

FILED WITH THE SECURITIES AND EXCHANGE COMMISSION ON  
APRIL 5, 1999

SCHEDULE 14A  
(RULE 14A-101)  
INFORMATION REQUIRED IN PROXY STATEMENT

SCHEDULE 14A INFORMATION  
Proxy Statement Pursuant to Section 14(a) of the Securities Exchange Act of 1934

Filed by the Registrant /X/  
Filed by a party other than the Registrant / /

Check the appropriate box:

-----  
/ / Preliminary Proxy Statement  
/ / Confidential, for Use of the Commission Only (as permitted by Rule  
14a-6(e)(2))  
/X/ Definitive Proxy Statement  
/ / Definitive Additional Materials  
/ / Soliciting Material Pursuant to Section 240.14a-11(c) or Section  
240.14a-12

-----  
CYTOTHERAPEUTICS, INC.

-----  
(Name of Registrant as Specified In Its Charter)

-----  
(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

-----  
Payment of Filing Fee (Check the appropriate box):

/X/ No fee required  
/ / Fee computed on table below per Exchange Act Rules 14a-6(i)(1)  
and 0-11

-----  
(1) Title of each class of securities to which transaction applies:  
N/A

-----  
(2) Aggregate number of securities to which transaction applies:  
N/A

-----  
(3) Per unit price or other underlying value of transaction computed  
pursuant to Exchange Act Rule 0-11 (set forth the amount on which the  
filing fee is calculated and state how it was determined):  
N/A

-----  
(4) Proposed maximum aggregate value of transaction:  
N/A

-----  
(5) Total fee paid:  
N/A  
-----

-----  
/ / Fee paid previously with preliminary materials.

-----  
/ / Check box if any part of the fee is offset as provided by Exchange Act Rule  
0-11(a)(2) and identify the filing for which the offsetting fee was paid  
previously. Identify the previous filing by registration statement number,  
or the Form or Schedule and the date of its filing.

(1) Amount Previously Paid:  
(2) Form, Schedule or Registration Statement No.:  
(3) Filing Party:  
(4) Date Filed:

CYTOTHERAPEUTICS, INC.  
701 GEORGE WASHINGTON HIGHWAY  
LINCOLN, RI 02865

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS

TO BE HELD ON MAY 11, 1999

Notice is hereby given that the Annual Meeting of Stockholders of CytoTherapeutics, Inc. ("CytoTherapeutics" or the "Company") will be held on May 11, 1999 at 1:00 P.M. at the Company's executive offices located at 701 George Washington Highway, Lincoln, Rhode Island 02865 for the following purposes:

1. To elect two Class II directors to serve until the 2002 Annual Meeting of Stockholders;
2. To consider and vote upon a proposal to ratify the selection of Ernst & Young LLP as independent public accountants for the Company for the fiscal year ending December 31, 1999; and
3. To transact any and all other business that may properly come before the meeting.

The Board of Directors has fixed the close of business on March 31, 1999 as the record date for determining those Stockholders who are entitled to notice of and to vote at the meeting. The stock transfer books will not be closed between the record date and the date of the meeting.

Representation of at least a majority of all outstanding shares of Common Stock of CytoTherapeutics is required to constitute a quorum. Accordingly, it is important that your shares be represented at the meeting. WHETHER OR NOT YOU PLAN TO ATTEND THE ANNUAL MEETING, PLEASE SIGN AND DATE THE ENCLOSED PROXY AND RETURN IT PROMPTLY IN THE ENCLOSED ENVELOPE. Your proxy may be revoked at any time prior to the time it is voted.

Please read the proxy material carefully. Your vote is important and the Company appreciates your cooperation in considering and acting on the matters presented.

By Order of the Board of Directors,

PHILIP K. YACHMETZ  
SECRETARY

Lincoln, Rhode Island  
April 7, 1999

PROXY STATEMENT

ANNUAL MEETING OF STOCKHOLDERS  
OF  
CYTOTHERAPEUTICS, INC.

The enclosed form of proxy is solicited on behalf of the Board of Directors of CytoTherapeutics, Inc. (the "Company") for use at the Annual Meeting of Stockholders (the "Annual Meeting") to be held on May 11, 1999 at 1:00 P.M. at the Company's principal executive offices located at 701 George Washington Highway, Lincoln, Rhode Island 02865. The cost of solicitation of proxies will be borne by the Company. Directors, officers and employees of the Company may also solicit proxies by telephone, facsimile or in person for no additional compensation. The Company will reimburse banks, brokerage firms, and other custodians, nominees and fiduciaries for reasonable expenses incurred by them in sending proxy materials to the beneficial owners of shares.

Only stockholders of record at the close of business on March 31, 1999 are entitled to notice of and to vote at the Annual Meeting or any adjournment thereof. There were 18,374,089 shares of the Company's Common Stock, \$.01 par value (the "Common Stock"), outstanding on such date, each of which is entitled to one vote for each share on the matters to be voted upon.

Shares of the Company's Common Stock represented by proxies in the form enclosed which are properly executed and returned to CytoTherapeutics and not revoked, will be voted as specified therein by the stockholder. In the absence of contrary instructions, or in instances where no specification is made, the shares will be voted FOR the election as directors of the nominees as described herein under "Proposal Number 1--Election of Directors," FOR ratification of the selection of accountants as described herein under "Proposal Number 2--Ratification of Selection of Independent Public Accountants," and in the discretion of the named proxies, as to any other matter that may properly come before the Annual Meeting. Any stockholder signing and delivering a proxy may revoke it at any time before it is voted by delivering to the Secretary of the Company a written revocation or a duly executed proxy bearing a date later than the date of the proxy being revoked. Any record stockholder attending the Annual Meeting in person may revoke his or her proxy and vote his or her shares.

The Annual Report to Stockholders for the Company's fiscal year ended December 31, 1998 and this proxy statement were first mailed to stockholders on or about April 7, 1999.

QUORUM, REQUIRED VOTES, AND METHOD OF TABULATION

Consistent with Delaware law and under the Company's By-laws, a majority of the shares entitled to be cast on a particular matter, present in person or represented by proxy, constitutes a quorum as to such matter. Persons appointed by the Company to act as election inspectors for the meeting will count votes cast by proxy or in person at the Annual Meeting.

Election of directors by stockholders shall be determined by a plurality of the votes cast by the stockholders entitled to vote at the election that are present in person or represented by proxy. The approval of the proposal to ratify the selection of accountants requires a majority of the votes cast to be affirmative.

The election inspectors will count shares represented by proxies that withhold authority to vote for a nominee for election as a director or that reflect abstentions and "broker non-votes" (i.e., shares represented at the meeting held by brokers or nominees as to which (i) instructions have not been received from the beneficial owners or persons entitled to vote and (ii) the broker or nominee does not have discretionary voting power on a particular matter) only as shares that are present and entitled to vote on

the matter for purposes of determining the presence of a quorum, but neither abstentions nor broker non-votes have any effect on the outcome of voting on the matter.

Management does not know of any matters to be presented at this Annual Meeting other than those set forth in this Proxy Statement and in the Notice accompanying this Proxy Statement. If other matters should properly come before the meeting, the proxy holders will vote such matters in accordance with their best judgment. Any stockholder has the right to revoke his or her proxy at any time before it is voted.

PROPOSAL NUMBER 1  
ELECTION OF DIRECTORS

The number of directors is currently fixed at seven. The Company's 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. Unless otherwise instructed, the enclosed proxy will be voted to elect the nominees named below, each of whom are now Class II directors, as Class II directors for a term of three years expiring at the 2002 Annual Meeting of Stockholders and until their successors are duly elected and qualified. Proxies cannot be voted for a greater number of persons than the number of nominees named below. It is expected that the nominees will be able to serve, but if they are unable to serve, the proxy will be voted for a substitute nominee(s) designated by the Board of Directors. The nominees for election as Class II directors and the incumbent Class I and III directors are as follows:

NOMINEES FOR ELECTION AS CLASS II DIRECTORS--TERMS EXPIRE 2002

NAME	PRINCIPAL OCCUPATION	AGE	POSITION
Richard M. Rose, M.D. ....	Director, President and Chief Executive Officer of CytoTherapeutics, Inc.	49	Director, President, and Chief Executive Officer
Moses Goddard, M.D. ....	Vice President, Chief Technical Officer--Cell Encapsulation, CytoTherapeutics, Inc.	49	Director, Vice President, Chief Technical Officer--Cell Encapsulation

Richard M. Rose, M.D. became President, Chief Executive Officer and a director of the Company in September 1997. Since May 1996 Dr. Rose has been President and Chief Executive Officer of StemCells, Inc., a biotechnology company acquired by CytoTherapeutics in 1997. From 1995 until May 1996, Dr. Rose was a Managing Director of MPM Capital Advisors LLC, a consulting and investment banking group. From 1992 until 1995, Dr. Rose was Vice President, Drug Development, Preclinical and Clinical Research and Chief Medical Officer of Cytel Corporation, a biotechnology company.

Moses Goddard, M.D. has served as a director of the Company since December 1998. Dr. Goddard is a co-inventor of CytoTherapeutics' cell encapsulation technology and currently serves as Vice President and Chief Technical Officer--Cell Encapsulation of the Company. Dr. Goddard is the head of the Company's Cell Encapsulation business unit and has been employed by the Company since 1993. In addition to his current role at CytoTherapeutics, he serves as Associate Professor of Surgical Research at Brown University in Providence, Rhode Island. Prior to Brown University, he was an instructor in the Department of Surgery at the Berkshire Medical Center in Pittsfield, Massachusetts. Dr. Goddard is certified by the National Board of Medical Examiners and the American Board of Surgery. He received his M.D. from Brown University in 1979.

THE BOARD OF DIRECTORS RECOMMENDS THAT STOCKHOLDERS VOTE FOR THE ELECTION OF THE TWO NOMINEES DESCRIBED ABOVE

INCUMBENT CLASS I DIRECTORS--TERMS EXPIRE 2001

NAME	PRINCIPAL OCCUPATION	AGE	POSITION
Mark J. Levin.....	Chairman of the Board and Chief Executive Officer of Millennium Pharmaceuticals, Inc.	48	Director
John J. Schwartz, Ph.D.....	President, Quantum Strategies Management Company	65	Director, Chairman of the Board
Irving L. Weissman, M.D.....	Professor, Stanford University	59	Director

Mark J. Levin, a founder of the Company, has served as a director since the Company's inception. From inception until January 1990 and from May 1990 until February 1991, Mr. Levin served as the Company's 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 of the Board and Chief Executive Officer of Millennium Pharmaceuticals, Inc., a biotechnology company. Mr. Levin is also currently on the Board of Directors of Focal, Inc. and Tularik, Inc.

John J. Schwartz, Ph.D. was elected to the Board of Directors of the Company in December 1998 and was elected Chairman of the Board at the same time. He is the former President and Chief Executive Officer of SyStemix, Inc. 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, Vice President and General Counsel at Stanford University in California. Dr. Schwartz graduated from Harvard Law School in 1958 and received his Ph.D. degree in physics from the University of Rochester in 1966.

Irving L. Weissman, M.D. was elected to the Board of Directors of the Company in September 1997. Dr. Weissman 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, and currently is a member of the Scientific Advisory Board, of SyStemix, Inc. He has also served on the Scientific Advisory Boards of Amgen Inc., DNAX and T-Cell Sciences, Inc., all of which are biotechnology companies. Dr. Weissman is a member of the National Academy of Sciences and also serves as Chairman of the Scientific Advisory Board of the Company.

INCUMBENT CLASS III DIRECTORS--TERMS EXPIRE 2000

NAME	PRINCIPAL OCCUPATION	AGE	POSITION
Patrick Aebischer, M.D., Ph.D.....	Chairman of the Board of Modex Therapeutiques SA	44	Director
Richard J. Ramsden.....	Private Investor	61	Director

Patrick Aebischer, M.D., Ph.D., a founding scientist of the Company, was elected to the Board of Directors of the Company effective February 1, 1996. Dr. Aebischer is the Chairman of the Board of Modex Therapeutiques SA, a Swiss biotechnology company in which the Company has a minority interest. Dr. Aebischer is the Director of the Gene Therapy Center at the Centre Hospitalier Universitaire Vaudois ("CHUV") in Switzerland and has been Professor of Surgery and Medical Director of the Surgical Research Division at CHUV since 1992. From 1988 to 1992, Dr. Aebischer was Associate Professor of Medical Research and Chairman of the Department of Artificial Organs and Biomaterials at Brown University. Dr. Aebischer is also Professor of Biomaterials (Research) at Brown and Professor at the Swiss Polytechnical School.

Richard J. Ramsden, a director since 1994, is a private investor; he previously served as President and CEO of Kinship Capital Corporation, a private investment enterprise from 1983 to 1994. Mr. Ramsden is a former Senior Vice President and Chief Financial Officer of Brown University. Mr. Ramsden is a director of the Student Loan Marketing Association. He served as Chairman of the Board of the College Construction Loan Insurance Association from 1987 to 1995 and as director of Dryvit Systems, Inc., a building materials company, from 1990 to 1995.

## INFORMATION CONCERNING THE BOARD AND ITS COMMITTEES

During 1998, the Board of Directors had two standing committees: the Compensation and Stock Option Committee (the "Compensation Committee") and the Audit Committee. In addition, at its meeting on December 19, 1998, the Board of Directors created an Executive Committee. The Company's Compensation Committee held 4 meetings during the fiscal year ended December 31, 1998 and was composed of Messrs. Levin and Ramsden, and included Dr. Schwartz after his election to the Board in December 1998. The Compensation Committee makes recommendations to the Board and the Company's management concerning salaries in general, determines executive compensation and approves incentive compensation for Company employees and consultants. The Company's Audit Committee held one meeting during the fiscal year ended December 31, 1998 and was composed of Messrs. Ramsden and Levin until December 19, 1998 when the Audit Committee was reconstituted for the coming year composed of Mr. Ramsden and Dr. Schwartz. The Audit Committee reviews the results and scope of the audit and other services provided by the Company's independent auditors. The Company's Executive Committee was created effective as of December 19, 1998 and is composed Drs. Schwartz, Rose and Weissman and Mr. Levin. The Executive Committee has the power and authority to meet and act on behalf of the full Board in between meetings of the Board, including the power to authorize the execution of agreements. However, such Executive Committee does not have the authority to declare dividends or to authorize the issuance of stock of the Company. The Executive Committee did not meet during the fiscal year ended December 31, 1998. The Company has no nominating committee.

During the fiscal year ended December 31, 1998, each non-employee director initially received a \$10,000 retainer payable quarterly and received \$1,000 for each Board meeting attended (\$500 for each telephonic meeting) and \$500 for each Committee meeting attended. Each director who is not an employee of the Company had previously received an option to purchase 5,000 shares of Common Stock exercisable at the fair market value of the Common Stock at the time of grant. Upon reelection as a director, each such director is entitled to receive an option to purchase an additional 5,000 shares of Common Stock exercisable at the fair market value of the Common Stock at the time of re-election. All such options vest equally over three years on each anniversary of the grant date. In addition, such directors, for so long as they were Compensation Committee members, or eligible to serve as committee members, received an annual grant of an option to purchase 1,000 shares of Common Stock, exercisable at the fair market value of the Common Stock at the time of grant; such options becoming exercisable one year after the date of grant.

After an examination of compensation for Board members of other comparable companies and an examination of data in the Radford Biotechnology Compensation and Benefits Survey, such compensation was modified commencing with the second calendar quarter of 1998 such that non-employee directors (other than the Chairman) received an annual retainer of \$18,000 payable quarterly and received \$1,500 for each Board meeting attended (\$500 for each telephonic meeting) and \$500 for each Committee meeting attended. Each director who is not an employee of the Company is entitled to receive upon election or reelection, (or contemporaneously with the approval of the revised compensation plan with respect to those directors already serving) an option to purchase 20,000 shares of the Company's Common Stock exercisable at the fair market value of the Common Stock at the time of grant, such shares vesting in equal portions over three years on each anniversary of the grant date. Directors are reimbursed for their expenses in attending meetings of the Board of Directors and of committees of the Board of Directors. Under a plan approved by the stockholders, but not yet implemented, each non-employee director not receiving consulting compensation from the Company will have the option to be paid, in lieu of the cash



fees payable for his service as a director, in shares of Common Stock having a fair market value equal to the amount of such cash fees. Shares of Common Stock issued to directors in lieu of cash payments for Board service shall be nonforfeitable, and a director shall have all of the rights of a stockholder of the Company with respect to such Common Stock.

The Board of Directors of CytoTherapeutics held 11 meetings during the fiscal year ended December 31, 1998. All of the directors attended at least 75% of the meetings of the Board of Directors and of all committees on which they served except for Dr. Aebischer.

EXECUTIVE OFFICERS

The executive officer of the Company who is not also a director of the Company is:

NAME	AGE	POSITION
Philip K. Yachmetz.....	42	Senior Vice President, Business Development, General Counsel and Secretary; Acting Chief Financial Officer and Treasurer

Philip K. Yachmetz, age 42, joined the Company as Senior Vice President, Business Development, General Counsel and Secretary in June 1998. He was appointed Acting Chief Financial Officer and Treasurer effective as of April 2, 1999. From April 1997 until June 1998, Mr. Yachmetz was a Principal and Managing Director of Millennium Venture Management LLC a strategic business consulting and acquisition advisory consulting group specializing in services to healthcare and high technology companies. From October 1996 to April 1997 Mr. Yachmetz was Director, Legal & Corporate Affairs and Secretary of PlayNet Technologies, Inc. an Internet based entertainment company. From January 1989 to October 1996, Mr. Yachmetz served as Senior Counsel of Hoffmann-La Roche Inc., the U.S. subsidiary of the international pharmaceutical, diagnostics, chemicals and biotechnology conglomerate F. Hoffmann-La Roche Ltd. of Basel, Switzerland. Previously, Mr. Yachmetz was with Burmah LNG Shipping, Inc. and subsidiaries, the U.S. subsidiary of Burmah Oil plc and was engaged in the private practice of law in New York City. Mr. Yachmetz is admitted to practice law in New York and New Jersey.

All executive officers of the Company are elected annually and serve at the discretion of the Board of Directors.

PROPOSAL NUMBER 2  
RATIFICATION OF SELECTION OF INDEPENDENT PUBLIC ACCOUNTANTS

The Company is asking the stockholders to ratify the selection of Ernst & Young LLP as the Company's independent public accountants for the fiscal year ending December 31, 1999. The affirmative vote of the holders of a majority of the shares represented and voting at the Annual Meeting will be required to ratify the selection of Ernst & Young LLP.

In the event the stockholders fail to ratify the appointment, the Audit Committee of the Board of Directors will consider it as a direction to select other auditors for the subsequent year. Even if the selection is ratified, the Board at its discretion may direct the appointment of a different independent accounting firm at any time during the subsequent year if the Board determines that such a change would be in the best interests of the Company and its stockholders.

A representative of Ernst & Young LLP is expected to attend the Annual Meeting and is not expected to make a statement, but will be available to respond to appropriate questions and may make a statement if such representative desires to do so.

THE BOARD OF DIRECTORS RECOMMENDS THAT STOCKHOLDERS VOTE FOR THE PROPOSAL TO RATIFY THE SELECTION OF ERNST & YOUNG LLP AS THE COMPANY'S INDEPENDENT PUBLIC ACCOUNTANTS FOR THE FISCAL YEAR ENDING DECEMBER 31, 1999

SHARE OWNERSHIP OF MANAGEMENT

The following table sets forth certain information regarding the beneficial ownership of the Company's Common Stock as of March 31, 1999 by (i) each person known by the Company to be the beneficial owner of more than 5% of the Company's outstanding Common Stock, (ii) each director and nominee for director, (iii) each executive officer named in the Summary Compensation Table and (iv) all executive officers and directors of the Company as a group. Except as otherwise indicated, the Company believes that the beneficial owners of the Common Stock listed below, based on information furnished by such owners, have sole investment and voting power with respect to such shares, subject to community property laws where applicable, and that there are no other affiliations among the stockholders listed in the table.

NAME OF BENEFICIAL OWNER	SHARES BENEFICIALLY OWNED*	PERCENTAGE OF CLASS BENEFICIALLY OWNED*
Genentech, Inc. 1 DNA Way South San Francisco, CA 94080	1,163,599	6.3%
Patrick Aebischer, M.D., Ph.D.	54,583(1)	**
Moses Goddard, M.D.	57,319(1)	**
Mark J. Levin	139,804(2)	**
Richard J. Ramsden	25,000(3)	**
Richard M. Rose, M.D.	312,228(4)	1.7%
John J. Schwartz, Ph.D.	131,128(5)	**
Irving Weissman, M.D.	365,783(6)	2.0%
Philip K. Yachmetz	82,601(7)	**
John McBride	61,066(8)	**
All directors and executive officers as a group (9 persons)	1,229,512(9)	6.7%

\* All numbers are based on information obtained by questionnaire or filings on Forms 13D or 13G received by the Company.

\*\* Less than one percent.

- (1) Represents shares issuable upon exercise of stock options exercisable within 60 days.
- (2) Includes 13,000 shares issuable upon exercise of stock options exercisable within 60 days.
- (3) Includes 13,000 shares issuable upon exercise of stock options exercisable within 60 days.
- (4) Includes 68,750 shares issuable upon exercise of stock options exercisable within 60 days.
- (5) Includes 131,128 shares issuable upon exercise of stock options exercisable within 60 days.
- (6) Includes 33,106 shares issuable upon exercise of stock options exercisable within 60 days and 7,160 shares issuable upon exercise of warrants exercisable within 60 days. Includes a total of 50,791 shares owned by trusts for the benefit of Dr. Weissman's children as to which he disclaims beneficial ownership.
- (7) Includes 63,000 shares issuable upon exercise of stock options exercisable within 60 days.
- (8) Includes 57,733 shares issuable upon exercise of stock options exercisable within 60 days.
- (9) Includes 540,134 shares exercisable upon exercise of stock options exercisable within 60 days.

EXECUTIVE COMPENSATION

The following table sets forth the compensation paid by the Company to persons serving as its Chief Executive Officer during the fiscal year ended December 31, 1998, the three other most highly compensated executive officers serving as executive officers at the end of such fiscal year, each of whom earned more than \$100,000 for the fiscal year ended December 31, 1998 (collectively, the "named executive officers").

SUMMARY COMPENSATION TABLE

NAME AND PRINCIPAL POSITION	YEAR	ANNUAL COMPENSATION			LONG-TERM COMPENSATION	
		SALARY(\$)	BONUS(\$)	OTHER ANNUAL COMPENSATION(\$)	RESTRICTED STOCK AWARDS(\$)	SECURITIES UNDERLYING OPTIONS(#)
Richard M. Rose, M.D.....	1998	286,553	0	0	0	150,000(1)
Chief Executive Officer(3)	1997	68,750	0	0	0	300,000(4)
Philip K. Yachmetz.....	1998	155,780	10,000	0	0	75,000
Senior Vice President and General Counsel Acting Chief Financial Officer and Treasurer(7)						
Moses Goddard, M.D. ....	1998	188,957	0	0	0	67,875(8)
Vice President, Chief Technical Officer--Cell Encapsulation						
John McBride.....	1998	221,366	0	0	0	128,750(9)
Executive Vice President and Chief Financial Officer	1997	108,885	16,334(11)	0	0	145,000(12)

NAME AND PRINCIPAL POSITION	ALL OTHER COMPENSATION(\$)
Richard M. Rose, M.D.....	11,330(2)
Chief Executive Officer(3)	76,268(5)
Philip K. Yachmetz.....	86,695(6)
Senior Vice President and General Counsel Acting Chief Financial Officer and Treasurer(7)	
Moses Goddard, M.D. ....	0
Vice President, Chief Technical Officer--Cell Encapsulation	
John McBride.....	8,798(10)
Executive Vice President and Chief Financial Officer	2,256(13)

- (1) 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.
- (2) Represents the personal portion of the use of a Company vehicle, as well as \$5,000 of fair market value of the Company matching contributions of Common Stock to Dr. Rose's account in the Company's 401(k) Plan.
- (3) Dr. Rose became Chief Executive Officer on September 26, 1997.
- (4) One option grant for 200,000 shares was reduced to 150,000 shares upon the repricing of the grant effective as of July 10, 1998 at a price of \$1.281 per share.
- (5) Represents advance for relocation expenses of \$75,000 and fair market value of \$1,268 of Company matching contributions of Common Stock to Dr. Rose's account in the Company's 401(k) plan.
- (6) Represents \$71,971 of consulting compensation paid prior to employment of Mr. Yachmetz on June 8, 1998, \$14,724 of temporary living expenses adjusted for taxes and personal use of a Company vehicle.

Also represents \$1,827 of fair market value of Company matching contributions of Common Stock to Mr. Yachmetz' account in the Company's 401(k) Plan.

- (7) Mr. Yachmetz was appointed Acting Chief Financial Officer and Treasurer effective as of April 2, 1999.
- (8) Represents the regrant of options in the total original amount of 90,500 shares which was reduced to 67,875 shares as a result of the employee equity incentive repricing plan approved by the Board of Directors on July 10, 1998.
- (9) Represents the regrant of two options in the total original amount of 145,000 shares which was reduced to 108,750 shares as a result of the employee equity incentive repricing plan approved by the Board of Directors on July 10, 1998 and a promotional grant of options at a price of \$2.813 per share. Mr. McBride resigned as Executive Vice President and Chief Financial Officer effective as of April 2, 1999.
- (10) Represents the personal portion of the use of a Company vehicle, as well as \$5,000 of fair market value of Company matching contributions of Common Stock to Mr. McBride's account in the Company's 401(k) Plan.
- (11) Represents bonus earned in indicated year and paid in the following year.
- (12) The original option grants for 130,000 and 15,000 shares were reduced to 97,500 and 11,250 shares respectively upon the repricing of the grant effective as of July 10, 1998 at a price of \$1.281 per share.
- (13) Represents fair market value of the Company matching contributions of Common Stock to Mr. McBride's account in the Company's 401(k) plan.

OPTION GRANTS IN LAST FISCAL YEAR

The following table provides information on option grants in 1998 to the named executive officers.

NAME	NUMBER OF SECURITIES UNDERLYING OPTIONS GRANTED (# OF SHARES)	PERCENT OF TOTAL OPTIONS GRANTED TO EMPLOYEES IN FISCAL YEAR (1)	EXERCISE PRICE (\$/SHARE)(2)	EXPIRATION DATE	POTENTIAL REALIZABLE VALUE AT ASSUMED ANNUAL RATES OF STOCK PRICE APPRECIATION FOR OPTION TERM (3)		
					0%(\$)	5%(\$)	10%(\$)
Richard M. Rose, M.D.....	150,000(4)	12.8%	1.281	9/22/07	0	120,842	306,238
Philip K. Yachmetz.....	75,000(5)	6.5%	1.281	9/8/00	0	60,421	153,119
Moses Goddard, M.D.....	11,250(6)	1.0%	1.281	5/5/08	0	9,063	22,968
John McBride.....	20,000	1.7%	2.813	5/5/08	0	35,382	89,664
	97,500(7)	8.3%	1.281	5/27/07	0	78,547	199,054
	11,250(7)	1.0%	1.281	12/4/07	0	9,063	22,968

- (1) The Company granted options covering 1,174,118 shares of Common Stock to employees in the fiscal year ended December 31, 1998. Of these options, 403,750 shares were represented by original new option grants and 771,018 shares were represented by regranted options issued as a result of the employee equity incentive repricing plan approved by the Board of Directors on July 10, 1998. Employees of the Company exchanged previously granted options for a total of 1,064,472 shares for the new repriced options.
- (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 suggested by the Commission's rules on executive compensation disclosure, the Company has presented option values based on arbitrary growth rates. The Company does not necessarily agree that the information presented properly values the options described.
- (4) These options reflect the repricing and regrant of the original grant of 200,000 options, the date of such repricing was July 10, 1998 at a price of \$1.281 per share. Options for 6,250 shares vested on the date of grant; the remainder of such options vest subject to the achievement of certain milestones related to the Company's stem cells research program and in the event of certain changes of control.
- (5) 30,000 options became exercisable on June 8, 1998 the date of grant with the remaining 45,000 shares vesting at a rate of 3,000 per month thereafter.
- (6) These options reflect the repricing of an original part of 15,000 options granted on May 8, 1998 for promotion to Vice President. The date of such repricing was July 10, 1998 at a price of \$1.281 per share.
- (7) These options reflect the repricing and regrant of the original grants of 130,000 and 15,000 options, the date of such repricing was July 10, 1998 at a price of \$1.281 per share. The original became exercisable as to 25% of the shares covered after one year from the date of grant and as to of the shares covered by the option grant each month thereafter. Accordingly there was a pro-rata adjustment to the vested and unvested options covered by these repriced options.

AGGREGATED OPTION EXERCISES IN LAST FISCAL YEAR AND FISCAL  
YEAR-END OPTION VALUES

The following table provides information about option exercises in 1998 by the named executive officers and the value of such officers' unexercised options at December 31, 1998.

NAME	NUMBER OF SECURITIES UNDERLYING UNEXERCISED OPTIONS AT FISCAL YEAR-END(1)		VALUE OF UNEXERCISED IN-THE-MONEY OPTIONS AT FISCAL YEAR-END\$(2)	
	EXERCISABLE	UNEXERCISABLE	EXERCISABLE	UNEXERCISABLE
Richard M. Rose, M.D. ....	53,124	103,126	60,045.59	132,104.41
Philip K. Yachmetz.....	48,000	27,000	61,488.00	34,587.00
Moses Goddard, M.D. ....	52,436	20,939	63,885.02	26,822.86
John McBride.....	41,405	87,345	53,039.81	86,268.95

(1) December 31, 1998

(2) The closing price of the Company's Common Stock on December 31, 1998 on the NASDAQ National Market System was \$1.469. The numbers shown reflect the value of options accumulated over all years of employment.



## EMPLOYMENT AND SEVERANCE AGREEMENTS

Under terms of an agreement dated December 19, 1998, Dr. Schwartz agreed to serve as a Director and Chairman of the Board of Directors of the Company for a term expiring at the 2001 Annual Meeting of Stockholders. Dr. Schwartz is entitled to a retainer of \$36,000 per year plus a fee of \$1,500 for each Board meeting or Committee meeting (if held at a date and time separate from the Board meeting) physically attended and \$500 for each Board meeting or Committee meeting (if held at a date and time separate from the Board meeting) held by conference call, payable quarterly in arrears. Dr. Schwartz is obligated to spend no less than fifteen business days per calendar quarter devoted collectively to the performance of his duties under this agreement and his pre-existing Consulting Services agreement (SEE "CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS" HEREIN). In the event Dr. Schwartz devotes more than fifteen business days in any calendar quarter to the performance of his duties, Dr. Schwartz is entitled to receive additional compensation at the rate of \$1,500 per day. The agreement provides for the grant to Dr. Schwartz of a stock option covering 40,000 shares of Common Stock that vest in equal portions on the last day of each of the 29 months of the term of the agreement. In the event Dr. Schwartz ceases to be Chairman of the Board of Directors, either as a result of an affirmative vote of the Board of Directors for reasons other than cause or due to his disability or his resignation from such position, but remains a Director, his cash compensation and remaining unvested time-based stock options will be reduced to the then current rate for a Director of the Company. In the event Dr. Schwartz ceases to be Chairman of the Board of Directors, either as a result of an affirmative vote of the Board of Directors for reasons other than cause or due to his disability or his resignation from such position, and then he resigns as a Director or is removed as a Director pursuant to the Company's By-laws, the Company shall have no further obligation to pay cash compensation to Dr. Schwartz. Dr. Schwartz shall have one year from such date to exercise any options vested as of that date and any unvested options shall lapse. In the event Dr. Schwartz is removed from his positions as Director and Chairman of the Board of Directors for cause, as defined in the agreement, the Company shall have no further obligation to pay cash compensation to Dr. Schwartz, any unvested options shall lapse and the exercise of any options vested shall be governed by the terms of the Company's 1992 Equity Incentive Plan. The termination of the agreement for any reason shall have no effect on the Consulting Services agreement (SEE "CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS" HEREIN).

Under the terms of an agreement dated September 25, 1997, Dr. Rose agreed to serve as President, Chief Executive Officer and a director of the Company. Dr. Rose is entitled to an annual salary of \$275,000 and a bonus of up to 25% of his salary. The agreement provides for the grant to Dr. Rose of a stock option covering 200,000 shares of Common Stock that vests as to one quarter of such number of shares on the first anniversary of the date of grant and equally as to the remaining shares over the next 36 months. This stock option was regranted in July 1998 and reduced to 150,000 shares of Common Stock as a result of the repricing of the stock option, with no change to the vesting schedule other than a pro-rata reduction of the number of shares which vest on each date. In addition, Dr. Rose, under the agreement, was granted a stock option covering 100,000 shares of the Company's Common Stock, which option vests upon the achievement of certain milestones related to the Company's stem cells research program. The vesting under both options will be accelerated in the event of certain changes in control of the Company. The agreement provides for reimbursement of certain moving costs up to \$125,000 and for a bridge loan for purchase of a home up to \$200,000. The agreement also provides for certain employee benefits and contains provisions regarding confidentiality and noncompetition before and after employment. The Company may terminate Dr. Rose's contract other than for cause by written notice to Dr. Rose, in which case the Company has agreed to pay Dr. Rose the greater of (i) an additional year of salary or (ii) two years salary if the termination results from a change of control (as defined in the agreement) or (iii) salary payments until

September 25, 2000. The agreement also provides that in these cases, unvested time-based options will vest. Similar provisions apply if Dr. Rose terminates his employment for cause. Dr. Rose may terminate his employment for any reason on three months' notice. The agreement also contains special provisions for disability.

Under the terms of an agreement dated April 17, 1997, Mr. McBride agreed to serve as a Senior Vice President, Business Operations and Chief Financial Officer of the Company. Mr. McBride was initially entitled to an annual salary of \$190,000 and a bonus of up to 15% of his salary. In May 1998, Mr. McBride was promoted to the position of Executive Vice President--Business Operations and Chief Financial Officer of the Company and his annual salary was increased to \$230,000. The agreement provides for a grant of a stock option to Mr. McBride covering 130,000 shares of Common Stock that vests as to one quarter of such shares on the first anniversary of the date of grant and equally as to the remaining shares over the next 36 months. This stock option was regranted in July 1998 and reduced to 97,500 shares of Common Stock as a result of the repricing of the stock option, with no change to the vesting schedule except for a pro-rata reduction of the number of shares which vest on each date. The vesting under the option will be accelerated in the event of certain changes in control of the Company occurring within two years of the agreement. The agreement provides for reimbursement of certain costs of moving up to \$10,000; the agreement also provides for certain employee benefits and contains provisions regarding confidentiality and noncompetition before and after employment. The Company may terminate Mr. McBride's contract other than for cause by written notice to Mr. McBride in which case the Company has agreed to pay Mr. McBride up to nine months of severance pay offset by pay from another job and potentially by profits available from option exercises; the agreement also provides that in these cases, unvested options which would have vested during the severance period will vest. If such termination results from a change of control (as defined) within the first two years of employment, all the options granted at employment will vest. Similar provisions apply if Mr. McBride terminates his employment for cause. There are also special provisions for disability. Mr. McBride resigned as Executive Vice President and Chief Financial Officer effective as of April 2, 1999.

Under the terms of an agreement dated as of June 8, 1998, Mr. Yachmetz agreed to serve as Senior Vice President, Business Development, General Counsel and Secretary of the Company for an initial period ending on September 7, 1999. Mr. Yachmetz is entitled to an annual salary of \$250,000 and a bonus in a percentage amount of his salary similar to that for which other members of the Company's senior management are eligible or are awarded, such bonus to also be based on the achievement of specified milestones. The agreement also provides for a "sign on" bonus of \$15,000, one third of which was paid to Mr. Yachmetz in registered shares of the Company's Common Stock in accordance with the agreement. The agreement further provides for a grant of a stock option to Mr. Yachmetz covering 75,000 shares of Common Stock that vests as to 30,000 shares on the effective date of the agreement and 3,000 shares per month thereafter for the ensuing 15 months. The vesting under the option will be accelerated in the event of certain changes in control of the Company. The agreement provides for the reimbursement of certain relocation costs and temporary housing. The agreement provides for certain employee benefits and contains certain provisions regarding confidentiality during and after employment. The Company may terminate Mr. Yachmetz' contract other than for cause by written notice to Mr. Yachmetz, in which case the Company has agreed to pay Mr. Yachmetz six months of severance pay plus any accrued and unpaid bonus, and any unvested options which would have vested during the severance period will vest immediately. Similar provisions apply if the Company terminates Mr. Yachmetz' agreement due to his disability, or if the Company and Mr. Yachmetz fail to renew the agreement upon its expiration. Mr. Yachmetz was appointed Acting Chief Financial Officer and Treasurer effective as of April 2, 1999.

Mr. Goddard serves as Vice President, Chief Technical Officer--Cell Encapsulation of the Company and head of the Company's Encapsulated Cell Therapy business unit. The Company has no employment agreement with Mr. Goddard, who has served as an at-will employee of the Company since 1993. Mr. Goddard has agreed with the Company to resign as a director of the Company should he cease for any reason to serve as head of the Company's Encapsulated Cell Therapy business unit.

In the case of certain terminations of employment with the Company other than for cause, all officers are entitled to severance equal to a percentage of annual base pay, adjusted for length of service with the Company. In addition, in the event of certain changes of control of the Company, severance payments payable to senior officers will be increased to an amount equal to annual salary reduced by the amount of certain stock and option gains.

NOTWITHSTANDING ANYTHING TO THE CONTRARY SET FORTH IN ANY OF THE COMPANY'S PREVIOUS FILINGS UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED, THAT MIGHT INCORPORATE FUTURE FILINGS, INCLUDING THIS PROXY STATEMENT, IN WHOLE OR IN PART, THE FOLLOWING REPORT AND THE PERFORMANCE GRAPH ON PAGE 23 SHALL NOT BE INCORPORATED BY REFERENCE INTO ANY SUCH FILINGS.

REPORT OF THE COMPENSATION AND STOCK OPTION COMMITTEE

The Company applies a consistent philosophy to compensation for all employees, including executive officers. This philosophy is based on the premise that the achievements of the Company result from the coordinated efforts of all individuals working toward common objectives. The Company strives to achieve those objectives through teamwork focused on meeting the expectations of the Company's shareholders.

COMPENSATION PHILOSOPHY FOR EXECUTIVE OFFICERS

The goals of the compensation program are to reward individual and team performance and to encourage future performance by aligning compensation with business objectives and performance and to enable the Company to attract, retain and reward executive officers who contribute to the long-term success of the Company. The Company's compensation program for executive officers is based on four principles:

- - The Company pays competitively.

The Company is committed to a compensation program that helps attract and retain the best people in the industry. To ensure that its compensation is competitive, the Company regularly compares its compensation levels with those companies it considers comparable and sets its compensation parameters based on this review.

- - The Company compensates its executive officers for performance.

Executive officers are rewarded based upon both corporate performance and individual performance. Corporate performance is evaluated by reviewing the extent to which strategic and business plan goals are met. Individual performance is evaluated by reviewing organizational and management development progress against set objectives and the degree to which teamwork and Company values are fostered by the individual's actions.

In early stage biopharmaceutical companies, performance is best judged by success in achievement of scientific and technical milestones, product development progress (including progress toward and through clinical trials), strategic human resources development, capitalization and financing goals, and commercialization goals. These are the bases presently used by the Committee.

- - The Company strives for fairness in the administration of pay.

The Company strives to achieve a balance of the compensation paid to a particular individual and the compensation paid to other executive officers both inside the Company and at comparable companies.

- - The Company believes that all employees, including executive officers, should understand and constructively participate in the performance evaluation process.

The reorganization and rationalization of the Company's operations during 1998 resulted in a reexamination of the then existing performance evaluation process and the objectives and key goals previously established. At the direction of the Compensation Committee, the Company's management undertook a process of reviewing and modifying the performance evaluation process for all employees. This evaluation

process has resulted in the implementation of a revised performance evaluation process for all employees of the Company effective as of January 1, 1999. The revised process of assessing performance is as follows:

1. At the beginning of the performance cycle, the evaluating manager (who in the case of executive officers is the Chief Executive Officer) in conjunction with the employee sets objectives and key goals for the employee based upon Company goals previously established by senior management.
2. The evaluating manager gives the employee ongoing feedback about the employee's performance against established goals.
3. At the end of the performance cycle, the employee submits a summary of the employee's accomplishments against key goals and the manager reviews and evaluates this summary.
4. The evaluating manager compares the evaluation results to the results of evaluations of peers within the Company.
5. The Chief Executive Officer and the Human Resources Director (and absent such officer, the Chief Financial Officer) review results of all evaluations except that of the Chief Executive Officer. These evaluations are subsequently discussed between the evaluating manager and the employee.
6. For executive officers, the results of the performance evaluation are discussed with the Compensation Committee, which reviews these results and approves (subject to their review) recommendations for compensation made by the Chief Executive Officer.
7. Decisions on cash compensation and, where appropriate, stock options or other long-term incentive compensation are based on the employee's evaluation compared with the evaluations of all employees of the Company.

In the case of the evaluation of the Chief Executive Officer, the Compensation Committee serves as the evaluating manager.

#### COMPENSATION VEHICLES

The Company uses a simple total compensation program consisting of cash and equity-based compensation. Having a compensation program that allows the Company to successfully attract and retain executive officers permits it to enhance shareholder value, motivate technological innovation and foster teamwork. The vehicles used are:

#### CASH-BASED COMPENSATION

**SALARY**--The Company sets base salaries for executive officers by reviewing the aggregate of base salary and bonus for individuals in competitive positions in the market and adjusting such aggregate to reflect individual performance.

**ANNUAL CASH BONUS**--Executive officers and the Chief Executive Officer are eligible to receive an annual cash bonus upon the attainment of predetermined corporate objectives. The Committee approves these objectives at the beginning of the year, and progress against them is reviewed at year-end to determine the appropriate bonus payment. At full achievement of objectives, the Chief Executive Officer is targeted to receive a bonus of 25% of his annual base salary and the other executive officers to receive 15% of their respective annual bases salaries. The amount actually paid in any one year may be more or less than the targeted bonus based on over or under achievement of objectives.

## EQUITY-BASED COMPENSATION

**STOCK OPTION PROGRAM**--The purpose of the Company's stock option program is to provide additional incentives to executive officers to maximize shareholder value. The Company believes strongly in the use of stock options because they align employee interests directly with shareholder value. The option program also utilizes vesting periods to encourage executive officers to remain with the Company and to encourage long-term increases in Company stock value. The Company grants stock options to all employees upon hiring and anticipates that it may use stock options as a bonus vehicle in the future. A program of cash awards for excellence in performance and attainment of goals is currently in place.

Although provided for under the Company incentive plans, the Company presently does not use stock appreciation rights as a compensation vehicle.

## EMPLOYEE EQUITY INCENTIVE REPRICING PLAN

Due to the decline in the share price of the Company's common stock through mid-1998, on July 10, 1998, the Compensation Committee and the Board of Directors approved the Employee Equity Incentive Repricing Plan (the "Repricing Plan"). Because the average strike price of then existing stock options granted to employees was \$8.00 per share, the Committee and Board determined that it was in the best interests of the Company to approve such repricing plan in order to reinvigorate and provide appropriate incentives to the employees of the Company. The Repricing Plan provided each full-time employee as of August 3, 1998, including members of senior management, the option, on a case-by-case basis, to cancel his or her existing stock option(s) in exchange for the regrant of a new stock option pursuant to the Company's 1992 Equity Incentive Plan (the "1992 Plan") based on a ratio of .75 to 1, with a strike price equal to the closing bid price for the shares of the Company's common stock as quoted by the Nasdaq Stock Market as of the close of the market on July 10, 1998, the date of approval of the Repricing Plan. The Repricing Plan also provided that all such regranted stock options shall be subject to the same vesting schedule as the stock option cancelled with the attendant pro-rata reduction in the number of shares subject to the pre-existing vesting schedule. However, all such regranted stock options were subject to a six (6) month blackout period during which time no vested options may be exercised. The reissued stock options are intended to the extent permitted by the Plan to qualify as incentive stock options as defined in Section 422A of the Internal Revenue Code (the "Code") and to be a tax-free exchange. All such regranted options are subject to the other terms and conditions set forth in the 1992 Plan, except as specifically modified by the Repricing Plan. The Committee and the Board determined that in the spirit and intent of the Repricing Plan, it was appropriate and also in the best interests of the Company to include the senior management of the Company in the class of employees eligible to participate in the Repricing Plan. There have been no prior repricings or exchanges of options for executive officers of the Company during the last 10 completed fiscal years.

10-YEAR OPTION REPRICINGS

NAME(A)	DATE(B)	NUMBER OF SECURITIES UNDERLYING OPTIONS REPRICED OR AMENDED(#)(C)	MARKET PRICE OF STOCK AT TIME OF REPRICING OR AMENDMENT(\$)(D)	EXERCISE PRICE AT TIME OF REPRICING OR AMENDMENT(\$)(E)	NEW EXERCISE PRICE(\$)(F)
Richard M. Rose, M.D.	7/10/98	150,000	\$ 1.281	5.125	\$ 1.281
Moses Goddard, M.D.	7/10/98	30,000	\$ 1.281	9.875	\$ 1.281
	7/10/98	7,500	\$ 1.281	4.375	\$ 1.281
	7/10/98	3,750	\$ 1.281	12.250	\$ 1.281
	7/10/98	5,625	\$ 1.281	9.125	\$ 1.281
	7/10/98	7,500	\$ 1.281	5.125	\$ 1.281
	7/10/98	11,250	\$ 1.281	2.813	\$ 1.281
John McBride	7/10/98	97,500	\$ 1.281	5.625	\$ 1.281
	7/10/98	11,250	\$ 1.281	5.125	\$ 1.281

NAME(A)	LENGTH OF ORIGINAL OPTION TERM REMAINING AT DATE OF REPRICING OR AMENDMENT(G)
Richard M. Rose, M.D.	9 years, 2 months
Moses Goddard, M.D.	5 years, 8 months
	6 years, 6 months
	7 years, 5 months
	8 years, 5 months
	9 years, 5 months
	9 years, 10 months
	8 years, 10 months
John McBride	8 years, 4 months

EVALUATION OF 1998 PERFORMANCE OF EXECUTIVE OFFICERS

The Committee compares the base salaries of executive officers against the current competitive pay practices of comparable biotechnology companies by reviewing data in the Radford Biotechnology Compensation and Benefits Survey (and other biotechnology survey data, both formal and informal, as it becomes available). Through these means, the Committee determined that though salaries in the industry were generally rising, and despite the achievement of several significant goals, it would not provide for any raises for executive officers in 1998 because of the poor performance of the Company, including the poor performance of the Company's stock price.

The Committee has determined that several executive officers achieved a number of goals important to the Company including the continuing advance in the Company's clinical trial program, the re-negotiation of the Company's agreement with Astra Pain AB resulting in an increased level of funding for the Company's efforts in regard of the pain clinical trials, the reorganization and rationalization of the Company's operations and the reduction of the Company's burn rate. However, notwithstanding these achievements, the Committee felt that the overall performance of the Company, particularly the poor performance of the Company's stock price, made the award of discretionary bonuses to executive officers inappropriate at this time.

COMPENSATION OF CHIEF EXECUTIVE OFFICER

In determining the proper base salary for Dr. Rose, who has served as CEO since September 1997, the Committee took into account that his \$275,000 annual salary ranked in approximately the 60(th) percentile of the industry average of salaries for CEOs in similar size biotechnology companies. The Committee determined that this salary was appropriate given his tenure at the Company and taking into account the option package and other components of Dr. Rose's total compensation package. The Committee decided not to award a bonus to Dr. Rose at this time because of the Company's poor stock performance and the lack of discretionary bonuses to any other executive officer.

COMPENSATION AND STOCK OPTION COMMITTEE  
 Mark J. Levin  
 Richard J. Ramsden  
 John J. Schwartz

PERFORMANCE GRAPH

NOTE: THE STOCK PRICE PERFORMANCE SHOWN ON THE GRAPH BELOW IS NOT NECESSARILY INDICATIVE OF FUTURE STOCK PRICE PERFORMANCE.

COMPARISON OF CUMULATIVE TOTAL RETURNS ON COMMON STOCK OF CYTOTHERAPEUTICS, INC., THE AMEX BIOTECHNOLOGY STOCK INDEX AND S&P 500 INDEX FOR THE PERIOD FROM THE COMPANY'S INITIAL PUBLIC OFFERING UNTIL DECEMBER 31, 1998

The graph below compares the cumulative total returns on the Company's Common Stock with the cumulative total returns of the Amex Biotechnology Stock Index and the S&P 500 Index for the period from the Company's initial public offering until December 31, 1998. (1)

EDGAR REPRESENTATION OF DATA POINTS USED IN PRINTED GRAPHIC

	AMEX	BIOTECHNOLOGY STOCK INDEX	S&P 500 INDEX
Dec '93	\$100.00	\$100.00	\$100.00
Dec '94	\$36.73	\$70.88	\$98.46
Dec '95	\$139.80	\$116.87	\$132.05
Dec '96	\$73.47	\$124.86	\$158.80
Dec '97	\$32.65	\$140.28	\$208.05
Dec '98	\$11.99	\$159.90	\$263.53

(1) Based on the closing price of CytoTherapeutics' Common Stock on the first day of trading on the NASDAQ National Market System. Cumulative total returns assume reinvestment of all dividends and a hypothetical investment of \$100 on March 26, 1992.

	MAR '92	DEC '92	DEC '93	DEC '94	DEC '95	DEC '96	DEC '97	DEC '98
COMPANY	100.00	79.49	125.64	46.15	175.64	92.31	41.03	11.99
S&P 500 INDEX	100.00	110.41	121.53	119.88	160.48	192.99	252.84	263.53
AMEX BIOTECH STOCK INDEX	100.00	94.41	64.07	45.41	74.88	80.00	89.88	159.90



## COMPENSATION COMMITTEE INTERLOCKS AND INSIDER PARTICIPATION

The following non-employee directors served on the Compensation and Stock Option Committee in 1998: Messrs. Levin and Ramsden, and, commencing on December 19, 1998, Dr. Schwartz. In 1989, 1990 and 1991 Mr. Levin was an executive officer of the Company.

The Company has entered into several consulting agreements with Levin & Associates, a company in which Mr. Levin's wife is a principal, for recruiting services rendered to the Company. During the fiscal year ended December 31, 1998, the Company made payments of approximately \$125,000 under such agreements. The Company believes the terms of these agreements are no less favorable to the Company than could have been obtained from unaffiliated third parties.

The Company entered in a Consulting Services Agreement with John J. 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 the Company (SEE "CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS" HEREIN). Dr. Schwartz was elected to the Board of Directors on December 19, 1998 and became a member of the Compensation Committee on that date. During the fiscal year ended December 31, 1998, the Company made payments of approximately \$75,000 under such Agreement. The Company believes the terms of these agreement are no less favorable to the Company than could have been obtained from unaffiliated third parties.

## CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Dr. Schwartz, a member and Chairman of the Board of Directors, was retained in July 1998 to serve as a consultant to the Company rendering strategic business advice and counseling services, including assistance in the negotiation and consummation of strategic collaboration transactions specified by the Company. Pursuant to his Consulting Agreement, Dr. Schwartz receives \$5,000 per month for his services (totaling \$25,000 for 1998) and has been granted an option to purchase 76,000 shares of the Company's Common Stock at \$1.281 per share, the fair market value of the Company's Common Stock at the time the option was granted. The Agreement also provides for Dr. Schwartz to receive a grant of a second option to purchase 48,000 shares of Common Stock at the then current fair market value of the Company's Common Stock on July 27, 1999. The initial option grant shall vest at a rate of 3,167 shares per month for the ensuing 23 months after the date of the grant, with a final vesting of 3,159 shares in the 24(th) month. The second grant, when granted, shall vest at a rate of 2,000 shares per month. In addition, to compensate Dr. Schwartz for services rendered to the Company during the period of September 1997 through July 1998, the Agreement provided for the payment to Dr. Schwartz of \$50,000 and the grant of a fully-vested option to purchase 20,000 shares of the Company's Common Stock at \$1.281, the fair market value of the Company's Common Stock at the time of the grant. In the event Dr. Schwartz materially participates in the negotiation and consummation of a strategic collaboration transaction specified by the Company, he may be entitled to receive additional compensation equal to three percent of the transaction consideration (as defined) when it is actually received by the Company, such additional compensation payable half in cash and half in the form of an option or warrant to purchase shares of the Company's Common Stock at \$0.20 per share, the number of shares being calculated based on the fair market value of the Company's Common Stock ten days prior to the first public announcement of the consummation of, the execution of a letter of intent for or the existence of discussions concerning the collaboration transaction. The payment of this additional compensation may be accelerated in the event there is a change of control (as defined in the agreement) of the Company. Effective as of December 19, 1998, Dr. Schwartz was compensated as a

director and Chairman of the Board of Directors in accordance with the terms of an Agreement entered into on such date (SEE "EMPLOYMENT AND SEVERANCE AGREEMENTS" ABOVE).

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

Dr. Aebischer, a founding scientist of the Company, serves as a member of the Board of Directors and is party to a Research and Commercialization Agreement providing for sponsorship by the Company of research by Dr. Aebischer in return for certain rights in the results thereunder. The Company has granted Dr. Aebischer stock options covering an aggregate of 80,000 shares at an average weighted exercise price of \$4.63 per share in addition to a restricted stock grant covering 5,000 shares. Dr. Aebischer receives no compensation as a member of the Board of Directors or for attending meetings of the Board or its committees or meeting of the Company's Scientific Advisory Board.

During 1996, Dr. Aebischer was one of four scientific founders of Modex Therapeutiques SA ("Modex"). Dr. Aebischer was paid 18,260 SF (approximately \$14,580) by the Company for his services in connection with the formation of Modex. Dr. Aebischer, the three other scientific founders, the Company and a Swiss investment bank formed Modex by investing a total of SFr 140,000 (approximately \$177,000) to acquire 14,000 shares of Modex Common Stock at SFr 10 (approximately \$8.33) per share. Of such 14,000 shares, the Company acquired 6,500 shares, the Swiss bank 500 shares and the scientific founders 7,000 shares, of which Dr. Aebischer acquired 1,826 shares. After giving effect to certain additional investments by the Company and the Swiss bank shortly after founding, the Company owned 10,000 shares (or 50%) of Modex Common Stock, the founding scientists 7,000 shares (or 35%) (of which Dr. Aebischer owned 1,852 shares or 9.26%) and the Swiss bank 3,000 shares (or 15%).

As a condition to making such additional investments in Modex, the Company entered into an Option Agreement with Dr. Aebischer and the other three scientific founders, providing the Company and each scientific founder with the right to exchange any or all of each scientific founder's shares in Modex at any time for shares of the Company's Common Stock at a conversion ratio of 13.145 shares of the Company's Common Stock for each share of Modex Common Stock (subject to the normal adjustments for stock splits, stock dividends, and the like). On conversion of all of his 1,826 shares of Modex Common Stock, Dr. Aebischer would have received 24,002 shares of the Company's Common Stock. In addition, under the Option Agreement, the Company had the right to acquire from Dr. Aebischer and the other founding scientists 1,522 shares of the Common Stock of Modex initially acquired by them at the time Modex was founded at SFr 10 per share, if at any time prior to July 1998, any such scientific founder (including Dr. Aebischer) was terminated as a consultant for Modex for cause or resigned as such a consultant without good reason.

Under the terms of the Company's Cross License Agreement with Modex as originally entered into in 1996, Modex had the right to receive up to 300,000 shares of the Company's Common Stock (the "Milestone Shares") on the achievement of certain scientific milestones. Modex expected to use such Milestone Shares to provide incentive compensation to its key employees and consultants. Under the terms of his consulting agreement with Modex, Dr. Aebischer received cash compensation at the rate of Sfr 12,000 (approximately \$8200) per year for 1996 (amounting to an aggregate of Sfr 3000 during 1996) and had the right to receive from Modex up to 54,780 shares of such Milestone Shares upon the achievement of the specified scientific milestones.

In October 1997, the Company completed a series of transactions which reduced its ownership interest in Modex from 50% to approximately 25% in exchange for \$4 million cash from an investor group and elimination by Modex of the Company's prior contingent obligation to contribute an additional Sfr 2,400,000 (approximately \$1,600,000) to Modex in July 1998. In the transactions, the Option Agreement between the Company and Dr. Aebischer was canceled, along with all other put and call arrangements between the Company and the other stockholders of Modex, and the Company forgave approximately \$500,000 in intercompany receivables due from Modex to the Company. The Company and Modex also modified the terms of their existing Cross License Agreement to (i) expand the field in which Modex is exclusively licensed to apply the Company's proprietary encapsulated cell technology to include, in addition to the original field of diabetes, obesity, and anemia, (x) the treatment of hemophilia A and B utilizing Factor VIII and/or Factor IX and (y) two additional applications to be agreed to by the Company and Modex; (ii) eliminate Modex's right to receive any Milestone Shares; (iii) limit the scope of the Company's technology licensed to Modex to existing and future encapsulation technology and certain additional existing technology; and (iv) specify the terms under which the Company will manufacture any products Modex may develop based on the Company's technology and grant Modex an option to manufacture or have manufactured such products on payment of a higher royalty. The Cross License Agreement continues to provide for the payment of royalties from Modex to the Company on the sale of any licensed products. The revised agreement similarly limits the scope of the Modex technology exclusively licensed, on a royalty-bearing basis, to the Company for application to diseases, conditions and disorders of the central nervous system to existing and future encapsulation technology and certain additional existing technology. In addition to their purchase of Modex Common Stock from the Company, the venture capital investors participating in the transaction invested \$1.6 million directly in Modex. In connection with the transaction, Dr. Aebischer and the other scientific founders transferred 2,000 shares of their Modex stock to the Company (of which Dr. Aebischer transferred 522 shares) for nominal consideration (Sfr 10 per share) and waived their right to receive any Milestone Shares under their consulting agreements with Modex.

Dr. Aebischer is the principal investigator under the Research and Commercialization Agreement between the Company and CHUV (the "CTI-CHUV Agreement") and Modex and CHUV (the "Modex-CHUV Agreement"). The Company provided research funding under the CTI-CHUV Agreement during 1998 in the total amount of \$320,000.

OTHER INFORMATION

ACCOUNTING MATTERS

The Board of Directors has selected the independent accounting firm of Ernst & Young LLP to audit the accounts of the Company for the year ending December 31, 1999.

A representative of Ernst & Young LLP who audited the accounts of the Company for the year ended December 31, 1998 is expected to be present at the Annual Meeting of Stockholders and will be afforded the opportunity to make a statement if he or she desires to do so and is expected to be available to reply to appropriate stockholder inquiries.

STOCKHOLDER PROPOSALS

Proposals of Stockholders submitted for consideration at the next Annual Meeting of Stockholders must be received by the Company (attention: Secretary) no later than December 7, 1999.

FORM 10-K

THE COMPANY'S ANNUAL REPORT ON FORM 10-K FOR THE FISCAL YEAR ENDED DECEMBER 31, 1998 (WITHOUT EXHIBITS), AS FILED WITH THE SECURITIES AND EXCHANGE COMMISSION, IS AVAILABLE WITHOUT CHARGE UPON REQUEST BY WRITING TO THE COMPANY AT 701 GEORGE WASHINGTON HIGHWAY, LINCOLN, RHODE ISLAND 02865, ATTN: INVESTOR RELATIONS.

SECTION 16(A) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Exchange Act requires the Company's officers and directors, and persons who own more than ten percent of a registered class of the Company's Common Stock, to file reports of ownership and changes in ownership on Forms 3, 4 and 5 with the Securities and Exchange Commission ("SEC"). Officers, directors and greater than ten percent stockholders are required by SEC regulations to furnish to the Company copies of all Forms 3, 4 and 5 they file. Based solely on the Company's review of copies of such forms it has received, the Company believes that all of its officers, directors and greater than ten percent beneficial owners complied on a timely basis with all filing requirements applicable to them.

OTHER BUSINESS

The Board of Directors knows of no business that will come before the meeting for action except as described in the accompanying Notice of Meeting. However, as to any such business, the persons designated as proxies will have discretionary authority to act in their best judgment.

By Order of the Board of Directors

Philip K. Yachmetz  
SECRETARY

April 7, 1999

DETACH HERE

PROXY

CYTOTHERAPEUTICS, INC.

ANNUAL MEETING OF STOCKHOLDERS, MAY 11, 1999

THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS

The undersigned stockholder, by completing this card, hereby appoints Richard M. Rose, M.D. and Philip K. Yachmetz, or either of them with power of substitution to each, proxies of the undersigned to vote at the Annual Meeting of Stockholders of CytoTherapeutics, Inc. to be held on May 11, 1999 at the offices of CytoTherapeutics, Inc., 701 George Washington Highway, Lincoln, Rhode Island at 1:00 p.m., local time, or at any adjournments thereof, all of the shares of Common Stock, par value \$.01 per share, of CytoTherapeutics, Inc. that the undersigned would be entitled to vote if personally presented. The undersigned instructs such proxies or their substitutes to act on the following matter as specified by the undersigned, and to vote in such manner as they may determine on any other matter that may properly come before the meeting.

- - - - - /SEE REVERSE/ /SEE REVERSE/  
/ SIDE / CONTINUED AND TO BE SIGNED ON REVERSE SIDE / SIDE /  
- - - - -

-----  
/VOTE BY TELEPHONE/  
-----

It's fast, convenient, and immediate!  
Call toll-free on a touch tone phone  
1-877-PRX-VOTE (1-877-779-9583)

-----  
Follow these four easy steps:

1. Read the accompanying Proxy Statement and Proxy Card.
2. Call the toll-free number 1-877-PRX-VOTE (1-877-779-8683). For shareholders residing outside the United States, call collect on a touch-tone phone 1-201-536-8073.
3. Enter your 14-digit Voter Control Number located on your Proxy Card above your name.
4. Follow the recorded instructions.

-----  
YOUR VOTE IS IMPORTANT!  
Call 1-677-PRX-VOTE anytime!

DO NOT RETURN YOUR PROXY CARD IF YOU ARE VOTING BY TELEPHONE OR INTERNET

DETACH HERE

----- PLEASE MARK  
/ X / VOTES AS IN  
----- THIS EXAMPLE.

This proxy when properly executed will be voted in the manner specified by the undersigned stockholder(s). If no contrary direction is made, this proxy will be voted FOR the election of the nominees for director named below, FOR the ratification of the selection of public accountants, and in the discretion of the named proxies as to any other matter that may come before the meeting.

1. To elect the following nominees as Class II directors.  
Nominees: (01) Richard M. Rose, M.D. and (02) Moses Goddard, M.D.

FOR	/	/	-----	/	/	-----
ALL	-----			-----		FROM ALL
NOMINEES						NOMINEES

-----  
/ /  
-----  
For all nominees except as noted above

-----  
/VOTE BY INTERNET/  
-----

It's fast, convenient, and your vote is immediately confirmed and posted.

-----  
Follow these four easy steps:

1. Read the accompanying Proxy Statement and Proxy Card.
2. Go to the Website <http://www.eproxyvote.com/ctii>.
3. Enter your 14-digit Voter Control Number located on your Proxy Card above your name.
4. Follow the instructions provided.

-----  
YOUR VOTE IS IMPORTANT!  
Go to <http://www.eproxyvote.com/ctii> anytime!

2. To ratify the selection of Ernst & Young as independent public accountants of CytoTherapeutics Inc. for fiscal year ending December 31, 1999:

FOR	AGAINST	ABSTAIN
--	--	--
/ /	/ /	/ /
--	--	--

3. By my signature below, I confer to the named proxies discretionary authority to vote upon such other business as may properly come before the meeting or any continuations and adjournments thereof.

THE BOARD OF DIRECTORS OF CYTOTHERAPEUTICS, INC. RECOMMENDS A VOTE FOR THE NOMINEES FOR DIRECTOR LISTED TO THE LEFT AND A VOTE FOR RATIFICATION OF THE SELECTION OF INDEPENDENT PUBLIC ACCOUNTANTS.

-----  
MARK HERE FOR ADDRESS CHANGE AND NOTE AT LEFT / /  
-----

Note: Please sign exactly as name appears on this card. As joint owners should sign. When signing as an executor, administrator, attorney, or guardian of a minor, please give full title as such. If a corporation, please sign in full corporate name and indicate the signer's title. If a partner, sign in partnership name.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_