with our products. In addition, we believe that our know-how will 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 possess 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

neural stem cell therapy area includes 25 issued U.S. patents. An additional fifteen patent applications are pending, four of which the U.S. Patent and Trademark Office has allowed.

We own, or have filed, the following United States Patents and patent applications:

- U.S. Patent Number 5,968,829 (Human CNS neural stem cells)

- U.S. Patent Number 6,103,530 (Human CNS neural stem cells--culture media)

- U.S. Patent Number 6,238,922 (Use of collagenase in the preparation of neural stem cell cultures)

- U.S. Patent Number 6,242,666 (An animal model for identifying a common stem/progenitor to liver cells and pancreatic cells)

- Application Number WO 99/11758 (Cultures of human CNS neural stem cells)

- Application Number WO 00/36091 (An animal model for identifying a common stem/progenitor to liver cells and pancreatic cells)

- Application Number WO98/50526 (Generation, characterization, and isolation of neuroepithelial stem cells and lineage restricted intermediate precursor)

- Application Number WO 00/50572 (Use of collagenase in the preparation of neural stem cell cultures)

- Application Number WO 00/47762 (Enriched neural stem cell populations and methods of identifying, isolating, and enriching neural stem cells)

We licensed the following United States Patents or pending patent applications from Neurospheres Holdings Ltd.:

- U.S. Patent Number 5,851,832 (IN VITRO proliferation)

- U.S. Patent Number 5,750,376 (IN VITRO genetic modification)

- U.S. Patent Number 5,981,165 (IN VITRO production of dopaminergic cells from mammalian central nervous system multipotent stem cell compositions)

- U.S. Patent Number 6,093,531 (Generation of hematopoietic cells from multipotent neural stem cells)

- U.S. Patent Number 5,980,885 (Methods for inducing IN VIVO proliferation of precursor cells)

- U.S. Patent Number 6,071,889 (Methods for IN VIVO transfer of a nucleic acid sequence to proliferating neural cells)

- U.S. Patent Number 6,165,783 (Methods of inducing differentiation of multipotent neural stem cells)

- Application Number WO 93/01275 (Mammalian central nervous system multipotent stem cell compositions)

- Application Number WO 94/09119 (Remyelination using mammalian central nervous system multipotent stem cell compositions)

- Application Number WO 94/10292 (Biological factors useful in differentiating mammalian central nervous system multipotent stem cell compositions)

- Application Number WO 94/16718 (Genetically engineered mammalian central nervous system multipotent stem cell compositions)

- Application Number WO 96/15224 (Differentiation of mammalian central nervous system multipotent stem cell compositions)

- Application Number WO 99/2196 (Erythropoietin-mediated neurogenesis)

- Application Number WO 99/16863 (Generation of hematopoietic cells)

- Application Number WO 98/22127 (Pretreatment with growth factors to protect against CNS damage)

- Application Number WO 97/3560 (IN SITU manipulation of cells of the hippocampus)

- Application Number WO 96/09543 (IN VITRO models of CNS functions and dysfunctions)

- Application Number WO 95/13364 (IN SITU modification and manipulation of stem cells of the CNS)

- Application Number WO 96/15226 (IN VITRO production of dopaminergic cells from mammalian central nervous system multipotent stem cell composition)

- Application Number WO 96/15266 (Regulation of neural stem cell proliferation).

We licensed the following United States Patents or pending patent applications from the University of California, San Diego:

- U.S. Patent Number 5,776,948 (Method of production of neuroblasts)

- U.S. Patent Number 6,013,521 (Method of production of neuroblasts)

- U.S. Patent Number 6,020,197 (Method of production of neuroblasts)

- Application Number WO 94/16059 (Method of production of neuroblasts)

- Application Number WO 00/52143 (Methods of enriching a population of uncultured cells).

We licensed the following United States Patents or pending patent applications from the California Institute of Technology:

- U.S. Patent Number 5,629,159 (Immortalization and disimmortalization of cells)

- Application Number WO 96/40877 (Immortalization and disimmortalization of cells)

- U.S. Patent Number 5,935,811 (Neuron restrictive silencer factor proteins)

- Application Number WO 96/27665 (Neuron restrictive silencer factor proteins)

- U.S. Patent Number 5,589,376 (Mammalian neural crest stem cells)

- U.S. Patent Number 5,824,489 (Methods for isolating mammalian multipotent

neural crest stem cells)

- Application Number WO 94/02593 (Mammalian neural crest stem cells)

- U.S. Patent Number 5,654,183 (Genetically engineered mammalian neural crest stem cells)

- U.S. Patent Number 5,928,947 (Mammalian multipotent neural crest stem cells)

- U.S. Patent Number 5,693,482 (IN VITRO neural crest stem cell assay)

- U.S. Patent Number 6,001,654 (Methods for differentiating neural stem cells to neurons or smooth muscle cells (TGFb))

- Application Number WO 98/48001 (Methods for differentiating neural stem cells to neurons or smooth muscle cells (TGFb))

- U.S. Patent Number 5,672,499 (Methods for immortalizing multipotent neural crest stem cells)

- U.S. Patent Number 5,849,553 (Immortalizing and disimmortalizing multipotent neural crest stem cells)

- U.S. Patent Number 6,033,906 (Differentiating mammalian neural stem cells to glial cells using neuregulins).

We also rely upon trade secret protection for our confidential and proprietary information and take active measures to control access to that information. For instance, 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 it believes may be important to the development of its 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. We do, however, 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 and liver diseases, diabetes 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. We expect competition to increase. We believe that our most significant competitors will 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 possess 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.

In addition, we may face competition from companies that 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 are subject to regulation by numerous governmental authorities in the United States and other countries. The future manufacturing and marketing of our potential products will be likewise regulated.

In the United States, pharmaceuticals, biologicals and medical devices are subject to rigorous Food and Drug Administration, or FDA, regulation. The Federal Food, Drug and Cosmetic Act and the Public Health Service Act, as well as other Federal and state statutes and regulations, govern 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 in specific disease models 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 human clinical trials in the U.S. 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 its receipt by the FDA, as long as there are no questions, requests for delay or objections from the FDA.

STEPS	CONSIDERATIONS
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, 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, steps 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, or cGMP, which the FDA determines. Each protocol is submitted to the FDA as part of the IND. An independent Institutional Review Board, or IRB, at the institution at which the study is conducted must approve the protocol for each clinical study and obtain the informed consent of all participants. 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 subjects to test for adverse reactions, dosage tolerance, absorption and distribution, metabolism, excretion and clinical pharmacology. - Phase II studies 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 chosen and a candidate product proves to be effective and safe in Phase II evaluations, Phase III trials begin. - Phase III trials are undertaken to conclusively demonstrate clinical efficacy and 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 require discontinuance at any time if significant safety issues arise.
4. Submission to the FDA of marketing authorization applications	The results of the preclinical and clinical studies are submitted to the FDA.

STEPS	CONSIDERATIONS
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. A number of factors, including relative risks and benefits demonstrated in clinical trials, the availability of alternative treatments and the severity of the disease affect the timing. The FDA might request additional animal studies which would also add to the time.

After the FDA approves the initial indications and the manufacturing facility, it might require further clinical trials to grant approval to use 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. It may also 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 the FDA's cGMP requirement. Even after product licensure approval, the manufacturer must comply with cGMP on a continuing basis. However, 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. The FDA normally holds inspections at least every two years. The FDA, as well as foreign regulatory authorities with reciprocal inspection agreements, may periodically inspect foreign manufacturing facilities. Foreign authorities may also inspect domestic manufacturing facilities.

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. Drug manufacturers can also seek orphan drug status for treatments for diseases or conditions that affect more than 200,000 individuals in the United States if the manufacturer does not realistically anticipate its product becoming profitable from sales in the United States. We may apply for orphan drug status for certain of our therapies. Under the Orphan Drug Act, a manufacturer of a designated orphan product can seek tax benefits, and the holder of the first FDA approval of a designated orphan product will receive a seven-year period of marketing exclusivity in the United States for that product. 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.

PROPOSED FDA REGULATIONS

Proposed regulations of the FDA and other governmental agencies would place restrictions on researchers who have a financial interest in the outcome of their research. Under the proposed regulations, the FDA could apply heightened scrutiny to studies conducted by such researchers when reviewing applications to the FDA. 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 it might take. Restrictions exist on the testing or use of cells, whether human or non-human.

OTHER REGULATIONS

In addition, we are also subject to regulations under the Occupational Safety and Health Act, the Environmental Protection Act, the Toxic Substances Control Act and other foreign, Federal, state and local regulations.

Outside the United States, we will be subject to regulations that govern the import of drugs, as well as foreign regulatory requirements governing human clinical trials and marketing approval. The requirements 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 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 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 continuing efforts of governmental and third party payers to contain or reduce the cost of health care have affected the revenues and profitability of some health-care related companies. Payers are increasingly attempting to limit both coverage and the level of reimbursement for new therapeutic products that the FDA approves. In some cases, they are refusing to provide any coverage 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 May 23, 2001, we had 28 full-time employees, eight of whom have Ph.D. degrees. The equivalent of 21 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. We believe our relationships with our employees are good.

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 other entities that limit their availability to us. The Scientific Advisory Board members have generally agreed, however, for so long as they serve as consultants to us, not to provide any services to any other entities that would conflict with the services the member provides to us. 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.

- 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.

DIRECTORS, EXECUTIVE OFFICERS AND KEY EMPLOYEES

The following table sets forth the name, age as of December 31, 2000, and position of each of our executive officers, key members of management, and directors.

NAME	AGE	POSITION
John J. Schwartz, Ph.D.	67	Director, Chairman of the Board
Martin M. McGlynn	54	Director, President and Chief Executive Officer
Mark J. Levin	50	Director
Roger M. Perlmutter M.D., Ph.D.	48	Director
Irving L. Weissman, M.D.	61	Director
Ann Tsukamoto, Ph.D.	48	Vice President, Scientific Operations
Ronnda Bartel, Ph.D.	42	Vice President, Scientific Development

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- - JOHN J. SCHWARTZ, PH.D., was elected to the board of directors in December 1998 and was elected Chairman of the board at the same time. He was formerly Senior Vice President and General Counsel of SyStemix, Inc. from 1993 to 1995, and then President and Chief Executive Officer of SyStemix, Inc. from 1995 to 1997. Dr. Schwartz is currently President of Quantum Strategies Management Company, a registered investment advisor located in Atherton, California. Prior to his positions at SyStemix, he served as Assistant Professor and a Vice President and General Counsel at Stanford University in California. Dr. Schwartz graduated from Harvard Law School in 1958 and received his Ph.D. in physics from the University of Rochester in 1966.

- - MARTIN M. MCGLYNN joined us on January 15, 2001 when he was appointed President and Chief Executive Officer of us and our wholly-owned subsidiary, StemCells California, Inc. From 1994 until he joined us, Mr. McGlynn was President and Chief Executive Officer of Pharmadigm, Inc., a privately held company in Salt Lake City, Utah, engaged in research and development in the fields of inflammation and genetic immunization. Mr. McGlynn received a bachelor of commerce degree from University College, Dublin, Ireland in 1968, a diploma in industrial engineering from the Irish Institute of Industrial Engineering in 1970, and a diploma in production planning from the University of Birmingham, England in 1971.

- - MARK J. LEVIN is a founder and has served as a director since our inception in 1988. From inception until January 1990 and from May 1990 until February 1991, Mr. Levin served as our President and acting Chief Executive Officer. From November 1991 until March 1992, he served as Chief Executive Officer of Tularik, Inc., a biotechnology company. From August 1991 until August 1993, Mr. Levin was Chief Executive Officer and a director of Focal, Inc., a biomedical company. Mr. Levin is currently the Chairman and Chief Executive Officer of Millennium Pharmaceuticals, Inc., a biotechnology company. Mr. Levin is also currently on the boards of directors of Focal, Inc. and Tularik, Inc.

- - ROGER M. PERLMUTTER, M.D., PH.D., was elected to the board of directors in December 2000. Dr. Perlmutter is Executive Vice President, Research and Development, of Amgen, Inc., a position he has held since January 2001. Prior to joining Amgen, Dr. Perlmutter was Executive Vice President, Worldwide Basic Research and Preclinical Development, Merck Research Laboratories, a division of Merck & Co., Inc., a position he held since August 1999. He joined Merck in February 1997 as Senior Vice President, Merck Research Laboratories, from February 1997 to December 1998 and as Executive Vice President from February 1999 to July 1999. Prior to joining Merck, Dr. Perlmutter was a professor in the Departments of Immunology, Biochemistry and Medicine at the University of Washington from January 1991 to January 1997 and served as chairman of the Department of Immunology at the University of Washington from May 1989 to January 1997. He also was an Investigator at the Howard Hughes Medical Institute from July 1984 to

February 1997. Dr Perlmutter has been a member of the board of directors of The Irvington Institute for Immunological Research since 1997 and of the Institute for Systems Biology since 1999.

- - IRVING L. WEISSMAN, M.D., has served as a director since September 1997. He has been a consultant to us since September 1997 and is the Chairman of our Scientific Advisory Board. He is the Karel and Avice Beekhuis Professor of Cancer Biology, Professor of Pathology and Professor of Developmental Biology at Stanford University. Dr. Weissman is a cofounder of SyStemix, Inc., and a former 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 a member of the National Academy of Sciences.

- - ANN TSUKAMOTO, PH.D., joined us in November 1997 as Senior Director, Scientific Operations, and was appointed Vice President, Scientific Operations in June 1998. From 1989 until she joined us, Dr. Tsukamoto was employed at SyStemix, Inc., where she served in various research capacities before transitioning to the position of Director of Clinical Science. At SyStemix, Inc., Dr. Tsukamoto assisted in the launch of its clinical research program for the hematopoietic stem cell. She received her Ph.D. degree from the University of California, Los Angeles and did postdoctoral research with Dr. Harold Varmus at the University of California, San Francisco. Dr. Tsukamoto is an inventor on six issued U.S. Patents related to the human hematopoietic stem cell. As of March 5, 2001, Dr. Tsukamoto became a member of the Board of Directors for the Society of Regenerative Medicine and Stem Cell Biology.

- - RONNDA BARTEL, PH.D., joined us in July 1998, as Senior Director, Cell Development, and was appointed Vice President, Scientific Development in April 2000. From 1995 until her employment with us, Dr. Bartel was Senior Principal Scientist at Advanced Tissue Sciences Inc., responsible for research, development, and manufacturing of tissue engineered human cell based products. Dr. Bartel was awarded her Ph.D. degree in biochemistry from the University of Kansas, Lawrence and did postdoctoral work with Dr. John Voorhees at the University of Michigan, Ann Arbor.

BOARD COMPOSITION

Our certificate of incorporation and 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. Dr. Weissman is in the class of directors whose term expires at our annual meeting in 2002. Mr. McGlynn and Dr. Perlmutter are in the class of directors whose term expires in 2003. Mr. Levin and Dr. Schwartz are in the class of directors whose term expires in 2004. 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.

DIRECTOR COMPENSATION

We currently pay no additional remuneration to Mr. McGlynn, our president and chief executive officer, for his service as a director.

One of our non-employee directors, Dr. Weissman, also serves us as a compensated consultant. See "Related Party Transactions--Compensation Paid to Dr. Weissman."

We have adopted the following methodology for compensating our directors: upon election or appointment to an initial term on the board, we will grant a director an option to purchase 20,000 shares at fair market value, which option will vest ratably over 3 years. On the third anniversary date, each re-elected director will be granted an additional option to purchase 15,000 shares at fair market value, which option will vest ratably over 3 years. In addition, each director will receive a retainer of $18,000 annually and the Chairman of the board of directors will receive a retainer of $35,000 annually, each payable in options to purchase our common stock at $.25 per share.

COMMITTEES OF THE BOARD OF DIRECTORS

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

The audit committee oversees our 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 our financial reporting is of high quality, and reviews the interim financial statements with our management and the independent auditors prior to the filing of our Quarterly Report on Form 10-Q. Dr. Schwartz, Dr. Perlmutter and Mr. Levin make up the audit committee.

The duties of the compensation and stock option committee are to make recommendations to the board and our management concerning salaries in general, determine executive compensation, and approve incentive compensation. The compensation and stock option committee is currently comprised of Mr. Levin and Dr. Schwartz.

COMPENSATION COMMITTEE INTERLOCKS AND INSIDER PARTICIPATION

The following non-employee directors served on the compensation and stock option committee in 2000: Mr. Levin and Dr. Schwartz. In 1989, 1990 and 1991, Mr. Levin was one of our executive officers.

We entered into a consulting services agreement with Dr. Schwartz on July 27, 1998, as amended December 19, 1998, for strategic business advice and counseling services, including assistance in the negotiation and consummation of strategic collaboration transactions specified by us. Dr. Schwartz was elected to the Board of Directors on December 19, 1998 and became a member of the compensation and stock option committee on that date. During the fiscal year ended December 31, 1999, we made payments to Dr. Schwartz under the consulting services agreement and the letter agreement dated December 19, 1998 and amended as of July 1, 1999, under which he served as a Director and Chairman of the Board. See "Related Party Transactions." Both the consulting services agreement and the letter agreement were terminated as of March 31, 2001.

We believe the terms of these agreements were no less favorable to us than could have been obtained from unaffiliated third parties.

EXECUTIVE COMPENSATION

The following table sets forth the compensation paid by us to our Chief Executive Officers during the fiscal years ended December 31, 2000, 1999 and 1998 and the two other most highly compensated executive officers who served in such capacities during the fiscal year ended December 31, 2000. There were no other persons serving as executive officers at the end of such fiscal year.

SUMMARY COMPENSATION TABLE

		ANNUAL COMPENSATION		LONG TERM COMPENSATION	
NAME AND PRINCIPAL POSITION	YEAR	SALARY($)	BONUS($)	SECURITIES UNDERLYING OPTIONS(#)	ALL OTHER COMPENSATION
GEORGE W. DUNBAR, JR.	2000	186,538	50,000	36,031	--
Acting President and Chief Executive Officer(1)	1999			48,000	
RICHARD M. ROSE M.D.	2000	309,632	--	--	--
Chief Executive Officer(2)	1999	279,974	--	--	4,667(3)
	1998	286,553	--	150,000(4)	11,330(5)
ANN TSUKAMOTO, PH.D.	2000	159,054	--	--	4,783(6)
VP, Scientific Operations					
RONNDA BARTEL, PH.D.	2000	129,668	--	--	3,245(7)
VP, Scientific Development					

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(1) Mr. Dunbar became Acting President and Chief Executive Officer effective as of February 1, 2000, and resigned from that position effective as of January 15, 2001.

(2) 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.

(3) Represents the personal portion of the use of a company vehicle, as well as $5,000 of fair market value of our matching contributions of common stock to Dr. Rose's account in the company's 401(k) Plan.

(4) 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.

(5) Represents $4,666.56 of fair market value of the company matching contributions of common stock to Dr. Rose's account in our 401(k) Plan.

(6) Represents $4,783 of fair market value of the company matching contributions of common stock to Dr. Tsukamoto.

(7) Represents $3,245 of fair market value of the company matching contributions of common stock to Dr. Bartel.

OPTION GRANTS IN LAST YEAR

The following table provides information on option grants in 2000 to Mr. Dunbar, the only named executive officer to be granted options in 2000.

OPTION GRANTS IN LAST YEAR

NAME	SECURITIES UNDERLYING OPTIONS GRANTED (# OF SHARES)	PERCENT OF TOTAL OPTIONS GRANTED TO EMPLOYEES IN 2000(1)	EXERCISE PRICE ($/SHARE)(2)	EXPIRATION DATE	POTENTIAL REALIZABLE VALUE AT ASSUMED ANNUAL RATES OF STOCK PRICE APPRECIATION FOR OPTION TERM 0%($)	5%($)	10%($)
George W. Dunbar, Jr.....	73,000(3)	22%	1.094	10/15/01	271,998	307,120	345,580
	12,031(3)	4%	4.156	10/15/01	13,162	19,467	26,371

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(1) We granted options covering 330,031 shares of common stock to employees in the fiscal year ended December 31, 2000.

(2) The exercise price may be paid by delivery of already-owned shares and tax withholding obligations related to exercise may be paid by offset of the underlying shares, subject to certain conditions.

(3) As of December 31, 2000, options for 85,031 shares were fully vested.

OPTION EXERCISES IN LAST YEAR AND YEAR-END OPTION VALUES

The following table provides information about option exercises in 2000 by the named executive officers and the value of such officers' unexercised options on December 31, 2000.

AGGREGATED OPTION EXERCISES IN 2000 AND YEAR-END OPTION VALUES

NAME	SHARES ACQUIRED ON EXERCISE(#)	VALUE REALIZED($)	NUMBER OF SECURITIES UNDERLYING UNEXERCISED OPTIONS AT FISCAL YEAR-END EXERCISABLE	NUMBER OF SECURITIES UNDERLYING UNEXERCISED OPTIONS AT FISCAL YEAR-END UNEXERCISABLE	VALUE OF UNEXERCISED IN-THE-MONEY OPTIONS AT FISCAL YEAR-END($)(1) EXERCISABLE	VALUE OF UNEXERCISED IN-THE-MONEY OPTIONS AT FISCAL YEAR-END($)(1) UNEXERCISABLE
Richard M. Rose, M.D.....	156,250	865,328	--	93,750	--	--
George W. Dunbar, Jr.....	42,000	209,160	24,031	--	11,248	--
Ann Tsukamoto, Ph.D.....	--	--	78,082	33,168	29,638	35,161
Ronnda Bartel, Ph.D.....	--	--	19,270	33,230	24,814	43,058

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(1) Value is based on the difference between the aggregate option exercise price and the fair market value as of December 31, 2000. The fair market value of the common stock is based on the closing price of the our common stock on December 29, 2000 (the last trading day of 2000) on the Nasdaq National Market, which was $2.50.

EMPLOYMENT CONTRACTS, TERMINATION OF EMPLOYMENT AND CHANGE OF CONTROL ARRANGEMENTS

Martin McGlynn joined the company as President and Chief Executive Officer on January 15, 2001. Under the terms of an agreement between Mr. McGlynn and us, Mr. McGlynn is entitled to an annual base salary of $275,000 per year, reviewable annually by the board of directors, and a bonus, in the board's sole discretion, of up to 25% of his base salary. Mr. McGlynn was granted an option to purchase 400,000 shares of common stock with an exercise price equal to the fair market value of the common stock on the date of his employment. One-fourth of these options will vest on the first anniversary of his employment and the remaining three-fourths will vest in equal monthly installments during his second through fourth years of employment. The board may, in its sole discretion, grant Mr. McGlynn a bonus option to purchase up to an additional 25,000 shares. The vesting under the option is subject to acceleration in the event of certain changes of control. We also agreed to pay Mr. McGlynn a $50,000 relocation bonus and reimburse him for relocation expenses. Our agreement with Mr. McGlynn provides that if his employment is terminated by us without cause or by

Mr. McGlynn for good reason, he will be entitled to severance payments equal to one year's base salary and he will receive healthcare benefits under our plans for one year after termination. If Mr. McGlynn's employment is terminated as a result of his disability, he will receive up to six months' base salary. If we terminate Mr. McGlynn's employment for cause or if he resigns without good reason, he will not be entitled to any severance or other benefits.

STOCK PLANS AND RELATED TRANSACTIONS

In April 2001, our board of directors adopted the 2001 Equity Incentive Plan, subject to stockholder approval, which was obtained at our annual meeting on May 31, 2001.

The purpose of the Plan is to advance our interests by enhancing our ability to attract and retain executive officers, employees, directors and other persons or entities providing services to us who are in a position to make significant contributions to our success, and to reward participants for such contributions, through ownership of shares of our common stock. The Plan is intended to accomplish these goals by enabling us to grant awards in the form of options, stock appreciation rights, restricted stock, unrestricted stock or deferred stock, or performance awards, loans or supplemental grants or combinations thereof, all as more fully described below. The Plan is the successor to both our 1992 Equity Incentive Plan and our 1992 Stock Option Plan for Non-Employee Directors. No awards may be made under either of the 1992 plans after February 12, 2002.

The Plan is administered by our board of directors. Under the Plan, the board may grant stock options, stock appreciation rights, restricted stock, unrestricted stock, deferred stock, and performance awards (in cash or stock), or combinations thereof, and may waive the terms and conditions of any award. A total of 3,000,000 shares of common stock may be issued under the Plan. Employees, including executive officers, directors and other persons or entities providing services to us or its subsidiaries who are in a position to make a significant contribution to our success are eligible to receive awards under the Plan.

The exercise price of an incentive stock option ("ISO") granted under the Plan or an option intended to qualify as performance-based compensation under Section 162(m) of the Code shall not be less than 100% of the fair market value of the stock at the time of grant. The board determines the exercise price of a non-ISO granted under the Plan. No stock options may be granted under the Plan after March 28, 2011, but stock options previously granted may extend beyond that date. The exercise price may be paid in cash or by check. Subject to certain additional limitations, the board may also permit the exercise price to be paid by tendering shares of stock, by delivery of a promissory note, by delivery to us of an undertaking by a broker to deliver promptly sufficient funds to pay the exercise price, or a combination of the foregoing.

Stock appreciation rights ("SARs") may be granted either alone or in tandem with stock option grants. Each SAR entitles the holder on exercise to receive an amount in cash or stock or a combination thereof (such form to be determined by the board) determined in whole or in part by reference to appreciation in the fair market value of a share of Stock. SARs may be based solely on appreciation in the fair market value of stock or on a comparison of such appreciation with some other measure of market growth.

The Plan provides for awards of nontransferable shares of restricted stock subject to forfeiture, as well as unrestricted shares of stock. Shares of restricted stock may not be sold, transferred, pledged, assigned, or otherwise alienated or hypothecated until the end of the applicable period and the satisfaction of any other conditions or restrictions established by the board. Except as the Plan otherwise specifically provides, if a participant ceases to be an employee or ceases to continue the consulting or other similar relationship engaged in by such participant with us for any reason other than death during the restricted period, then the restricted stock must be offered to us for purchase for the amount of cash paid for the restricted stock, or forfeited to us if no cash was paid. The Plan also

provides for deferred grants entitling the recipient to receive shares of stock in the future at such times and on such conditions as the board may specify.

The Plan provides for performance awards entitling the recipient to receive without payment cash or stock or a combination thereof following the attainment of performance goals determined by the board. In the case of any performance award intended to qualify for the performance-based remuneration exception described in Section 162(m) of the Code, the board will in writing pre-establish specific performance goals that are based upon any one or more operational, result or event-specific goals.

The Plan provides that the board has full authority to decide whether to make a loan to a participant in connection with the purchase of stock under an award or with the payment of any applicable income tax recognized as a result of an award. The Plan also provides that, in connection with any award, the board may provide for and grant a cash award with certain limitations as to the amount of the supplemental grant.

Except as otherwise provided by the board, if a participant dies, options and SARs exercisable immediately prior to death may be exercised by the participant's executor, administrator or transferee during a period of one year following such death (or for the remainder of their original term, if less). Options and SARs not exercisable at a participant's death terminate. In the case of termination for reasons other than death, options and SARs remain exercisable, to the extent they were exercisable immediately prior to termination, for three months (or for the remainder of their original term, if less); provided that if in the Board's judgment the reason for the award holder's termination casts discredit on us sufficient to justify immediate termination of the award, then such award will immediately terminate.

In the case of certain mergers, consolidations or other transactions in which we are acquired or is liquidated and there is a surviving or acquiring corporation, the Plan permits the board to arrange for the assumption of awards outstanding under the Plan or the grant to participants of replacement awards by that corporation. All outstanding awards not assumed by the surviving or acquiring corporation shall become exercisable immediately prior to the consummation of such merger, consolidation or other transaction and upon such consummation all outstanding awards that have not been assumed or replaced will terminate.

The board may amend the Plan or any outstanding award at any time, provided that no such amendment will, without the approval of our stockholders, effectuate a change for which shareholder approval is required in order for the Plan to continue to qualify for the award of ISOs under Section 422 of the Code or for the award of performance-based compensation under Section 162(m) of the Code.

The future benefits or amounts that would be received under the Plan by the executive officers and the non-executive officer employees are discretionary and are therefore not determinable at this time.

The 2001 Equity Incentive Plan became effective as of May 31, 2001.

COMPENSATION PAID TO DR. SCHWARTZ

Dr. Schwartz, a member and Chairman of the board of directors, was retained in July 1998 under a consulting services agreement to serve as a consultant to us rendering strategic business advice and counseling services, including assistance in the negotiation and consummation of strategic collaboration transactions specified by us. The consulting services agreement provided for compensation to Dr. Schwartz in the amount of $50,000 in cash for services rendered during the period of September 27, 1997 through July 26, 1998, plus a fully vested option to purchase 20,000 shares of our common stock at $1.281, the fair market value of our common stock at the time of the grant. For services rendered during the term of the consulting services agreement, Dr. Schwartz was entitled to total cash compensation of $120,000, an option to purchase 76,000 shares of our common stock with an exercise price equal to the closing bid price for the shares on July 27, 1998, and an option to purchase 48,000 shares of our common stock at the then current fair market value of our common stock on July 27, 1999, vesting at a rate of 2,000 shares per month. In addition, the consulting services agreement provided that in the event that, at a time when Dr. Schwartz was not a member of the board of directors but the consulting services agreement was still in effect, Dr. Schwartz materially participated in the negotiation and consummation of a strategic collaboration transaction specified by us, he would have been be entitled to receive additional compensation equal to 3% of the transaction consideration, payable half in cash and half in the form of an option or warrant to purchase shares of our common stock at $.20 per share, the number of shares being calculated based on the fair market value of our 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. There have been no such strategic collaboration transactions that would have given rise to additional compensation.

On December 19, 1998, Dr. Schwartz became a member of the board of directors and its Chairman and his compensation for services in this capacity was provided for under the terms of a letter agreement, which also incorporated certain compensation provided for under the consulting services agreement. Under the letter agreement, as amended July 1, 1999, Dr. Schwartz in his capacity as Chairman was entitled to receive $132,000 in cash per year, plus $1,500 per board or committee meeting and $500 per telephonic meeting. He also received an option to acquire 40,000 shares of our common stock under the 1992 Equity Incentive Plan, with an exercise price equal to the fair market value on the date of the grant. The time requirement for his position was set at thirty business days per quarter. Dr. Schwartz canceled both the letter agreement and the consulting services agreement as of March 31, 2001. He currently continues to serve in his position as Chairman and member of the board of directors under the terms of the compensation policy recently approved by the directors. See "Management--Director Compensation."

COMPENSATION PAID TO DR. WEISSMAN

Dr. Weissman, a member of the board of directors, was retained in September 1997 to serve as a consultant to us. Pursuant to his consulting agreement, Dr. Weissman has agreed to provide consulting services to us and serve on our Scientific Advisory Board. We 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. Originally, the remainder of the option would have vested upon the occurrence of certain milestones related to our stem cell research program and in the event of certain changes of control. We agreed to amend the option on October 27, 2000 so that the shares would become exercisable over eight years from the original grant date or in the event of certain changes of control. We recorded compensation expense of $823,759 during the fourth quarter of 2000 as a result of this change in the vested portion of the option. The deferred compensation

expense associated with the unvested portion of the grants was recorded as $669,116. We plan to revalue the options using the Black-Scholes method on a quarterly basis and recognize additional compensation expense accordingly. We also agreed in September 1997 to nominate Dr. Weissman for a position on the board of directors. Dr. Weissman's consulting agreement contains confidentiality, noncompetition, and assignment of invention provisions and is for a term of fifteen years, subject to earlier termination by us for cause or frustration of purpose and earlier termination by Dr. Weissman for good reason. Dr. Weissman initially received no compensation as a member of the board of directors or for attending meetings of the board or its committees or meetings of our Scientific Advisory Board, but was reimbursed for reasonable expenses he incurred in attending such meetings. In October 2000, we agreed with Dr. Weissman that we would pay him the same compensation paid to other members of the board. See "Management--Director Compensation."

PREFERRED STOCK ISSUED TO DR. WEISSMAN AND MR. LEVIN

In April 2000, we sold 750 shares of our 6% cumulative convertible preferred stock plus a warrant to purchase 37,500 shares of our common stock at $6.58 per share to each of Dr. Weissman and Mr. Levin, each a director, for $750,000, for a total of $1,500,000, on terms more favorable to us than we were able to obtain from outside investors. The face value of the shares is convertible at the option of the holder 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. Any unconverted preferred stock will be converted into common stock on April 13, 2002. The warrants expire on April 13, 2005.

PRINCIPAL STOCKHOLDERS

The following table shows information regarding the beneficial ownership of our capital stock as of April 30, 2001 for:

- each person or group of affiliated persons known by us to own beneficially more than 5% of the outstanding shares of common stock and 6% cumulative convertible preferred stock;
- 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., 3155 Porter Drive, Palo Alto, CA 94304.

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 capital stock subject to options or warrants held by that person that are currently exercisable or will become exercisable within 60 days of April 30, 2001, but we have not deemed these shares to be outstanding for computing the percentage ownership of any other person. 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 and 6% cumulative convertible preferred stock shown as beneficially owned by that stockholder. Except as stated below in note 7, beneficial ownership percentage is based on 21,458,211 shares of our common stock and 1,500 shares of our 6% cumulative convertible preferred stock outstanding on March 31, 2001.

NAME OF BENEFICIAL OWNER(1)	SHARES OF COMMON STOCK BENEFICIALLY OWNED	PERCENTAGE OF CLASS OF COMMON STOCK BENEFICIALLY OWNED	SHARES OF PREFERRED STOCK BENEFICIALLY OWNED	PERCENTAGE OF CLASS OF PREFERRED STOCK BENEFICIALLY OWNED
Mark J. Levin	190,300(2)	*	750	50%
Martin M. McGlynn	--	--	--	--
Roger Perlmutter, M.D., Ph.D.	3,519(3)	*	--	--
John J. Schwartz, Ph.D.	194,917(4)	*	--	--
Irving Weissman, M.D.	133,685(5)	*	750	50%
All directors and executive officers as a group (7 persons)	653,749(6)	3.0%	1,500	100%
Millennium Partners, LP	2,878,862(7)	11.8%	--	--

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* Less than one percent.

(1) The address of all such persons, except Millenium Partners, LP, is c/o the Company, 3155 Porter Drive, Palo Alto, California 94304. The address of Millenium Partners, LP is 551 Fifth Avenue, New York, New York 10176.

(2) Includes 41,296 shares of common stock issuable upon exercise of stock options and a warrant to purchase 37,500 shares.

(3) All shares issuable upon exercise of stock options.

(4) Includes 194,917 shares issuable upon exercise of stock options.

(5) Includes 38,234 shares issuable upon exercise of stock options and 44,660 shares issuable upon exercise of warrants. Includes 50,791 shares owned by trusts for the benefit of Dr. Weissman's children as to which he disclaims beneficial ownership.

(6) Includes options to purchase 387,780 shares and warrants to purchase 185,129 shares.

(7) Includes 794,308 shares issuable upon the exercise of warrants. Also includes 457,750 shares issued on June 21, 2001 upon exercise of an option granted on August 3, 2000 to purchase up to $2 million of our common stock. These shares were deemed outstanding only for purposes of calculating the percentage of beneficial ownership of Millennium and not for any other stockholder, for whom the percentage of beneficial ownership was based on shares outstanding as of March 31, 2001. Information on Millennium's beneficial ownership is based on a Schedule 13G filed by Millennium on February 27, 2001.

DESCRIPTION OF CAPITAL STOCK

GENERAL MATTERS

As of March 31, 2001, the total amount of our authorized capital stock consisted of 45,000,000 shares of common stock, $.01 par value per share, and 1,000,000 shares of authorized preferred stock, $.01 par value per share, 2,626 of which has been designated as 6% cumulative preferred stock, 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 March 31, 2001, we had outstanding 21,458,211 shares of common stock and 1,500 shares of 6% cumulative convertible preferred stock.

As of March 31, 2001, we had 287 stockholders of record with respect to our common stock, and we had outstanding options and warrants to purchase 3,461,105 shares of our common stock, of which 871,386 were 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 our 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 a registration rights agreement, dated April 13, 2000, by and between us and Irving Weissman and Mark Levin. The 6% cumulative convertible preferred stock was issued pursuant to a securities purchase agreement, dated April 13, 2000, by and between us and Irving Weissman and Mark Levin. 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

Our warrants were issued at various times since April 13, 2000 to eight different parties as described below.

As of April 13, 2000, we issued to each of Irving Weissman and Mark Levin, each a director, a warrant in connection with a Securities Purchase Agreement dated as of April 13, 2000. Each warrant is to purchase 37,500 shares of our common stock at an exercise price of $6.58125 per share. Each warrant is exercisable, in whole or in part, at any time on or after April 13, 2000 and on or prior to April 13, 2005. The exercise price is subject to adjustment for subdivisions, combinations, stock dividends, reorganizations and various other issuances. We may, at any time during the term of the warrant, reduce the exercise price to any amount for any period of time deemed appropriate by our board of directors. See "Related Party Transactions--Preferred Stock Issued to Dr. Weissman and Mr. Levin."

We issued a warrant to Millennium Partners L.P. on 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 August 30, 2000 and every three months thereafter. On November 1, 2000, we agreed with Millennium to cancel the adjustable warrant issued on August 30, 2000 and to decrease the number of shares for which the adjustable warrant issued on August 3, 2000 may be exercisable. 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 our common stock over a period prior to each date. We will have the right, under certain circumstances, to limit the number of additional shares by purchasing part of the entitlement from Millennium. The remaining warrant is exercisable, in whole or in part, at any time on or prior to 30 days after the last date which may entitle Millennium to receive additional shares. This warrant is subject to adjustment for subdivisions, combinations, stock dividends, reorganizations and various other issuances of common stock. On January 27, 2001, Millennium's August 3, 2000 adjustable warrant became exercisable for

463,369 shares of our common stock, and Millennium purchased all of those shares for $4,634 on March 30, 2001. On April 27, 2001, the adjustable warrant became exercisable for an additional 622,469 shares of our common stock, and the warrant has not been exercised with respect to those shares. On June 21, 2001, Millennium received an additional adjustable warrant similar to the adjustable warrant issued to Millennium on August 3, 2000. It is not currently exercisable for shares of our common stock but may be adjusted in the future to permit purchases of our common stock at $0.01 per share.

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 us at $7.875 per underlying share. On August 30, 2000 we issued an additional warrant to purchase up to 19,900 shares of common stock at $6.03 per share which is callable by us at $10.05 per underlying share. On June 21, 2001, Millennium received an additional warrant to purchase 50,352 shares of our common stock at a price per share of $4.7664. This warrant is callable by us at any time at $7.944 per underlying share. Each callable warrant is exercisable, in whole or in part, at any time on or after the issuance date and on or prior to the fifth year anniversary of the issuance date. The exercise price and number of shares are subject to adjustment for subdivisions, combinations, stock dividends, reorganizations and various other issuances.

On August 3, 2000 we 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 issuance date and on or prior to the fifth year anniversary of the issuance date. The exercise price and number of shares are subject to adjustment for subdivisions, combinations, stock dividends, reorganizations and various other issuances.

On May 10, 2001, in connection with our execution of a common stock purchase agreement with Sativum Investments Limited, we issued three three-year warrants to purchase an aggregate of 350,000 shares of our common stock at $2.38 per share to Sativum (250,000 shares), Pacific Crest Securities Inc. (75,000 shares) and Granite Financial Group, Inc. (25,000 shares). The shares underlying these warrants are being registered for sale by the registration statement of which this prospectus forms a part. The exercise price and number of shares are subject to adjustment for subdivisions, combinations, stock dividends and reorganizations.

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 L.P.

COMMON STOCK PURCHASE AGREEMENT

On May 10, 2001, we entered into a common stock purchase agreement with Sativum Investments Limited, a British Virgin Islands corporation, for the future issuance and purchase of shares of our common stock. This common stock purchase agreement establishes what is sometimes termed an equity line.

In general, under the equity line, Sativum has committed to provide us up to $30,000,000 as we request it over a 30-month period in return for newly issued common stock. Once every 22 trading days on the Nasdaq National Market, we may request a drawdown. The amount we can draw down at each request must be at least $100,000. The maximum amount we can actually draw down for each request is also limited to 6% of the weighted average price of our common stock for the 60 calendar days prior to the date of our request multiplied by the total trading volume of our common stock for the 60 calendar days prior to our request. We are under no obligation to issue any shares to Sativum or to request a drawdown during any period.

Each 20-day trading period following a drawdown request is divided into two 10 trading day settlement periods. We are entitled to receive funds and must deliver shares to Sativum on the 12th day and the 22nd day following the delivery of a drawdown notice. Our requested drawdown amount will be reduced by 1/20 for each day during the 20 trading day period that the volume-weighted average stock price falls below a threshold price set by us or for each day on which trading of our shares on Nasdaq is suspended or the registration statement of which this prospectus forms a part is suspended. We then use the formulas in the common stock purchase agreement to determine the number of shares that we will issue to Sativum in return for the actual drawdown amount. The formulas for determining the actual drawdown amounts, the number of shares that we issue to Sativum and the price per share paid by Sativum are described in detail beginning on page 56. The aggregate total of all drawdowns under the equity line cannot exceed $30,000,000.

The price per share dollar amount that Sativum pays for our common stock for each drawdown includes a 6% discount to the average daily market price of our common stock for each day during the 20 day trading period after our drawdown request, weighted by trading volume during each such trading day. The actual drawdown amount will be reduced by a fee, equal to 3% of net proceeds, payable to the placement agent, Pacific Crest Securities, Inc., which introduced Sativum to us. Pacific Crest has agreed to contribute one-third of each of its drawdown fees to Granite Financial Group, Inc.

We are required to comply with Nasdaq's issuer designation requirements. One of those requirements prevents us from issuing, pursuant to the common stock purchase agreement, more than 3,922,606 shares, or 19.9% of our outstanding common stock on May 10, 2001 minus the shares underlying the warrants, unless and until we receive the approval of our stockholders. If necessary, we will seek stockholder approval at or prior to our 2002 or 2003 annual meeting of stockholders in case we opt to issue shares of common stock pursuant to the common stock purchase agreement in excess of that amount. Additionally, the common stock purchase agreement does not permit us to draw funds if the issuance of shares of common stock to Sativum pursuant to the drawdown would exceed 9.9% of our outstanding common stock held by Sativum on the drawdown exercise date. In such cases, we will not be permitted to issue the shares otherwise issuable pursuant to the qdrawdown that exceed that amount of shares, and Sativum will not be obligated to purchase those shares. Shares sold by Sativum

from time to time will reduce its beneficial ownership of our common stock and accordingly permit us to sell additional shares to Sativum under the common stock purchase agreement.

We are prohibited by the common stock purchase agreement from entering into any other stand-by equity based credit facilities during the term of the common stock purchase agreement. We are not prohibited, however, from entering into other equity or debt financing arrangements.

In connection with the common stock purchase agreement, we issued to Sativum at the initial closing a warrant certificate to purchase up to 250,000 shares of our common stock. The warrant expires on May 10, 2004. The exercise price of the warrant is $2.3805. Simultaneous with the issuance of the warrant to Sativum, we issued a warrant to Pacific Crest for the purchase of up to 75,000 shares of our common stock and to Granite Financial Group, Inc. for the purchase of up to 25,000 shares of our common stock, on the same terms as Sativum's warrant. The shares underlying these warrants are being registered by the registration statement of which this prospectus forms a part.

THE DRAWDOWN PROCEDURE AND THE STOCK PURCHASES

We may request a drawdown by faxing to Sativum a drawdown notice, stating the amount of the drawdown that we wish to exercise and the minimum threshold price at which we are willing to sell the shares.

DOLLAR AMOUNT OF THE DRAWDOWN

No drawdown can be less than $100,000 or more than 6% of the weighted average price of our common stock for the sixty calendar days prior to the date of our request, multiplied by the total trading volume of our common stock for the 60 calendar days prior to our request. A sample calculation of the maximum drawdown amount is described on page 56.

The actual dollar amount of the drawdown will be reduced by 1/20 for every day during the 20 trading days after our drawdown request that:

- the volume weighted average price is less than the minimum threshold price we designate;

- the common stock is suspended for more than three hours, in the aggregate, or if any trading day is shortened because of a public holiday; or

- if sales of previously drawn down shares pursuant to the registration statement of which this prospectus is a part are suspended by us because of certain potentially material events for more than three hours, in the aggregate.

If any of the above three conditions is met for one or more trading days during the 20 trading day period, the actual dollar amount of our drawdown will be lower than we requested in our notice. The volume weighted average price of any trading day during a pricing period that meets any of the conditions above will have no effect on the pricing of the shares purchased with respect to the other days during that pricing period.

NUMBER OF SHARES

The volume-weighted average price of our shares on each of the 20 trading days immediately following the drawdown notice, except for days excluded in any of the three bullets above, is used to determine the number of shares that we will issue in return for the money provided by Sativum. We will not know the number of shares we will be issuing in a drawdown at the time of delivery of our drawdown notice. If our stock price falls during the 20 trading days after the notice, the number of shares will proportionately rise, except that we will not be required to issue shares below the threshold price that we will have set in the notice.

The number of shares of common stock that we will issue with respect to each trading day during a drawdown will be determined by the following formula:

- 1/20th of the dollar amount contained in our drawdown notice divided by

- 94% of the volume-weighted average price of our common stock for that day.

The 94% reflects Sativum's 6% discount. The sum of these 20 daily calculations produces the number of common shares that we will issue, unless trading one or more days is excluded as explained above, in which case that day is ignored in the calculation.

SAMPLE CALCULATION OF STOCK PURCHASES

The following is an example of the calculation of a single drawdown and the number of shares we would issue to Sativum in connection with that drawdown based on the assumptions noted in the discussion below.

SAMPLE MAXIMUM DRAWDOWN AMOUNT CALCULATION

For purposes of this example, suppose that we provide a drawdown notice to Sativum, and that we set the threshold price at $1.90 per share based on the volume weighted average price before applying the 6% discount. Suppose further that the total trading volume for the 60 calendar days prior to our drawdown notice is 5,335,700 shares and that the average of the volume-weighted average daily prices of our common stock for the 60 calendar days prior to the notice is $2.18. Using these hypothetical numbers, which by way of example only are the actual volume and price numbers for our common stock for the 60 calendar days ended May 18, 2001, the maximum amount of the drawdown is as follows:

- the total trading volume for the 60 calendar days prior to our drawdown notice, 5,335,700, multiplied by

- the average of the volume-weighted average daily prices of our common stock for the 60 calendar days prior to the drawdown notice, $2.18, multiplied by

- 6%

equals $697,910.

The maximum amount we can request in a drawdown notice under the formula and using these hypothetical numbers, is therefore capped at $697,910.

SAMPLE CALCULATION OF NUMBER OF SHARES

Assuming we requested the maximum drawdown amount reflected by the hypothetical numbers above, and assuming that the volume-weighted average daily prices for our common stock for the twenty trading days following our drawdown notice as set forth in the table below, the number of shares to be issued based on any trading day during the drawdown period can be calculated as follows:

- 1/20 of the requested drawdown amount of $697,910 divided by

- 94% of the volume-weighted average daily price.

For example, for the fourth trading day in the example in the table below, the calculation is as follows: 1/20 of $697,910 is $34,895. Divide $34,895 by 94% of the volume-weighted average daily price for that day of $1.90 per share, to get 19,538 shares. Perform this share calculation for each of the 20 measuring days during the drawdown period, excluding any days on which the volume-weighted average daily price is below the $1.90 threshold price, or on which trading of our common stock or the

effectiveness of the registration statement of which this prospectus forms a part is suspended. Add the results to determine the number of shares to be issued.

After excluding the first three days of the period because they are below the threshold price, the actual dollar amount of our drawdown in this example would be $593,223, $244,268 of which would be settled on day 12 for the first settlement period, and $348,955 of which would be settled on day 22 for the second settlement period. The total number of shares that we would issue to Sativum for this drawdown request would be 264,445 shares, so long as those shares, together with all other shares held by Sativum, do not exceed 9.9% of our then outstanding common stock. Of these total shares issued with respect to this hypothetical drawdown, 128,612 shares would be issued on day 12 for the first settlement period and 135,833 shares would be issued on day 22 for the second settlement period. Sativum would pay an average of $2.24 per share for these shares.

HYPOTHETICAL DRAWDOWN PRICING PERIOD(1)

TRADING DAY	VOLUME WEIGHTED AVERAGE PRICE (VWAP)	94% OF VWAP	DAILY INVESTMENT AMOUNT	NUMBER OF SHARES SOLD
1	$1.87	$1.76	(2)	(2)
2	$1.84	$1.73	(2)	(2)
3	$1.82	$1.71	(2)	(2)
4	$1.90	$1.79	$34,895	19,538
5	$1.92	$1.81	$34,895	19,316
6	$1.94	$1.83	$34,895	19,114
7	$1.94	$1.82	$34,895	19,136
8	$2.11	$1.99	$34,895	17,567
9	$2.11	$1.98	$34,895	17,624
10	$2.28	$2.14	$34,895	16,317
11	$2.31	$2.17	$34,895	16,046
12	$2.42	$2.27	$34,895	15,352
13	$2.96	$2.78	$34,895	12,551
14	$2.77	$2.60	$34,895	13,399
15	$2.64	$2.48	$34,895	14,075
16	$2.52	$2.37	$34,895	14,735
17	$2.91	$2.73	$34,895	12,762
18	$2.87	$2.69	$34,895	12,948
19	$3.02	$2.84	$34,895	12,298
20	$3.18	$2.99	$34,895	11,667
Total			$593,223	264,445

(1) We have used the volume-weighted average share prices of our common stock during the twenty trading days ended May 18, 2001 for illustrative purposes only. Our use of these numbers should not be interpreted as a forecast of share prices, an indicator of the prices at which we may choose to utilize the equity line or the expected or historical volatility of our common stock, whether during or outside a drawdown period. Due to rounding, division of the figures in the above table may not exactly equal the shares presented.

(2) Excluded because the volume-weighted average daily price is below the threshold specified in our hypothetical drawdown notice.

We would receive the amount of our adjusted drawdown, $593,223, less an aggregate 3% cash fee paid to the placement agent, Pacific Crest, of $17,797, for net proceeds to us of approximately $575,426. Pacific Crest would contribute one-third, or $5,932, of this hypothetical placement fee to

Granite. The delivery of the requisite number of shares and payment of the drawdown will take place electronically and, if we choose, through an escrow agent, Epstein, Becker & Green, P.C. of New York.

NECESSARY CONDITIONS BEFORE SATIVUM IS OBLIGATED TO PURCHASE OUR SHARES

The following conditions must be satisfied before Sativum is obligated to purchase any common shares following a drawdown request:

- a registration statement for the resale of the shares by Sativum must be declared effective by the Securities and Exchange Commission and must remain effective and available as of the drawdown settlement date;

- trading in our common shares must not have been suspended by the Securities and Exchange Commission or the Nasdaq National Market, nor shall minimum prices have been established on securities whose trades are reported on the Nasdaq National Market;

- we must not have merged or consolidated with or into another company or transferred all or substantially all of our assets to another company, unless the acquiring company has agreed to honor the common stock purchase agreement;

- no statute, rule, regulation, executive order, decree, ruling or injunction may be in effect which prohibits consummation of the transactions contemplated by the common stock purchase agreement; and

- no event which is materially adverse to our business, operations, properties or financial condition shall have occurred.

A further condition is that we may not issue more than 19.9% of our common shares issued and outstanding on May 10, 2001 pursuant to the common stock purchase agreement on the associated warrants, without our first obtaining approval from our stockholders for the excess issuance. In addition, the common stock purchase agreement provides that Sativum is not permitted to purchase shares of our common stock pursuant to a drawdown to the extent that the purchase of those shares would result in Sativum's beneficially owning more than 9.9% of our common stock following the purchase. Accordingly, each drawdown will be limited to an amount that will cause Sativum's beneficial ownership as of the date of the purchase to exceed 9.9%. However, shares sold by Sativum from time to time will reduce its beneficial ownership of our common stock and accordingly permit us to sell additional shares to Sativum under the common stock purchase agreement.

COSTS OF CLOSING THE TRANSACTION

We paid $50,000 to cover the fees and expenses of Sativum's counsel and other administrative costs. Pacific Crest Securities, Inc. also received a $25,000 placement fee. Neither Pacific Crest nor Granite is obligated to purchase any of our shares pursuant to the common stock purchase agreement.

LIQUIDATED DAMAGES

We will be required to pay liquidated damages to Sativum if we fail to deliver shares within 5 trading days after a settlement date. We will also be required to pay liquidated damages to Sativum if the effectiveness of this registration statement is suspended during, or within 5 days after, a drawdown pricing period. In the latter case, we will be required to compensate Sativum for any net decline in the price of our shares greater than 20% following the suspension to the extent Sativum sold shares at the reduced price within 5 days after the end of the suspension period.

TERMINATION OF THE COMMON STOCK PURCHASE AGREEMENT

The equity line established by the common stock purchase agreement will terminate 30 months from the effective date of the registration statement of which this prospectus forms a part. The equity line shall also terminate if we file for protection from creditors, if our common stock is delisted from The Nasdaq National Market and not promptly relisted on Nasdaq, Nasdaq SmallCap Market, the American Stock Exchange or the New York Stock Exchange. We may terminate the agreement if Sativum fails to perform its obligations to purchase shares with respect to a drawdown.

INDEMNIFICATION OF SATIVUM AND PACIFIC CREST

Sativum is entitled to customary indemnification from us for any losses or liabilities suffered by it as a result of material misstatements or omissions from the common stock purchase agreement, registration statement and this prospectus as supplemented from time to time, except as they relate to information supplied by Sativum to us for inclusion in the registration statement and prospectus. Pacific Crest is also entitled to customary indemnification from us from any losses or liabilities suffered by it in connection with its role as placement agent.

SELLING STOCKHOLDERS

OVERVIEW

Shares of our common stock registered for resale under this prospectus constitute 48.2% of our issued and outstanding common shares as of March 31, 2001. However, we may not sell more than 3,922,606 shares of common stock, or 19.9% of our issued and outstanding common stock as of May 10, 2001, minus the shares underlying the warrants, unless and until we receive the approval of our stockholders as required pursuant to Nasdaq's issuer designation requirements. The number of shares we are registering is based in part on our good faith estimate of the maximum number of shares we may issue to Sativum under the common stock purchase agreement. We are under no obligation to issue any shares to Sativum under the common stock purchase agreement. Accordingly, the number of shares we are registering for issuance under the common stock purchase agreement may be higher than the number we actually issue under the common stock purchase agreement.

SATIVUM INVESTMENTS LIMITED

Sativum Investments Limited is engaged in the business of investing in publicly traded equity securities for its own account. Sativum's principal offices are located at Harbour House, 2nd Floor, Road Town, Tortolla, British Virgin Islands. Investment decisions for Sativum are made by its board of directors. Sativum has informed us that it does not currently own any of our securities as of the date of this prospectus. Other than its obligation to purchase common shares under the common stock purchase agreement, it has no other commitments or arrangements to purchase or sell any of our securities. Sativum is prohibited by the common stock purchase agreement from engaging in short sales of our common stock, as defined in applicable securities regulations. There are no business relationships between Sativum and us other than as contemplated by the common stock purchase agreement.

PACIFIC CREST SECURITIES, INC. AND GRANITE FINANCIAL GROUP, INC.

Pacific Crest Securities, Inc., a registered broker-dealer, has acted as placement agent in connection with the equity line. Pacific Crest introduced us to Sativum and assisted us with structuring the equity line with Sativum. Pacific Crest's duties as placement agent were undertaken on a reasonable best efforts basis only. It made no commitment to purchase shares from us and did not ensure us of the successful placement of any securities.

Other than the warrant to purchase 75,000 shares of common stock granted to Pacific Crest as a placement fee, Pacific Crest has informed us that it does not currently own any of our securities. Other than the warrant to purchase 25,000 shares of common stock, Granite Financial Group, Inc., also a placement agent and a registered broker-dealer, has informed us that it does not currently own any of our securities.

Sativum, Pacific Crest and Granite have not held any positions as officers or had material relationships with us or any of our affiliates within the past three years other than as a result of the ownership of our common stock. If, in the future, any of their relationships with us changes, we will amend or supplement this prospectus to update this disclosure.

PLAN OF DISTRIBUTION

GENERAL

Sativum Investments Limited, is offering the common shares for its account as statutory underwriter, and not for our account. We will not receive any proceeds from the sale of common shares by Sativum. Sativum may be offering for sale up to 10,000,000 common shares pursuant to this prospectus which it may acquire pursuant to the terms of the stock purchase agreement more fully described under the section of this prospectus entitled "The Common Stock Purchase Agreement." Sativum is a statutory underwriter within the meaning of the Securities Act of 1933 in connection with such sales of common shares and will be acting as an underwriter in its resales of the common shares under this prospectus. Sativum has, prior to any sales, agreed not to effect any offers or sales of the common shares in any manner other than as specified in the prospectus and not to purchase or induce others to purchase common shares in violation of any applicable state and federal securities laws, rules and regulations and the rules and regulations of The Nasdaq National Market. Sativum has agreed not to engage in short sales of our common stock, as defined in applicable securities regulations, during the term of the common stock purchase agreement. We will pay the costs of registering the shares under this prospectus, including legal fees.

To permit Sativum to resell the shares of common stock issued to it under the stock purchase agreement, we agreed to register those shares and to maintain that registration. To that end, we have agreed with Sativum that we will prepare and file such amendments and supplements to the registration statement and the prospectus as may be necessary in accordance with the Securities Act and the rules and regulations promulgated thereunder, to keep it effective so long as any of the shares are "registrable securities," as defined in our registration rights agreement with Sativum. Registrable securities include all shares sold to Sativum pursuant to the common stock purchase agreement that:

- have not been sold pursuant to the registration statement of which this prospectus forms a part;
- have not been sold pursuant to Rule 144 under the Securities Act;
- have not been otherwise transferred to persons who may trade the shares without restriction under the Securities Act, as evidenced by share certificates not bearing a restrictive legend; or
- may not be sold, in the opinion of our counsel, without restriction under the Securities Act.

Shares of common stock offered through this prospectus may be sold from time to time by Sativum. Shares of common stock issuable upon exercise of the warrants issued as of the date of the common stock purchase agreement to Sativum, Pacific Crest Securities, Inc. and Granite Financial Group, Inc. or their transferees, may also be sold through this prospectus. We will supplement this prospectus to disclose the names of any transferees of warrant shares that intend to offer common stock through this prospectus.

Sales may be made on the Nasdaq National Market, on 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 negotiated private transactions, or in a combination of these methods. Sativum will act independently of us in making decisions with respect to the form, timing, manner and size of each sale. We have been informed by Sativum and Pacific Crest that there are no existing arrangements between either of them and any stockholder, broker, dealer, underwriter or agent relating to the distribution of this prospectus. Sativum is an underwriter in connection with resales of its shares.

The common shares may be sold in one or more of the following manners:

- a block trade in which the broker or dealer so engaged will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker or dealer for its account under this prospectus; or
- ordinary brokerage transactions and transactions in which the broker solicits purchases.

In effecting sales, brokers or dealers engaged by Sativum, Pacific Crest or Granite may arrange for other brokers or dealers to participate. Except as disclosed in a supplement to this prospectus, no broker-dealer will be paid more than a customary brokerage commission in connection with any sale of the shares of common stock by Sativum, Pacific Crest or Granite. Brokers or dealers may receive commissions, discounts or other concessions from the selling stockholders in amounts to be negotiated immediately prior to the sale. The compensation to a particular broker-dealer may be in excess of customary commissions. Profits on any resale of the shares of common stock as a principal by such broker-dealers and any commissions received by such broker-dealers may be deemed to be underwriting discounts and commissions under the Securities Act. Any broker-dealer participating in such transactions as agent may receive commissions from Sativum, Pacific Crest and Granite, if they act as agent for the purchaser of such shares of common stock, from such purchaser.

Broker-dealers who acquire common shares as principal may thereafter resell such shares of common stock from time to time in transactions, which may involve crosses and block transactions and which may involve sales to and through other broker-dealers, including transactions of the nature described above, in the over-the-counter market, in negotiated transactions or otherwise at market prices prevailing at the time of sale or at negotiated prices, and in connection with such resales may pay to or receive from the purchasers of such shares of common stock commissions computed as described above. Brokers or dealers who acquire common shares as principal and any other participating brokers or dealers may be deemed to be underwriters in connection with resales of the shares of common stock.

In addition, any shares of common stock covered by this prospectus which qualify for sale pursuant to Rule 144 may be sold under Rule 144 rather than pursuant to this prospectus. However, since Sativum is an underwriter, Rule 144 of the Securities Act is not available to Sativum to sell its shares. We will not receive any of the proceeds from the sale of these shares of common stock, although we have paid the expenses of preparing this prospectus and the related registration statement of which it is a part and have reimbursed Sativum $50,000 for its legal and administrative costs.

Sativum, Pacific Crest and Granite are subject to the applicable provisions of the Exchange Act, including without limitation Rule 10b-5 thereunder. Under applicable rules and regulations under the Exchange Act, any person engaged in a distribution of the shares of common stock may not simultaneously purchase such securities for a period beginning when such person becomes a distribution participant and ending upon such person's completion of participation in a distribution. In addition, in connection with the transactions in the shares of common stock, Sativum, Pacific Crest and Granite will be subject to applicable provisions of the Exchange Act and the rules and regulations under that Act, including, without limitation, the rules set forth above. These restrictions may affect the marketability of the shares of common stock.

Sativum, Pacific Crest and Granite will pay all commissions and its own expenses, if any, associated with the sale of the shares of common stock, other than the expenses associated with preparing this prospectus and the registration statement of which it is a part.

UNDERWRITING COMPENSATION AND EXPENSES

The underwriting compensation for Sativum will depend on the amount of financing that we are able to obtain under the stock purchase agreement, up to a maximum of $1,914,894 if we are able to obtain the entire $30,000,000 in financing. Sativum will purchase shares under the stock purchase agreement at a price equal to 94% of the volume-weighted average daily price of our common stock reported on the Nasdaq National Market for each day in the pricing period with respect to each drawdown request.

At the time of the initial closing under the common stock purchase agreement, we also issued to Sativum a warrant to purchase 250,000 shares of our common stock at an exercise price of $2.38 per share. The warrant expires May 10, 2004.

In addition, we are obligated to pay Pacific Crest, as compensation for its services as Sativum's placement agent, a cash fee equal to 3% of the net proceeds received from Sativum under the common stock purchase agreement for draw downs under the equity line. The compensation to Pacific Crest will depend on the amount of financing that we obtain under the common stock purchase agreement, up to a maximum of $900,000 if we obtain the entire $30,000,000 in financing. Pacific Crest has agreed to contribute one-third of all drawdown fees to Granite Financial Group, Inc. We also issued to Pacific Crest a warrant to purchase 75,000 shares of our common stock and to Granite a warrant to purchase 25,000 shares of our common stock. Each warrant has an exercise price of $2.38 per share and expires May 10, 2004.

LIMITED GRANT OF REGISTRATION RIGHTS

We granted registration rights to Sativum to enable it to sell the common stock it purchases under the common stock purchase agreement. In connection with any such registration, we will have no obligation:

- to assist or cooperate with Sativum in the offering or disposition of such shares;

- to indemnify or hold harmless the holders of any such shares, other than Sativum, or any underwriter designated by such holders;

- to obtain a commitment from an underwriter relative to the sale of any such shares; or

- to include such shares within any underwritten offering we do.

We will assume no obligation or responsibility whatsoever to determine a method of disposition for such shares or to otherwise include such shares within the confines of any registered offering other than the registration statement of which this prospectus is a part.

We will use commercially reasonable efforts to file, during any period during which we are required to do so under our registration rights agreement with Sativum, one or more post-effective amendments to the registration statement of which this prospectus is a part to describe any material information with respect to the plan of distribution not previously disclosed in this prospectus or any material change to such information in this prospectus. This obligation may include, to the extent required under the Securities Act of 1933, that a supplemental prospectus be filed, disclosing

- the name of any broker-dealers;

- the number of common shares involved;

- the price at which the common shares are to be sold;

- the commissions paid or discounts or concessions allowed to broker-dealers, where applicable;

- that broker-dealers did not conduct any investigation to verify the information set out or incorporated by reference in this prospectus, as supplemented; and

- any other facts material to the transaction.

Our registration rights agreement with Sativum permits us to restrict the resale of the shares Sativum has purchased from us under the common stock purchase agreement for a period of time sufficient to permit us to amend or supplement this prospectus to include material information. If we restrict Sativum during any pricing period or the five consecutive business days after a pricing period and our stock price declines during the restricted period, we are required to pay to Sativum cash to compensate Sativum for its inability to sell shares during the restricted period. The amount we would be required to pay would be the difference between the average daily volume weighed average price of the common stock during the pricing period and the price at which the shares were eventually sold, provided the sales are made within 5 business days of the end of the restricted period and the difference in price is greater than 20% of the average purchase price paid by Sativum during the relevant pricing period.

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, 2000 and 1999, and for each of the three years in the period ended December 31, 2000, as set forth in their report. We have included these 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-3 under the Securities Act with respect to the common stock to be sold in this offering. This prospectus does not contain all the information included in the registration statement and the related exhibits and schedules. You will find additional information about us and our common stock in the registration statement. The registration statement and the related exhibits and schedules may be inspected and copied at the public reference facilities maintained by the SEC at Room 1024, Judiciary Plaza, 450 Fifth Street, N.W., Washington, D.C. 20549, and at the public reference facilities of the SEC's Regional Offices: New York Regional Office, Seven World Trade Center, Suite 1300, New York, New York 10048; and Chicago Regional Office, Citicorp Center, 500 West Madison Street, Chicago, Illinois 60661. Copies of this material may also be obtained from the Public Reference Section of the SEC at 450 Fifth Street, N.W., Washington, D.C. 20549 at prescribed rates. You can obtain information on the operation of the public reference facilities by calling 1-800-SEC-0330. The SEC also maintains a site on the World Wide Web (http://www.sec.gov) that contains reports, proxy and information statements and other information regarding registrants, including us, that file electronically with the SEC. Statements made in this prospectus about legal documents may not necessarily be complete and you should read the documents which are filed as exhibits or schedules to the registration statement or otherwise filed with the SEC.

INCORPORATION OF DOCUMENTS BY REFERENCE

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

- our Annual Report on Form 10-K for the year ended December 31, 2000 (filed April 2, 2001, as amended April 30, 2001);

- our Quarterly Report on Form 10-Q for the quarter ended March 31, 2001 (filed May 9, 2001);

- our Proxy Statement for the Annual Meeting of Stockholders held on May 31, 2001 (filed April 30, 2001);

- our Current Reports on Form 8-K dated May 8, 2001 (filed May 8, 2001) and May 14, 2001 (dated May 14, 2001);

- the description of our common stock contained in the registration statement on Form 8-A filed with the SEC pursuant to Section 12 of the Securities Exchange Act of 1934 and all amendments thereto and reports filed for the purpose of updating such description; and

- all documents filed by us with the SEC pursuant to the Securities Exchange Act of 1934 after the date of this prospectus and before the offering of common stock is completed (other than portions of such documents described in paragraphs (i), (k) and (l) of Item 402 of Regulation S-K promulgated by the SEC.

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

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

STEMCELLS, INC. (FORMERLY CYTOTHERAPEUTICS, INC.)

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

REPORT OF ERNST & YOUNG LLP, INDEPENDENT AUDITORS

Stockholders and Board of Directors
StemCells, Inc.

We have audited the accompanying consolidated balance sheets of StemCells, Inc. (formerly CytoTherapeutics, Inc.) as of December 31, 2000 and 1999, 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, 2000. 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. at December 31, 2000 and 1999, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2000, in conformity with accounting principles generally accepted in the United States.

As discussed in Note 1 to the consolidated financial statements, the Company changed its method of accounting for the beneficial conversion of preferred shares.

/s/ ERNST & YOUNG LLP

Palo Alto, California
February 23, 2001

STEMCELLS, INC.

CONSOLIDATED BALANCE SHEETS

	DECEMBER 31,	
	2000	1999
ASSETS		
Current assets:		
Cash and cash equivalents	$ 6,068,947	$ 4,760,064
Short-term restricted investments	16,356,334	--
Accrued interest receivable	16,725	42,212
Technology sale receivable	--	3,000,000
Debt service fund	--	609,905
Other current assets	524,509	558,674
Total current assets	22,966,515	8,970,855
Property held for sale	3,203,491	3,203,491
Property, plant and equipment, net	1,451,061	1,747,885
Other assets, net	2,173,912	1,858,768
Total assets	$ 29,794,979	$ 15,780,999
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 526,191	$ 631,315
Accrued expenses	837,358	970,546
Accrued wind-down costs	1,780,579	1,634,522
Current maturities of capital lease obligations	332,083	324,167
Total current liabilities	3,476,211	3,560,550
Capital lease obligations, less current maturities	2,605,000	2,937,083
Deposits	26,000	26,000
Deferred rent	705,746	502,353
Commitments		
Redeemable common stock, $.01 par value; 524,337 shares issued and outstanding at December 31, 1999, none at December 31, 2000	--	5,248,610
Stockholders' equity:		
Convertible Preferred Stock, $.01 par value; 1,000,000 shares authorized, 2,626 designated as 6% Cumulative Convertible Preferred Stock 1,500 shares issued and outstanding at December 31, 2000, none at December 31, 1999	1,500,000	--
Common stock, $.01 par value; 45,000,000 shares authorized; 20,956,887 and 18,635,565 shares issued and outstanding at December 31, 2000 and 1999, respectively	209,569	186,355
Additional paid-in capital	138,150,067	123,917,758
Accumulated deficit	(130,498,187)	(119,372,710)
Accumulated other comprehensive income	16,356,334	--
Deferred compensation	(2,735,761)	(1,225,000)
Total stockholders' equity	22,982,022	3,506,403
Total liabilities and stockholders' equity	$ 29,794,979	$ 15,780,999

SEE ACCOMPANYING NOTES TO CONSOLIDATED FINANCIAL STATEMENTS.

STEMCELLS, INC.

CONSOLIDATED STATEMENTS OF OPERATIONS

	YEAR ENDED DECEMBER 31,		
	2000	1999	1998
Revenue from collaborative and licensing agreements	$ 74,300	$ 5,021,707	$ 8,803,163
Operating expenses:			
Research and development	5,979,007	9,984,027	17,658,530
General and administrative	3,361,231	4,927,303	4,602,758
Encapsulated Cell Therapy wind-down and corporate relocation	3,327,360	6,047,806	--
	12,667,598	20,959,136	22,261,288
Loss from operations	(12,593,298)	(15,937,429)	(13,458,125)
Other income (expense):			
Interest income	303,746	564,006	1,253,781
Interest expense	(272,513)	(335,203)	(472,400)
Gain on sale of Investment	1,427,686	--	--
Other income	8,902	--	48,914
	1,467,821	228,803	830,295
Net loss	$(11,125,477)	$(15,708,626)	$(12,627,830)
Deemed dividend to preferred shareholders	(265,000)	--	--
Net loss applicable to common shareholders before a cumulative effect of a change in accounting principle	$(11,390,477)	$(15,708,626)	$(12,627,830)
Cumulative effect of a change in accounting principle due to deemed dividend	$ (216,000)	$ --	$ --
Net loss applicable to common shareholders	$(11,606,477)	$(15,708,626)	$(12,627,830)
Basic and diluted net loss per share applicable to common shareholders before cumulative effect	$ (.57)	$ (.84)	$ (.69)
Cumulative effect of a change in accounting principle	$ (.01)	--	--
Basic and diluted net loss per share applicable to common shareholders	$ (.58)	$ (.84)	$ (.69)
Shares used in computing basic and diluted net loss per share	20,067,760	18,705,838	18,290,548

SEE ACCOMPANYING NOTES TO CONSOLIDATED FINANCIAL STATEMENTS.

STEMCELLS, INC.

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

	REDEEMABLE COMMON STOCK		COMMON STOCK		ADDITIONAL PAID-IN CAPITAL	ACCUMULATED DEFICIT	ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)
	SHARES	AMOUNT	SHARES	AMOUNT			
Balances, December 31, 1997	557,754	$5,583,110	17,526,220	$175,262	$121,472,844	$ (91,036,254)	$(8,877)
Issuance of common stock under the stock purchase plan	--	--	43,542	436	83,622		
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	--	--	--	--	--	--	3,679
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)	(5,198)

	DEFERRED COMPENSATION	TOTAL STOCKHOLDERS' EQUITY
Balances, December 31, 1997	$(1,702,820)	$ 28,900,155
Issuance of common stock under the stock purchase plan		84,058
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
Net loss	--	(12,627,830)
Comprehensive loss		(12,624,151)
Balances, December 31, 1998	(1,472,919)	17,897,408

STEMCELLS, INC.
CONSOLIDATED STATEMENTS OF CHANGES IN REDEEMABLE COMMON STOCK AND STOCKHOLDERS' EQUITY (CONTINUED)

	REDEEMABLE COMMON STOCK		COMMON STOCK		ADDITIONAL PAID-IN	ACCUMULATED	ACCUMULATED OTHER COMPREHENSIVE
	SHARES	AMOUNT	SHARES	AMOUNT	CAPITAL	DEFICIT	INCOME (LOSS)
Balances, December 31, 1998	524,337	$5,248,610	17,800,323	$178,003	$122,861,606	$(103,664,084)	$(5,198)
Issuance of common stock	--	--	196,213	$ 1,962	$ 318,221	--	--
Issuance of common stock under the stock purchase plan	--	--	57,398	574	41,619		
Common stock issued pursuant to employee benefit plan	--	--	90,798	908	102,502	--	--
Exercise of stock options	--	--	490,833	4,908	513,534	--	--
Deferred compensation--amortization and cancellations	--	--	--	--	80,276	--	--
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)	--

	DEFERRED COMPENSATION	TOTAL STOCKHOLDERS' EQUITY
Balances, December 31, 1998	$(1,472,919)	$ 17,897,408
Issuance of common stock	--	$ 320,183
Issuance of common stock under the stock purchase plan		42,193
Common stock issued pursuant to employee benefit plan	--	103,410
Exercise of stock options	--	518,442
Deferred compensation--amortization and cancellations	247,919	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	(1,225,000)	3,506,403

STEMCELLS, INC.
CONSOLIDATED STATEMENTS OF CHANGES IN REDEEMABLE COMMON STOCK AND STOCKHOLDERS' EQUITY (CONTINUED)

	REDEEMABLE COMMON STOCK		PREFERRED STOCK		COMMON STOCK		ADDITIONAL PAID-IN
	SHARES	AMOUNT	SHARES	AMOUNT	SHARES	AMOUNT	CAPITAL
Balances, December 31, 1999...	524,337	$ 5,248,610	--	--	18,635,565	$186,355	$123,917,758
Issuance of common stock to Millennium Partners LP, net of issuance costs of $598,563.....	--	--	--	--	1,104,435	$ 11,044	$ 4,390,393
Issuance of common stock related to license agreements.....	--	--	--	--	77,800	$ 778	$ 364,222
Common stock issued pursuant to employee benefit plan....	--	--	--	--	6,672	$ 68	$ 27,112
Exercise of employee stock options.....	--	--	--	--	608,078	$ 6,081	$ 651,828
Redeemable common stock conversion.....	(524,337)	$(5,248,610)	--	--	524,337	$ 5,243	$ 5,243,367
Issuance of preferred stock...	--	--	1,500	$1,500,000	--	--	--
Deferred compensation--amortization and cancellations.....	--	--	--	--	--	--	$ 3,555,387
Unrealized gain on short-term restricted investments.....	--	--	--	--	--	--	--
Net loss.....	--	--	--	--	--	--	--
Comprehensive Income.....							
Balances, December 31, 2000...	--	--	1,500	$1,500,000	20,956,887	$209,569	$138,150,067

	ACCUMULATED DEFICIT	ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)	DEFERRED COMPENSATION	TOTAL STOCKHOLDERS' EQUITY
Balances, December 31, 1999...	$(119,372,710)	$ --	$(1,225,000)	$ 3,506,403
Issuance of common stock to Millennium Partners LP, net of issuance costs of $598,563.....	--	--	--	$ 4,401,437
Issuance of common stock related to license agreements.....	--	--	--	$ 365,000
Common stock issued pursuant to employee benefit plan....	--	--	--	$ 27,180
Exercise of employee stock options.....	--	--	--	$ 657,909
Redeemable common stock conversion.....	--	--	--	$ 5,248,610
Issuance of preferred stock...	--	--	--	$ 1,500,000
Deferred compensation--amortization and cancellations.....	--	--	$(1,510,760)	$ 2,044,627
Unrealized gain on short-term restricted investments.....	--	$16,356,334	--	$ 16,356,334
Net loss.....	$ (11,125,477)	--	--	$(11,125,477)
Comprehensive Income.....				$ 5,230,858
Balances, December 31, 2000...	$(130,498,187)	$16,356,334	$(2,735,761)	$ 22,982,022

SEE ACCOMPANYING NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

STEMCELLS, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS

	YEAR ENDED DECEMBER 31,		
	2000	1999	1998
CASH FLOWS FROM OPERATING ACTIVITIES:			
Net loss	$(11,125,477)	$(15,708,626)	$(12,627,830)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization	738,593	1,717,975	2,244,146
Acquired research and development	--	--	551,009
Amortization of deferred compensation	2,044,627	328,195	--
Fair market adjustment for property held for sale		300,000	
Other non-cash charges		320,183	410,173
Gain on investment	(1,427,686)	--	--
Loss on sale of property, plant and equipment	--	1,117,286	--
Loss on sale of intangibles	--	440,486	--
Changes in operating assets and liabilities:			
Accrued interest receivable	25,488	164,397	346,577
Technology receivable	3,000,000	--	--
Other current assets	315,213	283,000	(265,665)
Accounts payable and accrued expenses	(92,255)	1,344,142	(2,378,613)
Deferred rent	203,393	279,680	--
Deferred revenue	--	(2,500,000)	2,483,856
Net cash used in operating activities	(6,318,104)	(11,913,282)	(9,236,347)
CASH FLOWS FROM INVESTING ACTIVITIES:			
Proceeds from sale of Investments	1,427,686	--	--
Purchases of marketable securities		(4,397,676)	(18,982,387)
Proceeds from sales of marketable securities		13,923,813	22,573,625
Purchases of property, plant and equipment	(151,212)	(192,747)	(2,153,525)
Proceeds on sale of fixed assets	--	746,448	--
Acquisition of other assets	(886,751)	(558,311)	(400,219)
Disposal of other assets	--	440,486	--
Net cash provided by investing activities	389,723	9,962,013	1,037,494
CASH FLOWS FROM FINANCING ACTIVITIES:			
Proceeds from issuance of common stock	4,401,437	145,603	227,931
Proceeds from the exercise of stock options	685,089	518,442	1,364
Common stock issued for agreements	365,000	--	--
Proceeds from issuance of preferred stock	1,500,000	--	--
Proceeds from debt financings	--	--	1,259,300
Change in debt service fund	609,905	--	--
Repayments of debt and lease obligations	(324,167)	(1,817,500)	(1,366,655)
Net cash provided by (used in) financing activities	7,237,264	(1,153,455)	121,940
Increase (decrease) in cash and cash equivalents	1,308,883	(3,104,724)	(8,076,913)
Cash and cash equivalents at beginning of year	4,760,064	7,864,788	15,941,701
Cash and cash equivalents at end of the year	$ 6,068,947	$ 4,760,064	$ 7,864,788
Supplemental disclosure of cash flow information:			
Interest paid	$ 272,513	$ 335,203	$ 444,047

SEE ACCOMPANYING NOTES TO CONSOLIDATED FINANCIAL STATEMENTS.

1. NATURE OF BUSINESS

StemCells, Inc. (the "Company") is a biopharmaceutical company that operates in one segment, engaged in the development of novel stem cell therapies designed to treat human diseases and disorders. On May 23, 2000, the Company's name was changed to Stem Cells, Inc. from CytoTherapeutics, Inc. by vote of the shareholders at the Annual Meeting.

As of December 31, 2000, the Company had cash and cash equivalents of approximately $6.1 million and a restricted short-term equity investment of approximately $16.4 million in Modex Therapeutics, a Swiss Biotherapeutics company. Since inception, the Company has incurred annual losses and negative cash flows from operations and has an accumulated deficit of approximately $130.5 million at December 31, 2000. The Company has not derived any revenues from the sale of any products, and does not expect to receive revenues from product sales for at least several years. As a result, the Company is dependent upon external financing from equity and debt offerings and revenues from collaborative research arrangements with corporate sponsors to finance its operations. There are no such collaborative research arrangements at this time and there can be no assurance that such financing or partnering revenues will be available when needed or on terms acceptable to the Company.

As noted above, the Company has a restricted investment in Modex Therapeutics, a Swiss Biotherapeutics company with a fair market value of approximately $16.4 million at December 31, 2000. On January 9, 2001, the Company sold 22,616 shares of Modex common stock for total proceeds of approximately $2.5 million. The Company is restricted from selling any of the remaining 103,577 shares until April 12, 2001. The value of the Company's holdings is subject to market risk and foreign currency fluctuation and could decrease significantly. The Company is currently in discussions with Modex to sell the remaining shares during 2001. If the Company decided to sell the Modex shares, due to relatively small trading volume in Modex shares and the relatively large size of the Company holdings, or other factors, the Company may not be able to sell its Modex shares at their market value or at all, and the Company may have to sell these shares at a significant discount to the market price.

If the Company is unable to obtain the necessary proceeds from the sale of Modex shares, significant reductions in spending and the delay or cancellation of planned activities may be necessary. In such event, the Company intends to implement expense reduction plans in a timely manner to enable the Company to meet its operating cash requirements through December 31, 2001.

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 accounting principles generally accepted in the United States, that 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.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

CASH EQUIVALENTS AND INVESTMENTS

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 preservation while obtaining a reasonable rate of return.

The Company determines the appropriate classification of 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.

COMPREHENSIVE INCOME (LOSS)

Comprehensive income (loss) is comprised of net income (loss) and other comprehensive income (loss). The only component of other comprehensive income (loss) is unrealized gains and losses on our available-for-sale securities. Comprehensive income (loss) has been disclosed in the statement of changes in redeemable common stock and stockholders' Equity.

PROPERTY, PLANT AND EQUIPMENT

As a result of the Company's decision to exit the encapsulated cell technology and relocate its corporate headquarters to Sunnyvale, California, certain property considered by management to no longer be necessary has been made available for sale or lease. The aggregate carrying value of such property has been reviewed by management, subject to appraisal and adjusted downward to estimated market value.

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

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

PATENT AND LICENSE 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 are charged to expense at the time such patents are deemed to have no continuing value. At December 31, 2000 and 1999, total costs capitalized were $638,000 and $718,000 and the related accumulated amortization were $9,000 and $9,000, respectively. Patent expense totaled $305,000, $539,000, and $3,000 in 2000, 1999 and 1998, respectively.

In December 1999 the Company sold its Encapsulated Cell Technology ("ECT") to Neurotech, S.A. for an initial payment of $3,000,000, which was paid in 2000, royalties on future product sales, and a portion of certain Neurotech revenues from third parties in return for the assignment to Neurotech

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)
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. In year 2000 the Company received $74,300 representing a portion of revenues received by Neurotech from third parties.

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 to non-employees, the Company accounts for these grants in accordance with FAS No. 123--ACCOUNTING FOR STOCK-BASED COMPENSATION AND EITF96-18--ACCOUNTING FOR EQUITY INSTRUMENTS THAT ARE ISSUED TO OTHER THAN EMPLOYEES FOR ACQUIRING, OR IN CONJUNCTION WITH SELLING, GOODS OR SERVICES, and accordingly, recognizes as consulting expenses the estimated fair value of such options as calculated using the Black-Scholes valuation model, and is remeasured during the vesting period. Fair value is determined using methodologies allowable by FAS No. 123. The cost is amortized over the vesting period of each option or the recipient's contractual arrangement, if shorter.

LONG LIVED ASSETS

The Company routinely evaluates the carrying value of its long-lived assets. The Company records impairment losses on long-lived assets used in operations when events and circumstances indicate that assets may be impaired and the undiscounted cash flows estimated to be generated by the assets are less than the carrying amount of those assets. If an impairment exists, the charge to operations is measured as the excess of the carrying amount over the fair value of the assets.

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 RECOGNITION

Revenues from collaborative agreements are recognized as earned upon either the incurring of reimbursable expenses directly related to the particular research plan or the completion of certain development milestones as defined within the terms of the collaborative agreement. Payments received in advance of research performed are designated as deferred revenue. StemCells recognizes non-refundable upfront license fees and certain other related fees on a straight-line basis over the development period. Fees associated with substantive at risk, performance milestones are recognized as revenue upon their completion, as defined in the respective agreements.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

RECENT ACCOUNTING PRONOUNCEMENTS

In June 1998, the Financial Accounting Standards Board issued SFAS No. 133, "Accounting for Derivative Instruments and Hedging Activities" (SFAS 133), which establishes accounting and reporting standards for derivative instruments, including certain derivative instruments embedded in other contracts, and for hedging activities. In June 1999, the FASB issued SFAS No. 137, "Accounting for Derivative Instruments and Hedging Activities--Deferral of the Effective Date of FASB Statement No. 133." The Company is required to adopt SFAS 133 effective January 1, 2001. Because the Company does we does not hold any derivative instruments and does not engage in hedging activities, management does not believe the adoption of SFAS 133 will have an impact on our financial position or results of operations.

In November 2000, the FASB issued Emerging Issues Task Force Issue No. 00-27, "Application of EITF Issue No. 98-5, Accounting for Convertible Securities with Beneficial Conversion Features or Contingently Adjustable Conversion Ratios, to Certain Convertible Instruments" ("EITF 00-27") which is effective retroactively to September 1999 for all such instruments. EITF 00-27 clarifies the accounting for instruments with beneficial conversion features or contingently adjustable conversion ratios. According to the new accounting principle, the beneficial conversion features should be calculated by first allocating the proceeds received from the financing among the convertible instrument and the detachable warrants and then, measuring the beneficial conversion feature between the stated conversion price of the convertible instrument and the effective conversion price based on the allocated proceeds. Previously, the beneficial conversion feature calculation was based on the difference between the stated conversion price of the convertible instrument and the fair value of the Company's stock price on the closing date of the financing. As a result of the new accounting principle, the Company modified the calculation of the beneficial conversion features associated with its 6% cumulative convertible preferred stock.

The Company has presented the effect of adopting the new accounting principle as a cumulative effect of a change in accounting principle as allowed for in EITF 00-27. Accordingly, the Company has recognized an additional $216,000 of deemed dividend on preferred stock.

RESEARCH AND DEVELOPMENT COSTS

The Company expenses all research and development costs as incurred.

NET LOSS PER SHARE

Basic and diluted net loss per share has been computed using the weighted-average number of shares of common stock outstanding during the period, less shares subject to repurchase. The Company has excluded outstanding stock options and warrants, and shares subject to repurchase from the calculation of diluted loss per common share because all such securities are anti-dilutive for all applicable periods presented.

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

Until mid-1999, the Company engaged in research and development in encapsulated cell therapy technology, including a pain control program funded by AstraZeneca Group plc. The results from the

3. WIND-DOWN OF ENCAPSULATED CELL TECHNOLOGY RESEARCH AND DEVELOPMENT PROGRAM (CONTINUED)

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, and in June 1999 AstraZeneca terminated the collaboration, as allowed under the terms of the original collaborative agreement signed in 1995.

As a result of termination, management determined in July 1999 to restructure its research operations to abandon all further encapsulated cell technology research and concentrate its resources on the research and development of its proprietary platform of stem cell technologies.

The Company wound down its research and manufacturing operations in Lincoln, Rhode Island, and relocated its remaining research and development activities, and its corporate headquarters, to the facilities of its wholly owned subsidiary, StemCells California, Inc., in Sunnyvale, California, in October 1999. The Company terminated legal, professional and consulting contractual arrangements in support of ECT research. The Company had used these legal, professional and consulting contractual arrangements to meet regulatory requirements in support of its research work, to support contractual arrangements with clinical sites, to provide assistance at clinical sites in administrating therapy and documenting activities, and to assist in compliance with FDA and other regulations regarding its clinical trials. ECT related patent law work was also terminated. The Company also engaged professional consultants in connection with the determination to exit its ECT activities and restructure its operations, which concluded with the exit from ECT activities and relocation of its corporate headquarters to California. The Company reduced its workforce by approximately 58 employees who had been focused on ECT programs and 10 administrative employees. As a result, the Company sold excess furniture and equipment in December 1999 and is seeking to sublease the science and administrative facility and to sell the pilot manufacturing facility.

Wind-down expenses totaled $3,327,360 and $6,047,806, for the year ended December 31, 2000 and 1999, respectively. No such expenses were incurred in 1998. These expenses relate to the wind-down of our encapsulated cell technology research and other Rhode Island operations and the transfer of the corporate headquarters to Sunnyvale, California. Expenses for the year 2000, includes an accrual for the estimated lease and facility costs related to the facilities in Rhode Island through 2001. Expenses for the year 1999 also includes an accrual for the estimate of the costs of settlement of a 1989 funding agreement with the Rhode Island Partnership for Science and Technology ("RIPSAT").

At December 31, 1999, the Company's $1.6 million wind-down reserve included approximately $1.2 million for the RIPSAT settlement and approximately $0.4 million for Rhode Island facility for the estimated lease payments and operating costs of the Rhode Island facilities through an expected disposal date of June 30, 2000. In 2000 the Company settled with RIPSAT, paid $1.2 million and paid 0.4 million related to Rhode Island facilities. The Company did not sublet the Rhode Island facilities in 2000 and therefore made a change in estimate to accrue additional expenses of $3.3 million to cover operating lease payments, utilities, taxes, insurance, maintenance, interest and other non-employee expenses through 2001. At December 31, 2000 the remaining wind-down reserve totaled $1.7 million.

3. WIND-DOWN OF ENCAPSULATED CELL TECHNOLOGY RESEARCH AND DEVELOPMENT PROGRAM (CONTINUED)

A description of wind-down expenses, including the amounts and periods of recognition, are as follows:

	YEAR ENDED DECEMBER 31, 1999	YEAR ENDED DECEMBER 31, 2000
Employee severance costs	$1,554,000	
Impairment losses(1):		
Fixed assets	800,000	
ECT patents	260,000	
	1,060,000	
Rhode Island facilities carrying costs(2):		
Corporate headquarters	702,000	$3,327,000
PILOT MANUFACTURING PLANT	562,000	
	1,264,000	3,327,000
EMPLOYEE OUTPLACEMENT	200,000	
RIPSAT settlement(3)	1,172,000	
Loss on sale of assets(4):		
Fixed assets	318,000	
ECT patents	180,000	
	498,000	
Write-down of pilot plant(5)	300,000	
	$6,048,000	$3,327,000

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(1) Management's estimate of the fixed asset impairment was derived from communications with an outside auction house. The patent impairment loss was based on preliminary negotiations with parties interested in acquiring the patents.

(2) Facilities carrying costs include operating lease payments, utilities, property taxes, insurance, maintenance, interest and other non-employee related expenses necessary to maintaining these facilities through the expected date of disposition (December 31, 2001)

(3) The Company originally received funding from the Rhode Island Partnership for Science and Technology (RIPSAT) for purposes of conducting ECT activities conditioned upon maintaining the operation within the state. RIPSAT claimed that the Company's decision to exit ECT activities and close the Rhode Island operation was in violation of the funding arrangement and that the Company was obligated to return a portion of the funding proceeds. Although the Company disputed these claims, during the fourth quarter of 1999, management determined it was in the best interest of the Company to settle the issue.

(4) The Company held an auction to sell all ECT fixed assets. Proceeds from that sale resulted in a loss, which was related to machinery and equipment ($292,000), and furniture and fixtures ($26,000).

(5) The write-down of the pilot plant was based on an independent property appraisal.

3. WIND-DOWN OF ENCAPSULATED CELL TECHNOLOGY RESEARCH AND DEVELOPMENT PROGRAM (CONTINUED)

Property held for sale at December 31, 2000 and 1999, consisted of $3.2 million relating to the Company's pilot plant facility located in Lincoln, Rhode Island. The company suspended depreciation of these assets in 1999. The balance reflected the $300,000 write-down included as part of the additional wind-down expenses recognized in accordance with Financial Accounting Standards Board Statement 121, which requires that long-lived assets be reviewed for impairment whenever events or circumstances indicate that the carrying value of the asset may not be recoverable. There were no such assets at December 31, 1998.

4. STEMCELLS CALIFORNIA, INC.

In September 1997, a merger of a wholly owned subsidiary of the company and StemCells California, Inc. was completed. 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. 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. The Company 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. Under the original grants, approximately 100,000 of these options were exercisable immediately on the date of grant, 1,031,000 of these options would vest and become exercisable only upon the achievement of specified milestones related to the Company's stem cell development program and the remaining 468,750 options would vest over eight years. In connection with the 468,750 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. The fair value was determined using the Black-Scholes method.

Effective October 31, 2000, the Company agreed with Drs. Weissman and Gage to revise their 468,750 milestone-vesting stock options to time-based vesting, on the same schedule as Dr. Anderson's option. Under each of the revised options, 168,750 shares vested immediately, and the remaining 300,000 shares will vest at 50,000 per year on September 25, until September 25, 2005, when the final 100,000 shares will vest. The exercise price remains $5.25 per share. The Company recorded $1,647,000 as compensation expense for the fair market value of the vested portion of such options in an amount determined using the Black-Scholes method. The deferred compensation expense associated with the unvested portion of the grants was determined to be approximately $1,338,000. As part of the revision of the options, Drs. Weissman and Gage relinquished all rights under an agreement. These individuals had the right to license the non-brain stem cell technology in exchange for a payment to the Company equal to all prior funding for such research plus royalty payments. We plan to revalue the options using the Black-Scholes method on a quarterly basis and recognize additional compensation expense accordingly.

5. INVESTMENTS

In October 1997, the Company completed a series of transactions, which resulted in the establishment of its previously 50%-owned Swiss subsidiary, Modex Therapeutics, Ltd., (Modex) as an independent company.

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 accounted for this investment under the cost method from that date.

At December 31, 2000 the Company owned 126,193 shares of Modex. Modex completed an initial public offering of shares on the Swiss Exchange on June 23, 2000. Accordingly, with an established market value, the investment is recorded as available-for-sale at a fair market value of $16,356,334 as at December 31, 2000. The unrealized gain was reported as other comprehensive income in the statement of stockholders' equity.

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.

6. PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment consists of the following:

	DECEMBER 31,	
	2000	1999
Building and improvements	$ 703,095	$ 665,890
Machinery and equipment	1,766,448	1,691,136
Furniture and fixtures	188,736	219,260
	2,658,279	2,576,286
Less accumulated depreciation and amortization	(1,207,218)	(828,401)
	$1,451,061	$1,747,885

Depreciation expense was $451,000, $1,436,000, and $1,720,000 for the years ending December 31, 2000, 1999 and 1998, respectively.

As part of restructuring our operations, sale of our encapsulated cell technology ("ECT"), and relocation of our corporate headquarters to Sunnyvale, California, we identified fixed assets associated with the ECT or otherwise no longer needed. In December of 1999, we 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 write-down of 800,000, which was based on an estimate of expected sale proceeds.

Certain property, plant and equipment have been acquired under capital lease obligations. These assets totaled $5,827,000 at December 31, 2000 and 1999, respectively, with related accumulated amortization of $2,747,000 at December 31, 2000 and 1999, respectively. As a result of the Company's

6. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)
decision to exit ECT and relocate to Sunnyvale, California, this property has been classified as held for sale.

7. OTHER ASSETS

Other assets are as follows:

	DECEMBER 31, 2000	DECEMBER 31, 1999
Patents, net	$ 629,203	$ 708,823
License agreements, net	669,000	282,750
Security deposit--building lease	750,000	750,000
Deposit--other	16,321	--
Deferred financing costs, net	109,388	117,195
	$2,173,912	$1,858,768

At December 31, 2000 and 1999, accumulated amortization was $1,140,000 and $857,000, respectively, for patents and license agreements.

8. ACCRUED EXPENSES

Accrued expenses are as follows:

	DECEMBER 31, 2000	DECEMBER 31, 1999
External services	$219,051	$ 97,439
Employee compensation	109,007	306,342
Collaborative research	--	222,140
Other	509,300	344,625
	$837,358	$970,546

9. 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 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

9. LEASES (CONTINUED)

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") of 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.

The Company entered into a fifteen-year lease for a laboratory facility in connection with a sale and leaseback arrangement in 1997. The lease has a rent escalation clause and accordingly, the Company is recognizing rent expense on a straight line basis. At December 31, 2000, the Company has $705,746 in deferred rent expense.

As of February 1, 2001, the Company entered into a 5-year lease for a 40,000 square foot facility located in the Stanford Research Park in Palo Alto, CA. The new facility includes vivarium space, laboratories, offices, and a GMP (Good Manufacturing Practices) suite. GMP facilities can be used to manufacture materials for clinical trials. The rent will average approximately $3.15 million per year over the term of the lease.

As of December 31, 2000, future minimum lease payments under operating and capital leases and principal payments on equipment loans are as follows:

	CAPITAL LEASES	OPERATING LEASES	SUBLEASE INCOME
2001	$ 589,217	$ 3,584,061	$ 295,854
2002	519,719	2,392,988	400,658
2003	436,909	4,568,274	395,676
2004	425,713	4,677,197	416,507
2005	412,587	4,789,388	437,338
Thereafter	2,311,577	8,797,417	130,761
Total minimum lease payments	4,695,722	$28,809,325	$2,076,794
Less amounts representing interest	1,758,639		
Present value of minimum lease payments	2,937,083		
Less current maturities	332,083		
Capitalized lease obligations, less current maturities	$2,605,000		

Rent expense for the years ended December 31, 2000, 1999 and 1998, was $1,111,000, $947,000 and $1,052,000, respectively.

10. STOCKHOLDERS' EQUITY

SALE OF COMMON STOCK

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

10. STOCKHOLDERS' EQUITY (CONTINUED)
closing and received 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 and warrants at $4.33 per share. As set forth in an adjustable warrant issued to the Fund on the closing date, 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 adjustable warrant may be exercised at any time prior to the thirtieth day after the last of such dates. The number of additional shares the Fund may 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 exercise price per share under the adjustable warrant is $0.01. Such warrants provide the Fund with the opportunity to acquire additional common shares at a nominal value if the value of the common stock that the Fund holds decreases. 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 at a purchase price based on the market price of such shares. No portion of the sale proceeds was assigned to the adjustable warrants, as the ultimate number of shares issuable upon exercise of the warrants was not determinable and the net impact on the Company's equity from any such allocation of proceeds would have been zero. The Fund also received a five-year warrant to purchase up to 101,587 shares of common stock at $4.725 per share. This warrant is callable at any time by StemCells at $7.875 per underlying share. The calculated value of this callable warrant using the Black-Scholes method is $376,888, which was treated as a credit to paid in capital in stockholders' equity. The Company accounts for the sale of the stock and warrants or the exercise of warrants by adding that portion of the proceeds equal to the par value of the new shares to common stock and the balance, including the value of the warrants, to paid in capital. In addition, any repurchase of the shares or warrants by the Company would also be accounted for through paid in capital.

In the Purchase Agreement governing the August 3, 2000 sale to the Fund, the Company granted the Fund an option to purchase up to an additional $3 million of its common stock and a callable warrant and an adjustable warrant. The Fund can exercise this option in whole or in part at any time prior to August 3, 2001. The price per share of common stock to be issued upon exercise of the option will be based on the average market price of the common stock for a five-day period prior to the date on which the option is exercised. On August 23, 2000, the Fund exercised $1,000,000 of its option to purchase additional common stock. The Fund paid $750,000 of the purchase price in connection with the closing on August 30, 2000, and the Fund paid the remaining $250,000 upon effectiveness of a registration statement covering the shares owned by the Fund. The Fund purchased the Company's common stock at $5.53 per share, which amount was based upon the average market price of the common stock for the five-day period prior to August 23, 2000. An adjustable warrant similar to the one issued on August 3, 2000 was issued to the Fund on August 30, 2000, but was cancelled on November 1, 2000 by agreement of the Company and the Fund. The Fund also received a five -year warrant to purchase up to 19,900 shares of common stock at $6.03 per share. This warrant is callable by the Company at any time at $10.05 per underlying share. The calculated value of this callable warrant using the Black-Scholes method is $139,897, which the Company accounted for as a credit to paid in capital.

The adjustable warrant contains provisions regarding the adjustment or replacement of the warrants in the event of stock splits, mergers, tender offers and other similar events. The adjustable

10. STOCKHOLDERS' EQUITY (CONTINUED)
warrant also limits the number of shares that can be beneficially owned by the Fund to 9.99% of the total number of outstanding shares of Common Stock.

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 currently recorded 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.

STOCK ISSUED FOR TECHNOLOGY LICENSES

Under a 1997 License Agreement with NeuroSpheres, Ltd., the Company obtained an exclusive patent license in the field of transplantation. The Company entered into an additional license agreement with NeuroSpheres as of October 31, 2000, under which the Company obtained an exclusive license in the field of non-transplant uses, such as drug discovery and drug testing, so that together the licenses are exclusive for all uses of the technology. The Company made up-front payments to NeuroSpheres of 65,000 shares of its common stock and $50,000, and will make additional cash payments when milestones are achieved in the non-transplant field, or in any products employing NeuroSpheres patents for generating cells of the blood and immune system from neural stem cells.

The Company also entered into license agreements with the California Institute of Technology and issued 12,800 shares of common stock upon execution of the license agreements. The Company must pay an additional $10,000 upon the issuance of the patent licensed under the relevant agreement

COMMON STOCK 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.

10. STOCKHOLDERS' EQUITY (CONTINUED)

SALE OF 6% CUMULATIVE CONVERTIBLE PREFERRED STOCK

On April 13, 2000 the Company issued 1,500 shares of 6% cumulative convertible preferred stock plus a warrant for 75,000 shares of our 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 (based on the face value of the preferred shares). The conversion price may be below the trading market price of the stock at the time of conversion. The Company has valued the beneficial conversion feature reflecting the April 13, 2000 commitment date and the most beneficial per share discount available to the preferred shareholders. Such value was $481,000 and is treated as a deemed dividend as of the commitment date. The holders of the preferred stock have liquidation rights equal to their original investment plus accrued but unpaid dividends.

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, 2000, the Company had reserved 3,828,371 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:

	2000		1999		1998	
	OPTIONS	WEIGHTED AVERAGE EXERCISE PRICE	OPTIONS	WEIGHTED AVERAGE EXERCISE PRICE	OPTIONS	WEIGHTED AVERAGE EXERCISE PRICE
Outstanding at January 1.....	939,335	$2.65	1,654,126	$3.62	2,446,573	$7.48
Granted.....	2,485,090	4.08	536,078	1.08	1,174,118	1.70
Exercised.....	(540,927)	1.015	(604,362)	1.50	(11,012)	.12
Canceled.....	(166,532)	4.77	(646,507)	5.31	(1,955,553)	7.08
Outstanding at December 31.....	2,716,966	4.32	939,335	$2.65	1,654,126	$3.62
Options exercisable at December 31.....	731,523	$4.01	594,216	$3.44	1,108,936	$4.33

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; 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 StemCells, Inc. StemCells California Research Stock Option Plan (the StemCells California Research Plan) whereby an additional 2,000,000 shares of Common Stock have

10. STOCKHOLDERS' EQUITY (CONTINUED)
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 were 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. For the year 2000 the options have been incorporated into the number of options granted so as to be reflected in the total of options outstanding as of December 31, 2000

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 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, 2000:

	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	944,216	8.68	$ 2.063	370,023	$ 1.53
$5.01 - $10.00	1,691,750	6.87	5.26	280,500	5.27
Greater than $10.00	81,000	1.30	11.03	81,000	11.03
	2,716,966			731,523	

Pursuant to the requirements of FAS 123, the following are the pro forma net loss and net loss per share amounts for 2000, 1999, and 1998, 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 2000, 1999, and 1998, consistent with the provisions of FAS 123:

	2000		1999		1998	
	AS REPORTED	PRO FORMA	AS REPORTED	PRO FORMA	AS REPORTED	PRO FORMA
Net loss	$(11,125,477)	$(12,160,752)	$(15,708,626)	$(15,764,569)	$(12,627,830)	$(14,919,389)
Net loss per share	$ (.58)	$ (.62)	$ (.84)	$ (.84)	$ (.69)	$ (.82)

The weighted average fair value per share of options granted during 2000, 1999 and 1998 was $4.13, $.82 and $3.40, respectively. The fair value of options and shares issued pursuant to the stock

10. STOCKHOLDERS' EQUITY (CONTINUED)
purchase plan at the date of grant were estimated using the Black-Scholes model with the following weighted average assumptions:

	OPTIONS			STOCK PURCHASE PLAN		
	2000	1999	1998	2000	1999	1998
Expected life (years)	5	5	5	N/A	.5	.5
Interest rate	6.5%	5.5%	5.2%	N/A	5.0%	4.6%
Volatility	167.8	96.7%	63.5%	N/A	96.7%	63.5%

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. On August 04, 1999 the board suspended the 1992 Employee Stock Purchase Plan.

The effects on 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 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

The Company issued warrants to purchase 8,952 shares of common stock in conjunction with the StemCells California merger, warrants to purchase 31,545 shares in conjunction with various equipment leasing agreements, and warrants to purchase 434,500 shares in connection with a public offering of common stock in April 1995. All of these expired at various dates in 2000.

COMMON STOCK RESERVED

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

Shares reserved for exercise of stock options	3,828,371
Shares reserved for warrants	2,292,625
StemCell option conversions	250,344
Total	6,371,340

11. 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 $307,000 in 1998, $309,000 in 1999, and $225,739 in 2000. 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

11. RESEARCH AGREEMENTS (CONTINUED)
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 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 worldwide trials for the therapy. AstraZeneca therefore indicated that it did not intend to continue the trials of the bovine cell-containing implant therapy and executed its right to terminate the agreement. The Company has no additional funding obligations with AstraZeneca.

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 new focus on the stem cell field, its principal academic collaborations are now with Scripps Institute and the Oregon Health Science University. Research and development expenses incurred under these collaborations amounted to approximately $314,000, $868,000, and $1,259,000 for the years ended December 31, 2000, 1999 and 1998, respectively. The Company has no other significant collaborative research funding obligations.

12. 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, 2000, the Company had tax net operating loss carry forwards of $110,000,000 and research and development tax credit carry forwards of $4,100,000, which expire in the years 2004 through 2020. Utilization of the Company's net operating loss may be subject to substantial annual limitation due to the ownership change limitations provided by the Internal Revenue Code and similar state provisions. Such an annual limitation could result in the expiration of the net operating loss before utilization.

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

	DECEMBER 31,	
	2000	1999
Deferred tax assets:		
Capitalized research and development costs.....	$ 6,000,000	$ 4,331,000
Net operating losses.....	44,000,000	38,478,000
Research and development credits.....	4,260,000	4,035,000
Other.....	1,020,000	928,000
	55,280,000	47,772,000
Deferred tax liabilities:		
Unrealized gain on investment.....	(6,543,000)	--
Patents.....	(127,000)	(246,000)
Valuation allowance.....	(48,610,000)	(47,526,000)
Net deferred tax assets.....	$ --	$ --

Realization of deferred tax assets is dependent upon future earnings, if any, the timing and amount of which are uncertain. Accordingly, the net deferred tax assets have been fully offset by a valuation allowance. The valuation allowance increased by $6,272,000 during 1999, and $5,459,000 during 1998.

13. 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 $33,000, $103,000, and $146,000 for the years ended December 31, 2000, 1999 and 1998, respectively.

14. SUBSEQUENT EVENTS (UNAUDITED)

As of February 1, 2001, the Company entered into a 5-year lease for a 40,000 square foot facility located in the Stanford Research Park in Palo Alto, California. The new facility includes animal space, laboratories, offices, and a GMP (Good Manufacturing Practices) suite. GMP facilities can be used to manufacture materials for clinical trials. The rent will average approximately $3.15 million per year over the term of the lease. The Company continues to lease the facilities in Lincoln, Rhode Island

14. SUBSEQUENT EVENTS (UNAUDITED) (CONTINUED)
obtained in connection with its former encapsulated cell technology, but has now succeeded in subleasing parts of those facilities: the 3,000 square-foot cell processing facility and approximately one-third of its former scientific and administrative facility ("SAF"). The Company continues to seek to sublet the remainder of the approximately 65,000 square foot SAF and the 21,000 square-foot pilot manufacturing facility, or to assign or sell its interests in these properties. There can be no assurance however, that we will be able to dispose of these properties in a reasonable time, if at all.

In February 2001, the Company was awarded a two-year, $300,000 per year grant from the NIH's Small Business Innovation Research (SBIR) office. The grant, which will support joint work with virologist Dr. Jeffrey Glenn at Stanford University, is aimed at characterizing the human cells that can be infected by human hepatitis viruses and to develop a small animal model using the cells that are most infectable by these viruses to develop screening assays and identify novel drug for the disease.

On January 9, 2001, the Company sold 22,616 Modex shares for a net price of 182.00 Swiss francs per share, which converts to $112.76 per share, for total proceeds of $2,550,000. In connection with this sale, the Company agreed not to resell any more of its Modex shares until April 12, 2001. On March 07, 2001 the market price of Modex stock was 145.00 Swiss francs which converts to $84.31 using exchange rates on that date, which represents an estimated fair market value of $8,732,797 for the remaining shares. If the Company were to seek to liquidate all or part of the remaining 103,577 Modex shares, the proceeds would depend on the share price and foreign currency exchange rates at the time of conversion.

15. QUARTERLY FINANCIAL INFORMATION (UNAUDITED)

	QUARTER			
	FIRST	SECOND	THIRD	FOURTH
	(IN THOUSANDS, EXCEPT PER SHARE DATA)			
2000:				
Net revenue	$ --	$ --	$ --	$ 74
Operating expenses	1,799	1,939	2,553	6,378
Net Loss	(1,794)	(532)	(2,539)	(6,260)
Basic and diluted net loss per share applicable to common shareholders before cumulative effect	$ (0.09)	$ (0.04)	$ (0.13)	$ (0.30)
Cumulative effect of a change in accounting principle(1)	--	--	--	$ (0.01)
Net loss per share applicable to common shareholders	$ (0.09)	$ (0.04)	$ (0.13)	$ (0.31)
1999:				
Net revenue	$ 2,501	$ 2,521	$ --	$ --
Operating expenses	4,562	4,454	6,690	5,253
Net Loss	(1,932)	(1,840)	(6,711)	(5,226)
Basic and diluted net loss per share	$ (0.10)	$ (0.10)	$ (0.36)	$ (0.27)

STEMCELLS, INC.

CONDENSED CONSOLIDATED BALANCE SHEETS

	MARCH 31, 2001 (UNAUDITED)
ASSETS	
Current assets:	
Cash and cash equivalents	$ 4,499,158
Short-term restricted investments	8,412,650
Accrued interest receivable	9,706
Prepaid rent	909,415
Other current assets	473,696
Total current assets	14,304,625
Property held for sale	3,203,491
Property, plant and equipment, net	1,442,089
Other assets net	2,556,457
Total assets	$ 21,506,661
LIABILITIES AND STOCKHOLDERS' EQUITY	
Current liabilities:	
Accounts payable	$ 237,856
Accrued expenses	785,064
Accrued wind-down costs	1,380,947
Current maturities of capitalized lease obligations	333,333
Total current liabilities	2,737,200
Capitalized lease obligations, less current maturities	2,521,250
Deposits	26,000
Deferred rent	760,508
Stockholders' equity	
Convertible preferred stock, $.01 par value; 1,000,000 shares authorized, 2,626 designated as 6% Cumulative Convertible Preferred Stock 1,500 shares issued and outstanding at March 31, 2000	1,500,000
Common stock, $.01 par value; 45,000,000 shares authorized; 21,458,211 shares issued and outstanding at March 31, 2001	214,612
Additional paid in capital	137,608,696
Accumulated deficit	(130,229,646)
Accumulated other comprehensive income	8,412,650
Deferred compensation	(2,044,609)
Total stockholders' equity	15,461,703
Total liabilities and stockholders' equity	$ 21,506,661

SEE ACCOMPANYING NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

STEMCELLS, INC.

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS

(UNAUDITED)

	THREE MONTHS ENDED MARCH 31,	
	2001	2000
Revenue from grants	$ 100,000	$ --
Operating expenses:		
Research and development	1,644,257	906,632
General and administrative	996,862	657,714
Wind-down expenses	--	234,386
	2,641,119	1,798,732
Loss from operations	(2,541,119)	(1,798,732)
Other income (expense):		
Investment income	79,041	73,332
Interest expense	--	(68,858)
Gain on sale of investments	2,550,230	--
Other income	180,389	--
Total other income, net	2,809,660	4,474
Net income (loss)	$ 268,541	$(1,794,258)
Basic Earnings Per Share		
Net income (loss) per share	$ 0.01	$ (0.09)
Shares - basic net income (loss) per share	20,989,127	19,329,517
Diluted Earnings Per Share		
Net income (loss) per share	$ 0.01	$ (0.09)
Shares - diluted income per share	22,405,358	19,329,517

SEE ACCOMPANYING NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS.

STEMCELLS, INC.

CONDENSED STATEMENTS OF CASH FLOWS

(UNAUDITED)

	THREE MONTHS ENDED MARCH 31,	
	2001	2000
Cash flows from operating activities:		
Net income (loss)	$ 268,541	($1,794,258)
Adjustments to reconcile net income (loss) to net cash used for operating activities:		
Depreciation and amortization	142,554	204,449
Gain on sale of investments	(2,550,230)	--
Compensation expense relating to the grant of stock options	128,220	43,750
Net changes in operating assets and liabilities	(1,812,084)	(1,776,812)
Net cash used in operating activities	(3,822,999)	(3,322,870)
Cash flows from investing activities:		
Proceeds from sale of investments	2,550,230	--
Purchase of property, plant and equipment	(114,734)	(7,542)
Acquisition of other assets	(126,391)	--
Proceeds from sales of technology	--	2,800,000
Net cash provided by investing activities	2,309,105	2,792,458
Cash flows from financing activities:		
Proceeds from the exercise of stock options and warrants	26,605	352,557
Principal payments under capitalized lease obligations	(82,500)	(80,000)
Net cash provided by (used by) financing activities	(55,895)	272,557
Net decrease in cash and cash equivalents	(1,569,789)	(257,855)
Cash and cash equivalents, beginning of period	6,068,947	4,760,064
Cash and cash equivalents, end of period	$ 4,499,158	$ 4,502,209
Supplemental disclosure of cash flow information:		
Interest paid	$ 64,460	$ 68,858

SEE ACCOMPANYING NOTES TO CONDENSED FINANCIAL STATEMENTS.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

MARCH 31, 2001 AND 2000

NOTE 1. BASIS OF PRESENTATION

On May 23, 2000, the company's name was changed to Stem Cells, 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 three months ended March 31, 2001 are not necessarily indicative of the results that may be expected for the entire fiscal year ending December 31, 2001.

The balance sheet at December 31, 2000 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 accounting principles generally accepted in the United States. For the complete financial statements, refer to the audited financial statements and footnotes thereto as of December 31, 2000, included on form 10-K as amended.

NOTE 2. NET INCOME (LOSS) PER SHARE

Basic net income (loss) per common share is computed using the weighted average number of common shares outstanding during the period. Diluted net income per share is computed using the weighted average of common and diluted equivalent stock options and warrants outstanding during the period. We excluded all stock options and warrants from the calculation of diluted loss per common share for the period ended March 31, 2000, because these securities are antidilutive during that period.

NOTE 3. COMPREHENSIVE LOSS

The only component of other comprehensive loss is unrealized gains and losses on available for sale securities. For the three months ended March 31, 2001 and 2000, total comprehensive loss was $7,675,143 and $1,794,258 respectively.

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

As previously reported, in 1999 the Company restructured its operations to abandon all further encapsulated cell technology research and concentrate its resources on the research and development of its proprietary platform of stem cell technologies. The Company relocated its remaining research and development activities and its corporate headquarters to California, and has been seeking to dispose of its former science and administrative and pilot manufacturing facilities in Rhode Island. In December 2000, the company had a reserve of $1,780,000 related to the carrying costs for the Rhode Island facilities through 2001. On February 2001, the Company subleased portions of the facilities and are actively seeking to sublease, assign or sell our remaining interests in the properties. However, there can be no assurance that the Company will be able to dispose of these facilities in a reasonable time, if at all. At March 31,2001 the reserve was $1,381,000.

RESERVE AS AT 12/31/2000	PAYMENTS	RESERVE AS AT 03/31/01
$1,780,579	$399,632	$1,380,947

NOTE 5. INVESTMENTS

At March 31, 2001, the Company owned 103,577 shares of Modex Therapeutics Ltd. ("Modex"), a Swiss biotechnology company traded on the Swiss Exchange. On January 9, 2001, the Company sold 22,616 Modex shares for a net price of 182.00 Swiss francs per share, which converts to $112.76 per share, for total proceeds of $2,550,000. In connection with this sale, the Company agreed not to resell any more of its Modex shares until April 12, 2001. Accordingly, with an established market value, the investment is recorded as available-for-sale at an estimated fair market value. On March 31, 2001 the market price of Modex stock was 141.00 Swiss francs, or $81.22 using exchange rates on that date, which represented an estimated fair market value of $8,412,650 for the remaining shares. The unrealized gain was reported in other comprehensive income. The Company liquidated the remaining 103,577 Modex shares on April 30, 2001 for $5,232,168 net of commissions and other fees. See note 9.

NOTE 6. SALE OF SECURITIES

On August 3, 2000, the Company completed a $4 million common stock financing transaction with Millennium Partners, LP (the "Fund"). The Fund purchased the Company's common stock at $4.33 per share. As set forth in an adjustable warrant issued to the Fund on the closing date, 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 adjustable warrant may be exercised at any time prior to the thirtieth day after the last of such dates. On the first adjustment date, January 27, 2001, the Fund became entitled to 463,369 additional shares, and it has exercised its warrant as to such shares. The number of additional shares the Fund may 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 exercise price per share under the adjustable warrant is $.01. 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 at a purchase price based on the market price of such shares. The Fund also received a five-year warrant to purchase up to 101,587 shares of common stock at $4.725 per share. This warrant is callable at any time by StemCells at $7.875 per underlying share. The calculated value of this callable warrant using the Black-Scholes method is $376,888, which the Company accounts for as stock issuance cost that has no impact on stockholders' equity. The Company has accounted for the sale of the stock and warrants by adding that portion of the proceeds equal to the par value of the new shares to common stock and the balance, including the value of the warrants, to additional paid in capital. In addition, any repurchase of the shares by the Company would also be accounted for through additional paid in capital.

In the Purchase Agreement governing the August 3, 2000 sale to the Fund, the Company granted the Fund an option to purchase up to an additional $3 million of its common stock and a callable warrant and an adjustable warrant. The Fund can exercise this option in whole or in part at any time prior to August 3, 2001. The price per share of common stock to be issued upon exercise of the option will be based on the average market price of the common stock for a five-day period prior to the date on which the option is exercised. On August 23, 2000, the Fund exercised $1,000,000 of its option to purchase additional common stock. The Fund purchased the Company's common stock at $5.53 per share, which amount was based upon the average market price of the common stock for the five-day period prior to August 23, 2000. An adjustable warrant similar to the one issued on August 3, 2000 was issued to the Fund on August 30, 2000, but was cancelled on November 1, 2000 by agreement of the Company and the Fund. The Fund also received a five -year warrant to purchase up to 19,900 shares of common stock at $6.03 per share. This warrant is callable by the Company at any time at $10.05 per

NOTE 6. SALE OF SECURITIES (CONTINUED)
underlying share. The calculated value of this callable warrant using the Black-Scholes method is $139,897, which the Company accounts for as stock issuance cost that has no impact on stockholders' equity.

The adjustable warrant contains provisions regarding the adjustment or replacement of the warrants in the event of stock splits, mergers, tender offers and other similar events. The adjustable warrant also limits the number of shares that can be beneficially owned by the Fund to 9.99% of the total number of outstanding shares of Common Stock.

NOTE 7. LEASES

As of February 1, 2001, the Company entered into a 5-year lease for a 40,000 square foot facility located in the Stanford Research Park in Palo Alto, California. The new facility includes animal space, laboratories, offices, and a GMP (Good Manufacturing Practices) suite. GMP facilities can be used to manufacture materials for clinical trials. The rent will average approximately $3.2 million per year over the term of the lease. The company paid $1.2 million upfront related to this new lease. Approximately $909,000 of this payment has been recorded as prepaid rent and is being amortized over seven months. The Company continues to lease the facilities in Lincoln, Rhode Island obtained in connection with its former encapsulated cell technology, but has now succeeded in subleasing parts of those facilities: the 3,000 square-foot cell processing facility and approximately one-third of its former scientific and administrative facility ("SAF"). The Company continues to seek to sublet the remainder of the approximately 65,000 square foot SAF and the 21,000 square-foot pilot manufacturing facility, or to assign or sell its interests in these properties. There can be no assurance however, that we will be able to dispose of these properties in a reasonable time, if at all.

NOTE 8. GRANT

In February 2001, the Company was awarded a two-year, $300,000 per year grant from the NIH's Small Business Innovation Research (SBIR) office. The grant, which will support joint work with virologist Dr. Jeffrey Glenn at Stanford University, is aimed at characterizing the human cells that can be infected by human hepatitis viruses and to develop a small animal model using the cells that are most infectable by these viruses to develop screening assays and identify novel drug for the disease. The company received and recognized as revenue $100,000 from a prior SBIR grant relating to the neural program.

NOTE 9. SUBSEQUENT EVENTS

On April 30, 2001, StemCells sold its remaining 103,577 shares of Modex Therapeutics at 87.3 Swiss francs per share, or $50.51 per share at the exchange rate on that date, for total proceeds of $5,232,168 net of commissions and other fees. In addition, on April 30, 2001, in consideration for $300,000 received from Modex and the assistance of Modex in executing the sale of StemCells holding of Modex shares, StemCells agreed to assign to Modex the rights concerning future payments under the Asset Purchase and License Agreement between StemCells, Inc. and Neurotech SA, by which Neurotech SA purchased the Company's former encapsulated cell therapy technology.

NOTE 9. SUBSEQUENT EVENTS (CONTINUED)

On April 27, 2001, the Company reached an agreement to terminate as of May 15, 2001, without cost, its lease on part of its former Sunnyvale headquarters.

NOTE 10. RECENT ACCOUNTING PRONOUNCEMENT

In June 1998, The Financial Accounting Standards Board issued Statement of Financial Accounting Standards No. 133, "Accounting for Derivative Financial Instruments and for Hedging Activities" ("SFAS 133"). The Statement requires the Company to recognize all derivatives on the balance sheet at fair value. Derivatives that are not hedges must be adjusted to fair value through income. If the derivative is a hedge, depending on the nature of the hedge, changes in fair value of derivatives are either offset against the change in fair value of assets, liabilities, or firm commitments through earnings or recognized in other comprehensive income until the hedged item is recognized in earnings. As the Company had no derivative instruments and does not currently engage in hedging activities, the adoption of Statement No. 133 on January 1, 2001 had no impact on StemCells results, operations or financial statement.

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.

SEC registration fee	$ 7,979
Printing and engraving expenses	$ 30,000
Legal fees and expenses	$ 35,000
Accounting fees and expenses	$ 15,000
Miscellaneous	$ 50,000
Total	$137,979

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), (b) and (d) 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 (c) 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 (based on the face value of the shares). The holders of the preferred stock have liquidation rights equal to their original investments plus accrued but unpaid dividends. Any unconverted preferred stock is converted, at the applicable conversion price, on April 13, 2002. 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 received 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 may be entitled, pursuant to an adjustable warrant issued in connection with the sale of common stock to the Fund, 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 may 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. On January 27, 2001, Millennium's August 3, 2000 adjustable warrant became exercisable for 463,369 shares of our common stock, and Millennium purchased all of those shares for $4,634 on March 30, 2001. On April 27, 2001, the adjustable warrant became exercisable for an additional 622,469 shares of our common stock, and the warrant has not been exercised with respect to those shares. 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 has the option for twelve months to purchase up to $3 million of additional common stock. On August 23, 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 in connection with the closing on August 30, 2000 and received the remaining $250,000 upon effectiveness of a registration statement covering the shares owned by the Fund. At the closing on August 30, 2000, the Fund also received an adjustable warrant similar to the one issued on August 3, 2000. This adjustable warrant was canceled by agreement of the Registrant and the Fund on November 1, 2000. The Fund also received a five year 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 any time at $10.05 per underlying share.

On June 8, 2001, the Fund exercised its remaining option to purchase $2 million of additional common stock. At the closing on June 21, 2001, the Fund purchased 457,750 shares of common stock at $4.3692 per share. The Fund paid $1,500,000 of the purchase price at the closing and will pay the remainder upon effectiveness of a registration statement covering the shares purchased by the Fund and issuable upon exercise of the warrants received by the Fund. This registration statement does not cover the shares purchased by or issuable to the Fund. In connection with the closing, the Fund received an adjustable warrant similar to the adjustable warrant issued on August 3, 2000. The Fund also received a five-year warrant to purchase 50,352 shares of additional common stock at a price per share of $4.7664. This warrant is callable by the Registrant at any time at $7.944 per underlying share.

(b) We entered into a license agreement with NeuroSpheres, Ltd. on October 30, 2000 expanding our rights to the intellectual property covered by the license agreement. See "Business--License Agreements and Sponsored Research Agreements--Neurospheres, Ltd." Under that license agreement, on October 30, 2000, we issued 65,000 shares of our common stock to NeuroSpheres and we agreed to file a registration statement covering the resale of those shares by NeuroSpheres.

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

(d) On May 10, 2001, we entered into a common stock purchase agreement with Sativum Investments Limited, for the potential future issuance and sale of up to $30,000,000 million of our common stock, subject to restrictions and other obligations that are described throughout this prospectus. We, at our sole discretion, may draw down on this facility, sometimes termed an equity line, from time to time, and Sativum is obligated to purchase shares of our common stock at a 6% discount to a volume weighted average market price over the 20 trading days following the drawdown notice. Our volume weighted average market price is calculated by adding the total dollars traded in every transaction in a given trading day and dividing that number by the total number of shares traded during that trading day. We are limited with respect to how often we can exercise a drawdown and the amount of each drawdown.

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.
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10.8*	1992 Stock Option Plan for Non-Employee Directors.
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10.13++	Term Loan Agreement dated as of September 30, 1994 between The First National Bank of Boston and Registrant.
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10.17**++++	Development, Marketing and License Agreement, dated as of March 30, 1995 between Registrant and Astra AB.
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21.1X	Subsidiaries of the Registrant.
23.1	Consent of Ernst & Young LLP, Independent Auditors.
23.2XXX	Consent of Ropes & Gray (included in the form of opinion filed as Exhibit 5.1).
24.1XXX	Power of Attorney pursuant to which amendments to this registration statement may be filed (contained on page II-9 thereto).
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XXX Previously filed with the Commission as an Exhibit to, and incorporated herein by reference to, the Registrant's Registration Statement filed on Form S-1, File No. 333-61726.

ITEM 17. UNDERTAKINGS.

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

(b) The undersigned Registrant hereby undertakes:

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

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

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement.

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

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

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

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

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

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant has duly caused this Pre-Effective Amendment No. 1 to the Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Palo Alto, State of California, on the 29th day of June, 2001.

STEMCELLS, INC.

BY: /S/ MARTIN M. MCGLYNN

Martin M. McGlynn
Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, this Pre-Effective Amendment No. 1 to the Registration Statement has been signed by the following persons in the capacities indicated on June 29, 2001.

SIGNATURE	TITLE
/s/ MARTIN M. MCGLYNN	Martin M. McGlynn, President, Chief Executive Officer (Principal Executive Officer), Director
*	George Koshy, Controller and Acting Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)
*	Mark J. Levin Director
*	Roger M. Perlmutter, M.D., Ph.D. Director
*	John J. Schwartz, Ph. D. Director
*	Irving Weissman, M.D. Director

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* By executing his name hereto Martin M. McGlynn is signing this document on behalf of the persons indicated above pursuant to the power of attorney duly executed by such persons and filed with the Securities and Exchange Commission.

By: /s/ MARTIN M. MCGLYNN

Martin M. McGlynn
ATTORNEY-IN-FACT

EXHIBIT INDEX

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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-3 Dated: June 21, 2001

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 50,352 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 $4.7664 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 June 21, 2006 (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) $7.944, 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 3155 Porter Drive, Palo Alto, California 94304, 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: /s/ Martin M. McGlynn

Name: Martin M. McGlynn

Title: President, Chief Executive Officer

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:

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

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-3

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 or about 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 4,291,642 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 4350(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 June 21, 2001, 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 symbol)ICP, and

IF CP(less than symbol) $2.27 and

IF CP (greater than or equal to symbol) 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 symbol)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 symbol)ICP and IF CP(greater than or equal to symbol) $2.27 and

IF CP (greater than or equal to symbol) MPP, then

AS = PPSH x .015

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

IF CP(greater than symbol)ICP, then AS = 0

where:

AS	=	Adjustment Shares
CS	=	Initially calculated Adjustment Shares
I$	=	$2,000,000
ICP	=	$4.3692
BSH	=	Buyout Shares: The number of shares for which the Company may, in lieu of having the Specified Number increase by the applicable number of Adjustment Shares, elect to pay cash to the Holder in the amount of the Buyout.
FSH	=	Floor Shares (the number of shares that are not subject to the Company's election to buyout). The initial value of FSH shall be set to FSH = 881,168. FSH shall be recalculated at each Adjustment Date by multiplying the value of FSH as of the immediately preceding Adjustment Date by (1 - (SHX/PPSH))
B$	=	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 $2.27 (as such number shall be appropriately adjusted for any stock splits, recapitalizations or similar events), the Company may, in lieu of having the increase in the Specified Number include the number of Buyout Shares, elect to pay cash to the Holder in an amount equal to the Buyout Amount (B$). 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 plus, to the extent aggregation with the Total Common Shares is required under the Shareholder Approval Rule, other shares of Common Stock acquired under the subscription agreements, one dated July 31, 2000 and one dated August 30, 2000, each between Millennium and the Company, and the warrants issued in connection therewith 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 (for clarification purposes, such liquidated damages are independent of other Class A Warrants and relate only to this Class A Warrant). 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: June 21, 2001

STEMCELLS, INC.

By: /s/ Martin M. McGlynn

Name: Martin M. McGlynn

Title: President, Chief Executive Officer

FORM OF SUBSCRIPTION

STEMCELLS, INC.

(To be signed only on exercise of Warrant)

TO: STEMCELLS, INC.
3155 Porter Drive
Palo Alto, California 94304

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.
3155 Porter Drive
Palo Alto, California 94304

Attention: Chief Financial Officer

Facsimile No: 650-475-3101

This Adjustment Notice is given pursuant to the terms of the Common Stock Purchase Warrant, Class A, dated June 21, 2001, 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 10.55

REGISTRATION RIGHTS AGREEMENT

THIS REGISTRATION RIGHTS AGREEMENT, dated as of June 21, 2001, (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, the Initial Investor and the Company are parties to that certain subscription agreement ("Prior Subscription Agreement") dated as of July 31, 2000, pursuant to which the Company, among other things, issued shares of the Company's Common Stock to the Buyer and granted the Buyer the option ("Option") to purchase additional shares of Common Stock pursuant to Section 5 of the Prior Subscription Agreement; and

WHEREAS, in connection with the Initial Investor's exercise of such Option on June 8, 2001, the Initial Investor and the Company entered into a Subscription Agreement, dated as of June 21, 2001 (the "Subscription Agreement"), pursuant to which 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) 900,000 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 and/or maintain 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 3155 Porter Drive, Palo Alto, California 94304, Attention: Chief Executive Officer, facsimile number (650) 475-3101 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: /s/ Martin M. McGlynn

Name: Martin M. McGlynn
Title: President, Chief Executive Officer

THE INITIAL INVESTOR: MILLENNIUM PARTNERS, L.P.

By: /s/ Terry Feeny

Name: Terry Feeny
Title: Chief Financial Officer

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 June 21, 2001, 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 June 21, 2001, 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 ___ (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 10.56

SUBSCRIPTION AGREEMENT

DATED AS OF JUNE 21, 2001

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 June 21, 2001, (this "Agreement") by and between STEMCELLS, INC., a Delaware corporation (the "Company"), with headquarters located at 3155 Porter Drive, Palo Alto, California 94304, 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 and the Company are parties to that certain subscription agreement, dated as of July 31, 2000 (the "Prior Subscription Agreement"), pursuant to which the Company, among other things, issued shares of the Company's Common Stock to the Buyer and granted the Buyer the option ("Option") to purchase additional shares of Common Stock pursuant to Section 5 of the Prior Subscription Agreement;

WHEREAS, on June 8, 2001, the Buyer exercised all of its remaining Option to purchase, upon the terms and subject to the conditions of this Agreement and the terms of Section 5 of the Prior Subscription Agreement, shares of Common Stock, $.01 par value (the "Common Stock"), of the Company having an aggregate purchase price of Two Million Dollars ($2,000,000); 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 (the "Closing Date") 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, dated as of June 21, 2001, between the Company and the Buyer (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 May 31, 2001, 21,470,385 shares were issued and outstanding, and, as of the date hereof, 6,748,502 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, other than pursuant to the Prior Subscription Agreement and the Warrants issued in connection therewith and the Warrants issued to the Buyer on August 30, 2000, approximately 947,300 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 1,369,600 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) or pursuant to the Prior Subscription Agreement and Warrants issued pursuant thereto, (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 the Closing Date 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) of the Prior Subscription Agreement.

(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. Other than pursuant to the Prior Subscription Agreement or the August 30, 2000 Subscription Agreement, 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 may be subject to Rule 4350(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) 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. 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.

(j) CERTAIN TRADING RESTRICTIONS. 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) after the date hereof the Buyer may not sell short a number of shares in excess of 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. INTENTIONALLY LEFT BLANK.

6. CLOSING DATE.

Subject to the satisfaction or waiver of the conditions set forth in Sections 7 and 8 below, 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 by the Company of the Buyer's executed signature page to this Agreement;

(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 by the Buyer of the Company's executed signature page to this Agreement;

(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 (which may be the same resolutions adopted for the Prior Subscription Agreement if sufficient in the reasonable opinion of the Company's counsel);

(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 (650) 475-3101, 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: Peter J. Weisman, 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, together with the Prior Subscription Agreement and its Schedules and Annexes and the documents entered into or delivered in connection therewith or the transactions contemplated thereby set forth the entire agreement between the parties hereto with respect to the subject matter hereof.

(k) [INTENTIONALLY LEFT BLANK].

(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 this Agreement, 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: 457,750

PRICE PER SHARE: $4.3692

AGGREGATE PURCHASE PRICE: $2,000,000.00

MILLENNIUM PARTNERS, LP

By: /s/ Terry Feeny

Name: Terry Feeny
Title: Chief Financial Officer

Date: As of June 21, 2001

Address: 666 Fifth Avenue
New York, New York 10103
Facsimile: (212) 841-6302

STEMCELLS, INC.

By: /s/ Martin M. McGlynn

Name: Martin M. McGlynn
Title: President, Chief
Executive Officer

Date: As of June 21, 2001

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 ERNST & YOUNG LLP, INDEPENDENT AUDITORS

We consent to the reference to our firm under the captions "Selected Consolidated Financial Data" and "Experts" and to the use of our report dated February 23, 2001 in the Registration Statement (Pre-Effective Amendment No. 1 Amending Form S-1 to Form S-3) and related Prospectus of StemCells, Inc. for the registration of 10,350,000 shares of its common stock.

Palo Alto, California
June 28, 2001