

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-Q

QUARTERLY REPORT UNDER SECTION 13 OR 15(D) OF
THE SECURITIES EXCHANGE ACT OF 1934

FOR THE QUARTER ENDED:

0-19871

JUNE 30, 1999

COMMISSION FILE NUMBER

CYTOTHERAPEUTICS, INC.

(Exact name of registrant as specified in its charter)

DELAWARE

94-3078125

(State or other jurisdiction of
incorporation or organization)

(I.R.S. Employer
identification No)

701 GEORGE WASHINGTON HIGHWAY
LINCOLN, RI 02865

(Address of principal executive offices including zip code)

(401) 288-1000

(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding twelve months (or for such shorter periods that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days. Yes No

At July 31, 1999, there were 18,531,758 shares of Common Stock, \$.01 par value, issued and outstanding. There were no issued and outstanding shares of Preferred Stock.

CYTOTHERAPEUTICS, INC.

INDEX

PART I. FINANCIAL INFORMATION	PAGE NUMBER
Item 1. Financial Statements	
Condensed Consolidated Balance Sheets (unaudited) June 30, 1999 and December 31, 1998	3
Condensed Consolidated Statements of Operations (unaudited) Three and six months ended June 30, 1999 and 1998	4
Condensed Consolidated Statements of Cash Flows (unaudited) Six months ended June 30, 1999 and 1998	5
Notes to Condensed Consolidated Financial Statements (unaudited)	6-7
Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations	8-15
PART II. OTHER INFORMATION	
Item 1. Legal Proceedings	16
Item 6. Exhibits and Reports on Form 8-K	16
SIGNATURES	17

PART I - ITEM 1 - FINANCIAL STATEMENTS

CYTOTHERAPEUTICS, INC.

CONDENSED CONSOLIDATED BALANCE SHEETS

	June 30, 1999 (unaudited)	December 31, 1998 (footnote 1)
	-----	-----
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 4,752,168	\$ 7,864,788
Marketable securities	7,036,116	9,520,939
Receivables from collaborative agreement	224,210	206,609
Other current assets	500,153	841,674
	-----	-----
Total current assets	12,512,647	18,434,010
Property, plant and equipment, net	7,588,565	8,356,009
Other assets	6,070,157	6,075,663
	-----	-----
Total assets	\$ 26,171,369	\$ 32,865,682
	=====	=====
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable and accrued expenses	\$ 1,800,251	\$ 1,730,741
Deferred revenue	0	2,500,000
Current maturities of capitalized lease obligations	317,083	317,083
Current maturities of long term debt	750,000	1,000,000
	-----	-----
Total current liabilities	2,867,334	5,547,824
Capitalized lease obligations, less current maturities	3,130,417	3,261,667
Long term debt, less current maturities	0	500,000
Deferred rent	334,009	222,673
Redeemable stock	5,248,610	5,248,610
Common stock to be issued	187,500	187,500
Stockholders' equity		
Common stock	179,800	178,003
Additional paid in capital	123,036,354	122,861,606
Deferred compensation	(1,363,545)	(1,472,919)
Accumulated deficit	(107,436,798)	(103,664,084)
Unrealized loss on marketable securities	(12,312)	(5,198)
	-----	-----
Accumulated other comprehensive loss	(107,449,110)	(103,669,282)
	-----	-----
Total stockholders' equity	14,403,499	17,897,408
	-----	-----
Total liabilities and stockholders' equity	\$ 26,171,369	\$ 32,865,682
	=====	=====

See accompanying notes to condensed consolidated financial statements.

PART I - ITEM 1 - FINANCIAL STATEMENTS

CYTOTHERAPEUTICS, INC.

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS

(unaudited)	Three Months Ended June 30,		Six Months Ended June 30,	
	1999	1998	1999	1998
	-----	-----	-----	-----
Revenue from collaborative arrangements	\$ 2,520,672	\$ 1,906,588	\$ 5,021,707	\$ 3,749,563
Operating expenses:				
Research and development	3,280,826	4,917,357	6,847,383	9,417,019
General and administrative	1,172,856	1,264,249	2,168,315	2,411,255
	-----	-----	-----	-----
	4,453,682	6,181,606	9,015,698	11,828,274
	-----	-----	-----	-----
Loss from operations	(1,933,010)	(4,275,018)	(3,993,991)	(8,078,711)
Other income (expense):				
Investment income	184,220	351,522	406,331	745,496
Interest expense	(91,229)	(124,877)	(185,054)	(233,695)
	-----	-----	-----	-----
	92,991	226,645	221,277	511,801
	-----	-----	-----	-----
Net loss	(\$ 1,840,019)	(\$ 4,048,373)	(\$ 3,772,714)	(\$ 7,566,910)
	=====	=====	=====	=====
Basic and diluted net loss per share	(\$0.10)	(\$0.22)	(\$0.20)	(\$0.42)
	=====	=====	=====	=====
Shares used in computing basic and diluted net loss per share	18,514,236	18,199,870	18,483,437	18,192,212
	=====	=====	=====	=====

See accompanying notes to condensed consolidated financial statements.

CYTOTHERAPEUTICS, INC.

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

(unaudited)	Six Months Ended June 30,	
	1999	1998
Cash flows from operating activities:		
Net loss	\$ (3,772,714)	\$ (7,566,910)
Adjustments to reconcile net loss to net cash used for operating activities:		
Depreciation and amortization	1,163,295	1,039,208
Compensation expense relating to the grant of stock options	189,650	117,758
Changes in operating assets and liabilities	(2,075,873)	1,377,593
Net cash used in operating activities	(4,495,642)	(5,032,351)
Cash flows from investing activities:		
Proceeds from sale of marketable securities	6,891,026	13,634,045
Purchases of marketable securities	(4,397,676)	(10,952,827)
Purchase of property, plant and equipment	(131,113)	(1,226,809)
Acquisition of other assets	(274,510)	(576,588)
Net cash provided by investing activities	2,087,727	877,821
Cash flows from financing activities:		
Proceeds from the exercise of stock options	176,545	282,445
Proceeds from financing transactions		1,259,300
Principal payments under capitalized lease obligations and mortgage payable	(881,250)	(464,327)
Net cash (used in) provided by financing activities	(704,705)	1,077,418
Decrease in cash and cash equivalents	(3,112,620)	(3,077,112)
Cash and cash equivalents, January 1	7,864,788	15,941,701
Cash and cash equivalents, June 30	\$ 4,752,168	\$ 12,864,589

See accompanying notes to condensed consolidated financial statements.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

JUNE 30, 1999 AND 1998

NOTE 1. BASIS OF PRESENTATION

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 and six months ended June 30, 1999 are not necessarily indicative of the results that may be expected for the entire fiscal year ending December 31, 1999.

The balance sheet at December 31, 1998 has been derived from the audited financial statements at that date but does not include all of the information and footnotes required by generally accepted accounting principles for complete financial statements.

For further information, refer to the audited financial statements and footnotes thereto as of December 31, 1998 included in the Company's Annual Report to Stockholders and the Annual Report on Form 10-K filed with the Securities and Exchange Commission.

NOTE 2. NET LOSS PER SHARE

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

NOTE 3. ADOPTION OF NEW ACCOUNTING PRONOUNCEMENT

As of January 1, 1998, the Company adopted Statement 130, REPORTING COMPREHENSIVE INCOME. Statement 130 establishes new rules for reporting and display of comprehensive income and its components; however, the adoption of this Statement had no impact on the Company's net income or shareholders' equity. Statement 130 requires unrealized gains or losses on the Company's available-for-sale securities, which prior to adoption were reported separately in shareholders' equity to be included in other comprehensive income.

For the three months end June 30, 1999 and 1998, total comprehensive loss amounted to \$1,840,000 and \$4,048,000, respectively. For the first six months of 1999 and 1998, total comprehensive loss amounted to \$3,780,000 and \$7,561,000, respectively.

NOTE 4. REDEEMABLE STOCK

See Management's Discussion and Analysis of Financial Condition and Results of Operations regarding the Genentech Inc. resolution and the impact on the Company's liquidity and capital resources.

NOTE 5. SUBSEQUENT EVENTS

In July 1999, the Company announced plans for the restructuring of its cell therapy program and to focus its resources on the research and development of its proprietary stem cell technology platform. The Company terminated approximately 60 full time employees and has incurred approximately \$1,350,000 in separation costs. These expenses have been recognized in the third quarter of 1999.

In July 1999, the Rhode Island Partnership for Science and Technology ("RIPSAT") alleged that the Company is in default under a funding agreement entered into with RIPSAT in 1989, and demanded payment of approximately \$2.6 million. The Company believes that the Company is not in default under this agreement and expects to contest any attempt by RIPSAT to realize on its demand.

On August 5, 1999, the Company made a payment of approximately \$752,000, representing principal and interest, to the Lender to retire the Credit Facility. (See Liquidity and Capital Resources) The Company decided to retire the Credit Facility instead of seeking further reduction in the Facility's unrestricted liquidity requirement. In exchange for the retirement of the Credit Facility, the Lender granted the Company a waiver of an unrestricted liquidity loan covenant violation.

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

The following discussion of the financial condition and results of operations of the Company for the three and six months ended June 30, 1999 and 1998 should be read in conjunction with the accompanying unaudited condensed consolidated financial statements and the related footnotes thereto.

The statements contained in this report, other than statements of historical fact, constitute forward-looking statements. Such statements include, without limitation, all statements as to expectation or belief and statements as to the Company's future results of operations, the progress of the Company's product development and clinical programs, the need for, and timing of, additional capital and capital expenditures, partnering prospects, the need for additional intellectual property rights, effects of regulations, the need for additional facilities and potential market opportunities. The Company's actual results may vary materially from those contained in such forward-looking statements because of risks to which the Company is subject, such as failure to obtain a corporate partner or partners to support the Company's stem cell programs, negotiations with Genentech, Inc. and RIPSAT, risks of delays in research, development and clinical testing programs, obsolescence of the Company's technology, lack of available funding, competition from third parties, intellectual property rights of third parties, failure of the Company's collaborators to perform, regulatory constraints, litigation and other risks to which the Company is subject. See "Cautionary Factors Relevant to Forward-Looking-Information" filed herewith as Exhibit 99 and incorporated herein by reference.

OVERVIEW

Since its inception in August 1988, the Company has been primarily engaged in research and development of human therapeutic products. No revenues have been derived from the sale of any products, and the Company does not expect to receive revenues from product sales for at least several years. The Company has not commercialized any product and in order for the Company to commercialize any product the Company must, among other things, substantially increase its research and development expenditures as research and product development efforts accelerate and clinical trials are initiated or broadened. The Company has incurred annual operating losses since inception and expects to incur substantial operating losses in the future. 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 can be no assurance that such financing or partnering revenues will be available when needed or on terms acceptable to the Company. The Company's results of operations have varied significantly from year to year and quarter to quarter and may vary significantly in the future due to the occurrence of material, nonrecurring events, including without limitation, the receipt of one-time, nonrecurring licensing payments and the initiation or termination of research collaborations.

RESULTS OF OPERATIONS

THREE MONTHS ENDED JUNE 30, 1999 AND 1998

For the quarters ended June 30, 1999 and 1998, revenues from collaborative agreements totaled \$2,521,000 and \$1,907,000, respectively. The increase in revenues of \$614,000, or 32%, results from increased funding for the quarter from a Development, Marketing and License Agreement with AstraZeneca Group plc, which was signed in March 1995 (the "Astra Agreement"). However, AstraZeneca terminated this Agreement in June 1999, and the Company does not expect to realize any further revenues under the Astra Agreement.

Research and development expenses totaled \$3,281,000 for the three months ended June 30, 1999, compared with \$4,917,000 for the same period in 1998. The decrease of \$1,636,000, or 33%, from 1998 to 1999 was primarily attributable to a reduction in spending on research agreements and a reduction in research and development personnel expenses.

General and administrative expenses were \$1,173,000 for the three months ended June 30, 1999, compared with \$1,264,000 for the same period in 1998.

Interest income for the three months ended June 30, 1999 and 1998 was \$184,000 and \$352,000, respectively. The decrease in interest income in 1999 was attributable to the lower average investment balances during such period, \$13,318,000 vs. \$23,669,000 in the second quarter of 1999 and 1998, respectively.

Interest expense was \$91,000 for the three months ended June 30, 1999, compared with \$125,000 for the same period in 1998. The

decrease from 1999 to 1998 was attributable to lower outstanding debt and capital lease balances in 1999 compared to 1998.

Net loss for the three months ended June 30, 1999 was \$1,840,000, or \$0.10 per share, as compared to net loss of \$4,048,000, or \$0.22 per share, for the comparable period in 1998. The decrease in net loss of \$2,208,000, or 55%, from 1998 to 1999 is primarily attributable to a reduction in research and development spending and a 32% increase in research funding from AstraZeneca. However, as a result of termination of the Astra Agreement, the Company expects to incur substantial wind-down costs in the 2nd half of 1999 and that results for the first six months will not be indicative of results for the balance of the year.

RESULTS OF OPERATIONS

SIX MONTHS ENDED JUNE 30, 1999 AND 1998

For the six months ended June 30, 1999 and 1998, revenues from collaborative agreements totaled \$5,022,000 and \$3,750,000. The increase in revenues of \$1,272,000, or 34%, increase in funding is primarily due to an increase in revenues from the Astra Agreement, which, as noted above, was terminated in June 1999.

Research and development expenses totaled \$6,847,000 for the six months ended June 30, 1999, compared with \$9,417,000 for the same period in 1998. The decrease of \$2,570,000, or 27%, from 1998 to 1999 was primarily attributable to a reduction in spending on research agreements and a reduction in research and development personnel expenses.

General and administrative expenses were \$2,168,000 for the six months ended June 30, 1999, compared with \$2,411,000 for the same period in 1998. The decrease of \$243,000 or 10%, from 1998 to 1999 was primarily attributable to a reduction in patent expenses, as well as a reduction in employee recruiting expenses.

Interest income for the six months ended June 30, 1999 and 1998 was \$406,000 and \$745,000, respectively. The decrease in interest income in 1999 was attributable to the lower average investment balance during such period. The average investment balances were \$14,511,000 and \$25,329,000 for the first six months of 1999 and 1998, respectively.

Interest expense was \$185,000 for the six months ended June 30, 1999, compared with \$234,000 for the same period in 1998.

Net loss for the six months ended June 30, 1999 was \$3,773,000, or \$0.20 per share, as compared to a net loss of \$7,567,000, or \$0.42 per share, for the comparable period in 1998. However, as noted above, the Company expects to incur substantial wind-down costs in the 2nd half of 1999 and that results for the first six months will not be indicative of results for the balance of the year.

LIQUIDITY AND CAPITAL RESOURCES

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

The Company had unrestricted cash, cash equivalents and marketable securities totaling \$11,788,000 at June 30, 1999. Cash equivalents and marketable securities are invested in agencies of the U.S. government, investment grade corporate bonds and money market funds.

The Company's liquidity and capital resources have been and will continue to be significantly affected by the Company's relationship with corporate partners.

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 further develop the bovine cell-containing implant therapy and executed its right to terminate the agreement.

Based on this decision the Company reduced its Rhode Island workforce by approximately 60 full-time employees who had been focused on the development of its encapsulated cell technology program for the encapsulated cell implant for the treatment of chronic pain in cancer patients, in order to focus its efforts on further development of its propriety stem cell platform.

In June, the Rhode Island Partnership for Science and Technology ("RIPSAT") alleged that the Company is in default under a funding agreement entered into with RIPSAT in 1989, and demanded payment of approximately \$2.6 million. The Company believes that the Company is not in default under this agreement and expects to contest any attempt by RIPSAT to realize on its demand.

The Company's liquidity and capital resources have also been affected by the termination of the Company's collaborative development and licensing agreement with Genentech, Inc. relating to the development of products for the treatment of Parkinson's disease. On May 21, 1998, Genentech exercised its right to terminate the Parkinson's collaboration and requested that the Company redeem, at a price of \$10.01 per share, shares of the Company's Common Stock held by Genentech. The Company has negotiated with Genentech regarding the amount of such redemption (which the Company currently expects may be approximately \$3.1 million) and the manner of payment for such redemption. Any such redemption will have a material adverse effect on the Company's liquidity and capital resources.

In May 1996, the Company secured an equipment loan facility with a bank (the "Lender") in the amount of \$2,000,000 (the "Credit Facility"). The Company had borrowed \$2,000,000 under this agreement as of June 30, 1999. The loan required interest payments only for the first two years; principal payments were payable over a two-year period which began in August 1998. The loan was secured by equipment purchased with the proceeds of the Credit Facility. The current balance on this Credit Facility as of June 30, 1999 was \$750,000. The loan agreement requires that, among other covenants, the Company maintain at all times unrestricted liquidity in an amount equal to or in excess of \$15 million. The Company was in violation of this covenant as of March 31, 1999, and accordingly classified the entire debt as current. On May 6, 1999, the Lender granted a waiver of the loan covenant violation in exchange for the Company making a payment to the Lender to reduce the outstanding principal balance to \$750,000 and agreeing to make the final payment under the Credit Facility by February 1, 2000. The Lender also reduced the requirement to maintain unrestricted liquidity to an amount equal to or in excess of \$10 million. On August 5, 1999, the Company made a payment of approximately \$752,000, of principal and interest, to the Lender to retire the Credit Facility. The Company decided to retire the Credit Facility instead of seeking further reduction in the unrestricted liquidity requirement. In exchange for the retirement of the Credit Facility, the lender granted the Company a waiver of an unrestricted liquidity loan covenant violation.

The Company has limited liquidity and capital resources and must obtain significant additional capital resources in order to sustain its product development efforts. Substantial additional funds will be required to support the Company's research and development programs, for acquisition of technologies and intellectual property rights, for preclinical and clinical testing of its anticipated products, pursuit of regulatory approvals, acquisition of capital equipment, laboratory and office facilities, establishment of production capabilities and for general and administrative expenses. The Company's ability to obtain additional capital will be substantially dependent on the Company's ability to obtain partnering support for its stem cell technology. Until the Company's operations generate significant revenues from product sales, the Company must rely on cash reserves and, if obtainable, proceeds from equity and debt offerings, government grants and funding from collaborative arrangements to fund its operations.

The Company intends to pursue opportunities to obtain additional financing in the future through equity and debt financings, lease agreements related to capital equipment, grants and collaborative research arrangements. The source, timing and availability of any future financing will depend principally upon market conditions, interest rates and, more specifically, on the Company's progress in its exploratory, preclinical and clinical development programs. Lack of necessary funds may require the Company to delay, reduce or eliminate some or all of its research and product development programs or to license its potential products or technologies to third parties. No assurance can be given that funding will be available when needed, if at all, or on terms acceptable to the Company.

The Company expects that its existing capital resources and income earned on invested capital will be sufficient to fund its operations into the first quarter of 2000. The Company's cash requirements may vary, however, depending on numerous factors. Lack of necessary funds may require the Company to delay, scale back or eliminate some or all of its research and product development programs and/or its capital expenditures or to outlicense its potential products or technologies to third parties.

YEAR 2000

The year 2000 problem results from the fact that computer programs were often written using two digits rather than four to define the applicable year. Computer programs that have date-sensitive software may recognize a date using "00" as the year 1900 rather than the year 2000. The Company has tested its material software applications to determine whether each program is prepared to accommodate date information for the year 2000 and beyond. The Company found all of its material software programs to be year 2000 compliant and does not anticipate any significant disruption of its operations as a result of the failure of any of its software programs to be year 2000 compliant.

The Company is also testing the status of its facilities systems such as phones, voice mail, heating/air conditioning, electricity and security systems and its laboratory and manufacturing equipment to determine if they are year 2000 compliant. The Company expects to complete this testing in the third quarter of 1999. If any of the systems or equipment is found not to be year 2000 compliant, the Company intends to either seek to repair the systems or equipment to cause it to be year 2000 compliant or replace such systems or

equipment with year 2000 compliant products. The cost to repair or replace any such system or equipment that is not year 2000 compliant could be material. The Company is also polling its major vendors and suppliers to determine if they are year 2000 compliant and to identify any potential issues. Each of the suppliers and vendors that has responded to the Company's inquiry has confirmed either orally or in writing that it does not believe that its sales of products or provision of services to the Company will be interrupted as a result of the year 2000 issue. As a result of its investigations, the Company does not currently believe that it is reasonably likely that its operations will be significantly impacted by the year 2000 issue. Although the Company believes that the cost of remediation associated with achieving year 2000 compliance or the costs associated with system failures will not be significant, there can be no assurance that the failure of one or more of the Company's major suppliers to be year 2000 compliant will not have an adverse effect on the Company's operations or financial results.

ELECTION OF NEW DIRECTOR

The Company's Board of Directors elected Donald Kennedy, Ph.D., as a Director in July 1999. Since 1960, Dr. Kennedy has held a number of academic research, advisory and public policy positions related to health and the environment. Dr. Kennedy currently co-directs the Center for Environmental Science and Policy in the Institute for International Studies at Stanford University in Palo Alto, California. With the election of Dr. Kennedy, the Company's Board includes seven members.

PART II - ITEM 1

LEGAL PROCEEDINGS

None.

PART II - ITEM 4

SUBMISSION OF MATTERS TO A VOTE OF SECURITY-HOLDERS

- (a) On May 11, 1999 the 1999 Annual Meeting of Stockholders was held in Lincoln, Rhode Island.
- (b) Not applicable.
- (c) The following is a brief description of each matter voted upon at the meeting and a breakdown of the votes cast for, against or withheld, as well as the number of abstentions voted for each proposal.

1. Proposal to elect the following nominees as Directors of the Company: Richard M. Rose M.D., Moses Goddard, M.D.

Dr. Rose -	15,342,403 votes in favor
	249,2363 votes withheld

Dr. Goddard -	15,433,003 votes in favor
	158,763 votes withheld

2. Proposal to ratify the selection Ernst & Young LLP as independent Public accountants of CytoTherapeutics, Inc. for the fiscal year ending December 31, 1999.

For	15,520,639
Against	42,501
Abstain	28,626

PART II - ITEM 6

EXHIBITS AND REPORTS ON FORM 8-K

- (a) EXHIBITS

Exhibit 3.3 - Amended and Restated By-Laws of the Registrant
Exhibit 27 - Financial Data Schedule
Exhibit 99 - Cautionary Factors Relevant to Forward-Looking-Information.

- (b) REPORTS ON FORM 8-K

On June 28, 1999, the Company filed a current report on Form 8-K to report the termination of the Company's collaboration agreement with AstraZeneca Group plc.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

CYTOTHERAPEUTICS, INC.

(Name of Registrant)

AUGUST 13, 1999

(Date)

/s/ PHILIP K. YACHMETZ

Acting Chief Financial Officer
(principal financial officer and
principal accounting officer)

AS AMENDED THROUGH 3/31/99

AMENDED AND RESTATED BY-LAWS

OF

CYTOTHERAPEUTICS, INC.

Section 1. LAW, CERTIFICATE OF INCORPORATION
AND BY-LAWS

1.1. These by-laws are subject to the certificate of incorporation of the corporation. In these by-laws, references to law, the certificate of incorporation and by-laws mean the law, the provisions of the certificate of incorporation and the by-laws as from time to time in effect.

Section 2. STOCKHOLDERS

2.1. ANNUAL MEETING. The annual meeting of stockholders shall be held at 10:00 a.m. on the second Tuesday in May in each year, unless that day be a legal holiday at the place where the meeting is to be held, in which case the meeting shall be held at the same hour on the next succeeding day not a legal holiday, or at such other date and time as shall be designated from time to time by the board of directors and stated in the notice of the meeting, at which the stockholders shall elect members of the board of directors and transact such other business as may be required by law or these by-laws or as may properly come before the meeting.

2.2. SPECIAL MEETINGS. A special meeting of the stockholders may be called at any time by the chairman of the board, if any, the president or the board of directors. A special meeting of the stockholders shall be called by the secretary, or in the case of the death, absence, incapacity or refusal of the secretary, by an assistant secretary or some other officer, upon application of a majority of the directors. Any such application shall state the purpose or purposes of the proposed meeting. Any such call shall state the place, date, hour, and purposes of the meeting.

2.3. PLACE OF MEETING. All meetings of the stockholders for the election of directors or for any other purpose shall be held at such place within or without the State of Delaware as may be determined from time to time by the president, the board of directors or such other persons as may be authorized by the board of directors. Any adjourned session of any meeting of the stockholders shall be held at the place designated at the time of adjournment.

2.4. NOTICE OF MEETINGS. Except as otherwise provided by law, a written notice of each meeting of stockholders stating the place, day and hour thereof and, in the case of a special meeting, the purposes for which the meeting is called, shall be given not less than ten nor more than sixty days before the meeting, to each stockholder entitled to vote thereat, and to each stockholder who, by law, by the certificate of incorporation or by these by-laws, is entitled to notice, by leaving such notice with him or at his residence or usual place of business, or by depositing it in the United States mail, postage prepaid, and addressed to such stockholder at his address as it appears in the records of the corporation. Business transacted at any special meeting shall be limited to the purpose or purposes thereof stated in the notice of such meeting. Such notice shall be given by the secretary, or by an officer or person designated by the board of directors, or in the case of a special meeting by the secretary or the officer calling the meeting. As to any adjourned session of any meeting of stockholders, notice of the adjourned meeting need not be given if the time and place thereof are announced at the meeting at which the adjournment was taken except that if the adjournment is for more than thirty days or if after the adjournment a new record date is set for the adjourned session, notice of any such adjourned session of the meeting shall be given in the manner heretofore described. No notice of any meeting of stockholders or any adjourned session thereof need be given to a stockholder if a written waiver of notice, executed before or after the meeting or such adjourned session by such stockholder, is filed with the records of the meeting or if the stockholder attends such meeting without objecting at the beginning of the meeting to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any meeting of the stockholders or any adjourned session thereof need be specified in any written waiver of notice.

2.5. QUORUM OF STOCKHOLDERS. At any meeting of the stockholders a quorum as to any matter shall consist of a majority of the votes entitled to be cast on the matter, except where a larger quorum is required by law, by the certificate of incorporation or by these by-laws. Any meeting may be adjourned from time to time by a majority of the votes properly cast upon the question, whether or not a quorum is present. If a quorum is present at an original meeting, a quorum need not be present at an adjourned session of that meeting. Shares of its own stock belonging to the corporation or to another corporation, if a majority of the shares entitled to vote in the election of directors of such other corporation is held, directly or indirectly, by the corporation, shall neither be entitled to vote nor be counted for quorum purposes; provided, however, that the foregoing shall not limit the right of any corporation to vote stock, including but not limited to its own stock, held by it in a fiduciary capacity.

2.6. ACTION BY VOTE. When a quorum is present at any meeting, a plurality of the votes properly cast for election to any office shall elect to such office and a majority of the votes properly cast upon any question other than an election to an office shall decide the question, except when a larger vote is required by law, by the certificate of incorporation or by these by-laws. No ballot shall be required for any election unless requested by a stockholder present or represented at the meeting and entitled to vote in the election.

2.7. ACTION WITHOUT MEETINGS. Unless otherwise provided in the certificate of incorporation and except as otherwise provided herein, any action required or permitted to be taken by stockholders for or in connection with any corporate action may be taken without a meeting, without prior notice and without a vote, if a consent or consents in writing, setting forth the action so taken, shall be signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted and shall be delivered to the corporation by delivery to its registered office in Delaware by hand or certified or registered mail, return receipt requested, to its principal place of business or to an officer or agent of the corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Each such written consent shall bear the date of signature of each stockholder who signs the consent. No written consent shall be effective to take the corporate action referred to therein unless written consents signed by a number of stockholders sufficient to take such action are delivered to the corporation in the manner specified in this paragraph within sixty days of the earliest dated consent so delivered.

If action is taken by consent of stockholders and in accordance with the foregoing, there shall be filed with the records of the meetings of stockholders the writing or writings comprising such consent.

If action is taken by less than unanimous consent of stockholders, prompt notice of the taking of such action without a meeting shall be given to those who have not consented in writing and a certificate signed and attested to by the secretary that such notice was given shall be filed with the records of the meetings of stockholders.

In the event that the action which is consented to is such as would have required the filing of a certificate under any provision of the General Corporation Law of the State of Delaware, if such action had been voted upon by the stockholders at a meeting thereof, the certificate filed under such provision shall state, in lieu of any statement required by such provision concerning a vote of stockholders, that written consent has been given under Section 228 of said General Corporation Law and that written notice has been given as provided in such Section 228.

2.8. NO ACTION BY WRITING. Notwithstanding Section 2.7 of these by-laws, if at any time this corporation shall have a class of stock registered pursuant to the provisions of the Securities Exchange Act of 1934 (the "Securities Exchange Act"), and for so long as such class is so registered, any action which is required to be taken at any annual or special meeting of the stockholders or which may be taken at such a meeting may be taken only by vote at such a meeting, and not by a written consent or otherwise.

2.9. PROXY REPRESENTATION. Every stockholder may authorize another person or persons to act for him by proxy in all matters in which a stockholder is entitled to participate, whether by waiving notice of any meeting, objecting to or voting or participating at a meeting,

or expressing consent or dissent without a meeting. The delivery of a proxy on behalf of a stockholder consistent with telephonic or electronically transmitted instructions obtained pursuant to procedures of the corporation reasonably designed to verify that such instructions have been authorized by such stockholder shall constitute execution and delivery of the proxy by or on behalf of the stockholder. No proxy shall be voted or acted upon after three years from its date unless such proxy provides for a longer period. A duly executed proxy shall be irrevocable if it states that it is irrevocable and, if, and only as long as, it is coupled with an interest sufficient in law to support an irrevocable power. A proxy may be made irrevocable regardless of whether the interest with which it is coupled is an interest in the stock itself or an interest in the corporation generally. The authorization of a proxy may but need not be limited to specified action, provided, however, that if a proxy limits its authorization to a meeting or meetings of stockholders, unless otherwise specifically provided such proxy shall entitle the holder thereof to vote at any adjourned session but shall not be valid after the final adjournment thereof.

2.10. INSPECTORS. The directors or the person presiding at the meeting shall appoint one or more inspectors of election and any substitute inspectors to act at the meeting or any adjournment thereof. Each inspector, before entering upon the discharge of his duties, shall take and sign an oath faithfully to execute the duties of inspector at such meeting with strict impartiality and according to the best of his ability. The inspectors shall determine the number of shares of stock outstanding and the voting power of each, the shares of stock represented at the meeting, the existence of a quorum, the validity and effect of proxies, and shall receive votes, ballots or consents, hear and determine all challenges and questions arising in connection with the right to vote, count and tabulate all votes, ballots or consents, determine the result, determine and retain for a reasonable period a record of the disposition of any challenges made to any determination by the inspectors, certify their determination of the number of shares represented at the meeting, and their count of all votes and ballots, and do such acts as are proper to conduct the election or vote with fairness to all stockholders. The inspectors may appoint and retain other persons or entities to assist the inspectors in the performance of the duties of the inspectors. On request of the person presiding at the meeting, the inspectors shall make a report in writing of any challenge, question or matter determined by them and execute a certificate of any fact found by them.

2.11. LIST OF STOCKHOLDERS. The secretary shall prepare and make, at least ten days before every meeting of stockholders, a complete list of the stockholders entitled to vote at such meeting, arranged in alphabetical order and showing the address of each stockholder and the number of shares registered in his name. The stock ledger shall be the only evidence as to who are stockholders entitled to examine such list or to vote in person or by proxy at such meeting.

Section 3. BOARD OF DIRECTORS

3.1. NUMBER. Except as otherwise provided in this Section 3.1, the number of directors which shall constitute the whole board shall not be less than three nor more than seven in number. Thereafter, within the foregoing limits, the stockholders at the annual meeting shall determine the number of directors and shall elect the number of directors as determined. Within the foregoing limits, the number of directors may be increased at any time or from time to time by the stockholders or by the directors by vote of a majority of the directors then in office. The number of directors may be decreased to any number permitted by the foregoing at any time either by the stockholders or by the directors by vote of a majority of the directors then in office, but only to eliminate vacancies existing by reason of the death, resignation or removal of one or more directors. Directors need not be stockholders.

Notwithstanding the foregoing, if at any time this corporation shall have a class of stock registered pursuant to the provisions of the Securities Exchange Act, and for so long as such class is so registered, the following provisions shall govern the number and election of directors. The number of directors which shall constitute the whole board shall not be less than three nor more than fifteen in number. Thereafter, within the foregoing limits, the number of directors shall be fixed by resolution of the board of directors. Within the foregoing limits, the number of directors may be increased at any time or from time to time by the directors by vote of a majority of the directors then in office. The number of directors may be decreased to any number permitted by the foregoing at any time by the directors by vote of a majority of the directors then in office, but only to eliminate vacancies existing by reason of the death, resignation or removal of one or more directors. Directors need not be stockholders.

The directors, other than those who may be elected by the holders of any class or series of preferred stock voting separately by class or series, shall be classified, with respect to the duration of the term for which they severally hold office, into three classes, designated Class I, Class II, and Class III, which shall be as nearly equal in number as possible and as provided by resolution of the board of directors. Each initial director in Class I shall hold office for a term expiring at the first annual meeting of stockholders; each initial director of Class II shall hold office for a term expiring at the second annual meeting of stockholders; and each initial director of Class III shall hold office for a term expiring at the third annual meeting of stockholders. The initial membership of each class shall be determined by vote of a majority of the directors then in office. Each director shall serve until his successor is duly elected and qualified or until his earlier death, resignation, removal or disqualification. At each annual meeting of stockholders, the stockholders shall elect the successors to the class of directors whose term expires at that meeting to hold office for a term expiring at the annual meeting of stockholders held in the third year following the year of their election and until their successors have been duly elected and qualified or until their earlier death, resignation, removal or disqualification.

The board of directors shall increase or decrease the number of directors in one or more classes as may be appropriate whenever it increases or decreases the number of directors pursuant to this Section 3.1, in order to ensure that the three classes shall be as nearly equal in number as possible.

3.2. NOTIFICATION OF NOMINATIONS. Subject to the rights of the holders of any class or series of preferred stock voting separately by class or series, nominations for the election of directors may be made by the board of directors or by any stockholder entitled to vote for the election of directors as specified in this Section 3.2. A stockholder entitled to vote for the election of directors at a meeting may nominate persons for election as directors by giving timely notice thereof in proper written form to the secretary accompanied by a petition signed by at least 100 record holders of capital stock of the corporation which shows the class and number of shares held by each person and which represent in the aggregate 1% of the outstanding shares entitled to vote in the election of directors. To be timely, notice shall be delivered to or mailed and received at the principal executive offices not less than 60 days nor more than 90 days prior to the meeting; provided, however, that in the event that less than 70 days' notice or prior public disclosure of the date of the meeting is given or made to the stockholders, to be timely, notice by the stockholder must be received at the principal executive offices not later than the close of business on the tenth day following the day on which such notice of the date of the meeting was mailed or such public disclosure was made. To be in proper written form, a stockholder's notice shall set forth in writing (i) as to each person whom the stockholder proposes to nominate for election or reelection as a director, all information relating to such person that is required to be disclosed in solicitations of proxies for election of directors, or is otherwise required, in each case pursuant to Regulation 14A under the Securities Exchange Act of 1934, as amended, including, without limitation, such person's written consent to being named in the proxy statement as a nominee and to serving as a director if elected and (ii) as to the stockholder giving the notice (x) the name and address, as they appear on the corporation's books, of such stockholder and (y) the class and number of shares or the corporation which are beneficially owned by such stockholder. At the request of the board of directors, any person nominated by the board of directors for election as a director shall furnish to the secretary the information required to be set forth in a stockholder's notice of nomination which pertains to the nominee. In the event that a stockholder seeks to nominate one or more directors, the secretary shall appoint one or more inspectors to determine whether a stockholder has complied with this Section 3.2. If the inspectors shall determine that a stockholder has not complied with this Section 3.2, the inspectors shall direct the chairman of the meeting to declare to the meeting that a nomination was not made in accordance with the procedures prescribed by the by-laws, and the chairman shall so declare to the meeting and the defective nomination shall be disregarded.

3.3. POWERS. The business and affairs of the corporation shall be managed by or under the direction of the board of directors who shall have and may exercise all the powers of the corporation and do all such lawful acts and things as are not by law, the certificate of

incorporation or these by-laws directed or required to be exercised or done by the stockholders.

3.4. VACANCIES. Vacancies and any newly created directorships resulting from any increase in the number of directors shall be filled only by a majority of the directors then in office, although less than a quorum, or by a sole remaining director. Stockholders shall have no power to fill any vacancies or newly created directorships. When one or more directors shall resign from the board, effective at a future date, a majority of the directors then in office, including those who have resigned, shall have power to fill such vacancy or vacancies, the vote or action by writing thereon to take effect when such resignation or resignations shall become effective. The directors shall have and may exercise all their powers notwithstanding the existence of one or more vacancies in their number, subject to any requirements of law or of the certificate of incorporation or of these by-laws as to the number of directors required for a quorum or for any vote or other actions.

3.5. COMMITTEES. The board of directors may, by vote of a majority of the whole board, (a) designate, change the membership of or terminate the existence of any committee or committees, each committee to consist of one or more of the directors; (b) designate one or more directors as alternate members of any such committee who may replace any absent or disqualified member at any meeting of the committee; and (c) determine the extent to which each such committee shall have and may exercise the powers of the board of directors in the management of the business and affairs of the corporation, including the power to authorize the seal of the corporation to be affixed to all papers which require it and the power and authority to declare dividends or to authorize the issuance of stock; excepting, however, such powers which by law, by the certificate of incorporation or by these by-laws they are prohibited from so delegating. In the absence or disqualification of any member of such committee and his alternate, if any, the member or members thereof present at any meeting and not disqualified from voting, whether or not constituting a quorum, may unanimously appoint another member of the board of directors to act at the meeting in the place of any such absent or disqualified member. Except as the board of directors may otherwise determine, any committee may make rules for the conduct of its business, but unless otherwise provided by the board or such rules, its business shall be conducted as nearly as may be in the same manner as is provided by these by-laws for the conduct of business by the board of directors. Each committee shall keep regular minutes of its meetings and report the same to the board of directors upon request.

3.6. REGULAR MEETINGS. Regular meetings of the board of directors may be held without call or notice at such places within or without the State of Delaware and at such times as the board may from time to time determine, provided that notice of the first regular meeting following any such determination shall be given to absent directors. A regular meeting of the directors may be held without call or notice immediately after and at the same place as the annual meeting of stockholders.

3.7. SPECIAL MEETINGS. Special meetings of the board of directors may be held at any time and at any place within or without the State of Delaware designated in the notice of the meeting, when called by the chairman of the board, if any, the president, or by one-third or more in number of the directors, reasonable notice thereof being given to each director by the secretary or by the chairman of the board, if any, the president or any one of the directors calling the meeting.

3.8. NOTICE. It shall be reasonable and sufficient notice to a director to send notice by mail at least forty-eight hours or by telegram at least twenty-four hours before the meeting addressed to him at his usual or last known business or residence address or to give notice to him in person or by telephone at least twenty-four hours before the meeting. Notice of a meeting need not be given to any director if a written waiver of notice, executed by him before or after the meeting, is filed with the records of the meeting, or to any director who attends the meeting without protesting prior thereto or at its commencement the lack of notice to him. Neither notice of a meeting nor a waiver of a notice need specify the purposes of the meeting.

3.9. QUORUM. Except as may be otherwise provided by law, by the certificate of incorporation or by these by-laws, at any meeting of the directors a majority of the directors then in office shall constitute a quorum; a quorum shall not in any case be less than one-third of the total number of directors constituting the whole board. Any meeting may be adjourned from time to time by a majority of the votes cast upon the question, whether or not a quorum is present, and the meeting may be held as adjourned without further notice.

3.10. ACTION BY VOTE. Except as may be otherwise provided by law, by the certificate of incorporation or by these by-laws, when a quorum is present at any meeting the vote of a majority of the directors present shall be the act of the board of directors.

3.11. ACTION WITHOUT A MEETING. Any action required or permitted to be taken at any meeting of the board of directors or a committee thereof may be taken without a meeting if all the members of the board or of such committee, as the case may be, consent thereto in writing, and such writing or writings are filed with the records of the meetings of the board or of such committee. Such consent shall be treated for all purposes as the act of the board or of such committee, as the case may be.

3.12. PARTICIPATION IN MEETINGS BY CONFERENCE TELEPHONE. Members of the board of directors, or any committee designated by such board, may participate in a meeting of such board or committee by means of conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other or by any other means permitted by law. Such participation shall constitute presence in person at such meeting.

3.13. COMPENSATION. In the discretion of the board of directors, each director may be paid such fees for his services as director and be reimbursed for his reasonable expenses

incurred in the performance of his duties as director as the board of directors from time to time may determine. Nothing contained in this section shall be construed to preclude any director from serving the corporation in any other capacity and receiving reasonable compensation therefor.

3.14. INTERESTED DIRECTORS AND OFFICERS.

(a) No contract or transaction between the corporation and one or more of its directors or officers, or between the corporation and any other corporation, partnership, association, or other organization in which one or more of the corporation's directors or officers are directors or officers, or have a financial interest, shall be void or voidable solely for this reason, or solely because the director or officer is present at or participates in the meeting of the board or committee thereof which authorizes the contract or transaction, or solely because his or their votes are counted for such purpose, if:

(1) The material facts as to his relationship or interest and as to the contract or transaction are disclosed or are known to the board of directors or the committee, and the board or committee in good faith authorizes the contract or transaction by the affirmative votes of a majority of the disinterested directors, even though the disinterested directors be less than a quorum; or

(2) The material facts as to his relationship or interest and as to the contract or transaction are disclosed or are known to the stockholders entitled to vote thereon, and the contract or transaction is specifically approved in good faith by vote of the stockholders; or

(3) The contract or transaction is fair as to the corporation as of the time it is authorized, approved or ratified, by the board of directors, a committee thereof, or the stockholders.

(b) Common or interested directors may be counted in determining the presence of a quorum at a meeting of the board of directors or of a committee which authorizes the contract or transaction.

Section 4. OFFICERS AND AGENTS

4.1. ENUMERATION; QUALIFICATION. The officers of the corporation shall be a president, a treasurer, a secretary and such other officers, if any, as the board of directors from time to time may in its discretion elect or appoint including without limitation a chairman of the board, one or more vice presidents and a controller. The corporation may also have such agents, if any, as the board of directors from time to time may in its discretion choose. Any officer may be but none need be a director or stockholder. Any two or more offices may be held by the same person. Any officer may be required by the board of directors to secure the

faithful performance of his duties to the corporation by giving bond in such amount and with sureties or otherwise as the board of directors may determine.

4.2. POWERS. Subject to law, to the certificate of incorporation and to the other provisions of these by-laws, each officer shall have, in addition to the duties and powers herein set forth, such duties and powers as are commonly incident to his office and such additional duties and powers as the board of directors may from time to time designate.

4.3. ELECTION. The officers may be elected by the board of directors at their first meeting following the annual meeting of the stockholders or at any other time. At any time or from time to time the directors may delegate to any officer their power to elect or appoint any other officer or any agents.

4.4. TENURE. Each officer shall hold office until the first meeting of the board of directors following the next annual meeting of the stockholders and until his respective successor is chosen and qualified unless a shorter period shall have been specified by the terms of his election or appointment, or in each case until he sooner dies, resigns, is removed or becomes disqualified. Each agent shall retain his authority at the pleasure of the directors, or the officer by whom he was appointed or by the officer who then holds agent appointive power.

4.5. CHAIRMAN OF THE BOARD OF DIRECTORS, PRESIDENT AND VICE PRESIDENT. The chairman of the board, if any, shall have such duties and powers as shall be designated from time to time by the board of directors. Unless the board of directors otherwise specifies, the chairman of the board, or if there is none the chief executive officer, shall preside, or designate the person who shall preside, at all meetings of the stockholders and of the board of directors.

Unless the board of directors otherwise specifies, the president shall be the chief executive officer and shall have direct charge of all business operations of the corporation and, subject to the control of the directors, shall have general charge and supervision of the business of the corporation.

Any vice presidents shall have such duties and powers as shall be set forth in these by-laws or as shall be designated from time to time by the board of directors or by the president.

4.6. TREASURER AND ASSISTANT TREASURERS. Unless the board of directors otherwise specifies, the treasurer shall be the chief financial officer of the corporation and shall be in charge of its funds and valuable papers, and shall have such other duties and powers as may be designated from time to time by the board of directors or by the president. If no controller is elected, the treasurer shall, unless the board of directors otherwise specifies, also have the duties and powers of the controller.

Any assistant treasurers shall have such duties and powers as shall be designated from time to time by the board of directors, the president or the treasurer.

4.7. CONTROLLER AND ASSISTANT CONTROLLERS. If a controller is elected, he shall, unless the board of directors otherwise specifies, be the chief accounting officer of the corporation and be in charge of its books of account and accounting records, and of its accounting procedures. He shall have such other duties and powers as may be designated from time to time by the board of directors, the president or the treasurer.

Any assistant controller shall have such duties and powers as shall be designated from time to time by the board of directors, the president, the treasurer or the controller.

4.8. SECRETARY AND ASSISTANT SECRETARIES. The secretary shall record all proceedings of the stockholders, of the board of directors and of committees of the board of directors in a book or series of books to be kept therefor and shall file therein all actions by written consent of stockholders or directors. In the absence of the secretary from any meeting, an assistant secretary, or if there be none or he is absent, a temporary secretary chosen at the meeting, shall record the proceedings thereof. Unless a transfer agent has been appointed the secretary shall keep or cause to be kept the stock and transfer records of the corporation, which shall contain the names and record addresses of all stockholders and the number of shares registered in the name of each stockholder. He shall have such other duties and powers as may from time to time be designated by the board of directors or the president.

Any assistant secretaries shall have such duties and powers as shall be designated from time to time by the board of directors, the president or the secretary.

Section 5. RESIGNATIONS AND REMOVALS

Any director or officer may resign at any time by delivering his resignation in writing to the chairman of the board, if any, the president, or the secretary or to a meeting of the board of directors. Such resignation shall be effective upon receipt unless specified to be effective at some other time, and without in either case the necessity of its being accepted unless the resignation shall so state. Except as otherwise provided in the certificate of incorporation or these by-laws relating to the rights of the holders of any class or series of preferred stock, voting separately by class or series, to elect directors under specified circumstances, any director or directors may be removed from office at any time, but only for cause and only by the affirmative vote, at any regular meeting or special meeting of the stockholders, of not less than 80% of the total number of votes of the then outstanding shares of capital stock of the corporation entitled to vote generally in the election of directors, voting together as a single class, but only if notice of such proposal was contained in the notice of such meeting. Any vacancy in the board of directors resulting from any such removal shall be filled only by vote of a majority of the directors then in office, although less than a quorum, and any director or directors so chosen shall hold office until the next election of the class for

which such directors shall have been chosen and until their successors shall be elected and qualified or until their earlier death, resignation or removal. The board of directors may at any time remove any officer either with or without cause. The board of directors may at any time terminate or modify the authority of any agent. No director or officer resigning and (except where a right to receive compensation shall be expressly provided in a duly authorized written agreement with the corporation) no director or officer removed shall have any right to any compensation as such director or officer for any period following his resignation or removal, or any right to damages on account of such removal, whether his compensation be by the month or by the year or otherwise; unless, in the case of a resignation, the directors, or, in the case of removal, the body acting on the removal, shall in their or its discretion provide for compensation.

Section 6. VACANCIES

If the office of the president or the treasurer or the secretary becomes vacant, the directors may elect a successor by vote of a majority of the directors then in office. If the office of any other officer becomes vacant, any person or body empowered to elect or appoint that officer may choose a successor. Each such successor shall hold office for the unexpired term, and in the case of the president, the treasurer and the secretary until his successor is chosen and qualified or in each case until he sooner dies, resigns, is removed or becomes disqualified. Any vacancy of a directorship shall be filled as specified in Section 3.4 of these by-laws.

Section 7. CAPITAL STOCK

7.1. STOCK CERTIFICATES. Each stockholder shall be entitled to a certificate stating the number and the class and the designation of the series, if any, of the shares held by him, in such form as shall, in conformity to law, the certificate of incorporation and the by-laws, be prescribed from time to time by the board of directors. Such certificate shall be signed by the chairman or vice chairman of the board, if any, or the president or a vice president and by the treasurer or an assistant treasurer or by the secretary or an assistant secretary. Any of or all the signatures on the certificate may be a facsimile. In case an officer, transfer agent, or registrar who has signed or whose facsimile signature has been placed on such certificate shall have ceased to be such officer, transfer agent, or registrar before such certificate is issued, it may be issued by the corporation with the same effect as if he were such officer, transfer agent, or registrar at the time of its issue.

7.2. LOSS OF CERTIFICATES. In the case of the alleged theft, loss, destruction or mutilation of a certificate of stock, a duplicate certificate may be issued in place thereof, upon such terms, including receipt of a bond sufficient to indemnify the corporation against any claim on account thereof, as the board of directors may prescribe.

Section 8. TRANSFER OF SHARES OF STOCK

8.1. TRANSFER ON BOOKS. Subject to the restrictions, if any, stated or noted on the stock certificate, shares of stock may be transferred on the books of the corporation by the surrender to the corporation or its transfer agent of the certificate therefor properly endorsed or accompanied by a written assignment and power of attorney properly executed, with necessary transfer stamps affixed, and with such proof of the authenticity of signature as the board of directors or the transfer agent of the corporation may reasonably require. Except as may be otherwise required by law, by the certificate of incorporation or by these by-laws, the corporation shall be entitled to treat the record holder of stock as shown on its books as the owner of such stock for all purposes, including the payment of dividends and the right to receive notice and to vote or to give any consent with respect thereto and to be held liable for such calls and assessments, if any, as may lawfully be made thereon, regardless of any transfer, pledge or other disposition of such stock until the shares have been properly transferred on the books of the corporation.

It shall be the duty of each stockholder to notify the corporation of his post office address.

8.2. RECORD DATE AND CLOSING TRANSFER BOOKS. In order that the corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, the board of directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the board of directors, and which record date shall not be more than sixty nor less than ten days before the date of such meeting. If no such record date is fixed by the board of directors, the record date for determining the stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; provided, however, that the board of directors may fix a new record date for the adjourned meeting.

In order that the corporation may determine the stockholders entitled to receive payment of any dividend or other distribution or allotment of any rights or to exercise any rights in respect of any change, conversion or exchange of stock, or for the purpose of any other lawful action, the board of directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted, and which record date shall be not more than sixty days prior to such payment, exercise or other action. If no such record date is fixed, the record date for determining stockholders for any such purpose shall be at the close of business on the day on which the board of directors adopts the resolution relating thereto.

Section 9. CORPORATE SEAL

9.1. Subject to alteration by the directors, the seal of the corporation shall consist of a flat-faced circular die with the word "Delaware" and the name of the corporation cut or engraved thereon, together with such other words, dates or images as may be approved from time to time by the directors.

Section 10. EXECUTION OF PAPERS

10.1. Except as the board of directors may generally or in particular cases authorize the execution thereof in some other manner, all deeds, leases, transfers, contracts, bonds, notes, checks, drafts or other obligations made, accepted or endorsed by the corporation shall be signed by the chairman of the board, if any, the president, a vice president or the treasurer.

Section 11. FISCAL YEAR

11.1. The fiscal year of the corporation shall end on the 31st of December.

Section 12. AMENDMENTS

12.1. These by-laws may be adopted, amended or repealed by vote of a majority of the directors then in office or by vote of 80% of the stock outstanding and entitled to vote. Any by-law, whether adopted, amended or repealed by the stockholders or directors, may be amended or reinstated by the stockholders or the directors.

3-MOS

DEC-31-1999

JUN-30-1999

4,752,168

7,036,116

0

0

0

12,512,647

16,551,024

(8,962,459)

26,171,369

2,867,334

3,130,417

0

0

179,800

14,223,699

26,171,369

0

5,021,707

0

0

9,015,688

0

221,277

(3,772,714)

0

(3,772,714)

0

0

0

(3,772,714)

(.20)

(.20)

CAUTIONARY FACTORS RELEVANT TO FORWARD-LOOKING INFORMATION

CYTOTHERAPEUTICS, INC. (THE "COMPANY") WISHES TO CAUTION READERS THAT THE FOLLOWING IMPORTANT FACTORS, AMONG OTHERS, IN SOME CASES HAVE AFFECTED AND IN THE FUTURE COULD AFFECT THE COMPANY'S RESULTS AND COULD CAUSE ACTUAL RESULTS AND THE NEEDS AND FINANCIAL CONDITION OF THE COMPANY TO VARY MATERIALLY FROM FORWARD-LOOKING STATEMENTS MADE BY THE COMPANY ON THE BASIS OF MANAGEMENT'S CURRENT EXPECTATIONS. THE BUSINESS IN WHICH THE COMPANY IS ENGAGED IS DEPENDENT ON UNPROVEN TECHNOLOGY, RAPIDLY CHANGING, EXTREMELY COMPETITIVE AND INVOLVES A HIGH DEGREE OF RISK, AND ACCURACY WITH RESPECT TO FORWARD-LOOKING STATEMENTS IS DIFFICULT.

DEPENDENCE ON ASTRA AND RESULTS OF PHASE IIB CLINICAL TRIAL. The Company's ability to continue development of its encapsulated-cell therapy products is dependent on the willingness of Astra AB to continue to support further development of the Company's encapsulated-cell product for the treatment of chronic pain. While Astra increased its support for this program during 1998 and the first half of 1999 in order to facilitate completion of the Phase IIB clinical trial for this product, Astra has the right to terminate the agreement providing for its support for this product at any time. The Company expects that the results from the Phase IIB clinical trial for this product will be available about mid-1999. The Company expects Astra to make a decision on continued support for the Company's chronic pain program based in substantial part on Astra's review of the results of this trial. Should Astra determine to terminate the program or seek to reduce its support for the program or to otherwise adversely modify the terms of the Company's relationship with Astra, any such action would have a material, adverse effect on the Company's liquidity and capital resources and would likely result in the Company's inability to continue to fund further development of its proposed encapsulated-cell products.

NEED TO OBTAIN CORPORATE PARTNER OR PARTNERS TO SUPPORT STEM CELL DEVELOPMENT EFFORTS. The Company's ability to continue to fund the development of its neural and other stem cell technologies will be dependent on the Company's ability to reach appropriate partnering arrangements providing support for the Company's discovery and development efforts. While the Company has engaged, and expects to continue to engage, in discussions regarding such arrangements, the Company has not reached any agreement regarding any such arrangements and there can be no assurance that the Company will be able to obtain any such agreement.

LACK OF LIQUIDITY AND CAPITAL RESOURCES. The Company has limited liquidity and capital resources and must obtain significant additional capital resources in order to sustain its product development efforts. The Company's ability to obtain additional capital will be substantially dependent on Astra's decision regarding continuation of support for the Company's chronic pain product and the Company's ability to obtain partnering support for its stem cell technology. The Company's liquidity and capital resources will be adversely affected to the extent that the Company is required to redeem common stock of the Company held by Genentech, Inc. under the terms of the Company's partnering agreement with Genentech regarding possible development of an encapsulated-cell product for the treatment of Parkinson's disease, which was terminated by Genentech in May 1998. Under this agreement, if upon termination of the agreement the \$8.3 million received by the Company from the sale of the Company's Common Stock to Genentech at the commencement of the agreement exceeds by more than \$1 million the funds expended by the Company in developing the proposed Parkinson's product, the Company is obligated to repurchase from Genentech for cash consideration shares of the Company's common stock having a value equal to the amount of the overfunding, at the same per share price originally paid by Genentech (\$10.01 per share). Genentech has requested that the Company redeem shares of the Common Stock having an aggregate value of at least \$3.1 million. The Company is negotiating with Genentech regarding the terms and amount of such redemption (which the Company currently expects may be approximately \$3.1 million).

EARLY STAGE DEVELOPMENT; HISTORY OF OPERATING LOSSES - Substantially all of the Company's revenues to date have been derived, and for the foreseeable future substantially all of the Company's revenues will be derived, from collaborative agreements, research grants and income earned on invested funds. The Company will incur substantial operating losses in the future as the Company conducts its research, development, clinical trial and manufacturing activities. There can be no assurance that the Company will achieve revenues from product sales or become profitable.

FUTURE CAPITAL NEEDS; UNCERTAINTY OF ADDITIONAL FUNDING - The development of the Company's products will require the commitment of substantial resources to conduct the time-consuming research, preclinical development and clinical trials that are necessary for regulatory approvals and to establish production and marketing capabilities, if such approvals are obtained. The Company will need to raise substantial additional funds to continue its product development efforts and intends to seek such additional funds through partnership, collaborative or other arrangements with corporate sponsors, public or private equity or debt financings, or from other sources. Future cash requirements may vary from projections based on changes in the Company's research and development programs, progress in preclinical and clinical testing, the Company's ability to enter into, and perform successfully under, collaborative agreements, competitive and technological advances, the need to obtain proprietary rights owned by third parties, facilities requirements, changes in regulations and other factors. Lack of necessary funds may require the Company to delay, reduce or eliminate some or all of its research and product development programs or to license its potential products or technologies to third parties. No assurance can be given that funding will be available when needed, if at all, or on terms acceptable to the Company.

UNCERTAINTIES OF CLINICAL DEVELOPMENT AND NEW MODE OF THERAPY - None of the Company's proposed products has been approved for commercial sale or entered Phase III clinical trials. Even if the Company's proposed products appear to be promising at an early stage of research or development such products may later prove to be ineffective, have adverse side effects, fail to receive necessary regulatory approvals, be difficult or uneconomical to manufacture or market on a commercial scale, be adversely affected by government price controls or limitations on reimbursement, be precluded from commercialization by proprietary rights of third parties, by regulatory restrictions, or be subject to significant competition from other products. There can be no assurance that the Company will be able to demonstrate, as required, that its implants, on a consistent basis and on a commercial scale, among other things: (i) successfully isolate transplanted cells from the recipient's immune system; (ii) remain biocompatible with the tissue into which they are implanted, including, for certain implants, brain tissue; (iii) adequately maintain the viability of cells contained within the membrane for a sufficiently long time to be efficacious and commercially viable; (iv) safely permit the therapeutic substances produced by the cells within the membrane to pass through the membrane unto the patient in controlled doses for extended periods; and (v) are sufficiently durable for the intended indication. While clinicians have generally had little difficulty in retrieving the Company's implants, there have been cases where the implant broke on attempted explant. The Company has changed its implantation procedure and its implants and is continuing a program of developing stronger implants. In addition, the viability of implanted

encapsulated cells varies depending of the cell type, the implantation location and other factors. Lack of viability could restrict certain of the Company's programs to indications where long-term delivery of the therapeutics substances is not required. There can also be no assurance that the products that may be generated in the Company's stem cell programs will: (i) survive and persist in the desired locations, (ii) provide the therapeutic benefits intended, (iii) properly differentiate and integrate into existing tissue in the desired manner, or (iv) not cause tumors or other side effects.

There has been increasing regulatory concern about the risks of cell transplantation. Certain of these concerns have focused on the use of cells derived from cows (such as are used in the Company's pain program) and cells from primates and pigs. The United Kingdom has adopted a moratorium on all xenotransplantation pending further research and discussion; the EC Commission has introduced a ban on the use of "high-risk material" from cattle and sheep in the Member States of the European Union in the manufacture of pharmaceuticals. In addition, the FDA has proposed guidelines that impose significant constraints on the conduct of clinical trials utilizing xenotransplantation and are likely to significantly affect the cost of producing the Company's products using non-human cells; such costs could make the Company's products cost more to produce than the Company receives for their production. Furthermore, the FDA has published a "Proposed Approach to Regulation of Cellular and Tissue-Based Products" which relates to the use of human cells. The Company cannot presently determine the effects of such actions or what other actions might be taken. Restrictions on the testing or use of cells, whether human or non-human, as human therapeutics, could adversely affect the Company's product development programs and the Company itself and could prevent the Company from producing and/or selling products or make the cost of production by the Company prohibitively high. See "Government Regulation."

DEPENDENCE ON OUTSIDE PARTIES - The Company's strategy for the research, development, commercialization and marketing of its products contemplates that the Company will enter into various arrangements with corporate sponsors, pharmaceutical companies, universities, research groups and others. There is no assurance that the Company will be able to maintain its existing arrangements or to enter into any additional arrangements on terms acceptable to the Company, or successfully perform its obligations under its existing or any additional arrangements. If any of the Company's collaborators terminates its relationship with the Company or fails to perform its obligations in a timely manner, the development or commercialization of the Company's product candidate or research program under such collaborative agreement may be adversely affected. Moreover, as noted above, the Company is particularly dependent on its pain program partner, Astra AB.

NEED FOR AND UNCERTAINTY OF OBTAINING PATENT PROTECTION - Patent protection for products such as those the Company proposes to develop is highly uncertain and involves complex factual and evolving legal questions. No assurance can be given that any patents issued or licensed to the Company will not be challenged, invalidated or circumvented, or that the rights granted under such patents will provide competitive advantages to the Company. On the other hand, it is important for the Company to obtain patent protection. This is particularly true in the case of the Company's stem cell technology where the first person or entity to discover and patent a particular stem or progenitor cell may effectively block all others, meaning that it will be critically important to the Company's stem cell development efforts for the Company or its collaborators to be the first to discover any stem cell which the Company is seeking to discover. Failure to be the first to make such a discovery would likely force the Company to terminate or substantially modify its efforts directed toward the discovery of the discovered stem cell, and would likely have a substantial adverse effect on the Company.

EXISTENCE OF THIRD PARTY PATENTS AND PROPRIETARY RIGHTS; NEED TO OBTAIN LICENSE - A number of pharmaceutical, biotechnology and other companies, universities and research institutions have filed patent applications or have been issued patents relating to cell therapy and encapsulation and other technologies potentially relevant to or required by the Company's expected products. The Company cannot predict which, if any, of such applications will issue as patents or the claims that might be allowed. The Company is aware that a number of entities have filed applications relating to stem and/or progenitor cells. The Company is also aware of a number of third-party patent applications and patents relating to cell encapsulation or claiming use of genetically modified cells to treat disease, disorder or injury. In particular, the Company is aware of a third-party U.S. patent which relates the use of cells for alleviating chronic pain in humans and of two issued U. S. patents claiming certain methods for treating defective, diseased or damaged cells in the mammalian

CNS by grafting genetically modified cells. The Company cannot predict the effect of existing patent applications and patents on future unencapsulated products. In addition, the Company is aware of third-party patents and patent applications claiming rights to the neurotrophic factors (such as CNTF, NT 4/5, Neurturin, and CT-1) which the Company hopes to deliver with its technology, and to the production of these factors through the use of genetically modified cells. The Company expects to use genetically modified cells to produce these factors for use in its encapsulated products and expects that it may wish to genetically modify its stem/progenitor cells. The Company may also be required to seek licenses in regard to other cell lines, the techniques used in creating, obtaining or maintaining such cell lines, the materials used in the manufacture of its implants or otherwise. There can be no assurance that the Company will be able to establish collaborative arrangements or obtain licenses to the foregoing technology or to other necessary or desirable technology on acceptable terms, if at all, or that the patents underlying any such licenses will be valid and enforceable. See "Patents, Proprietary Rights and Licenses" in the Company's Annual Report on Form 10-K.

GOVERNMENT REGULATION - The Company's research, preclinical development and clinical trials, as well as the manufacturing and marketing of its potential products, are subject to extensive regulation by governmental authorities in the United States and other countries. The process of obtaining FDA and other required regulatory approvals is lengthy, expensive and uncertain. There can be no assurance that the Company or its collaborators will be able to obtain the necessary approvals to commence or continue clinical testing or to manufacture or market its potential products in anticipated time frames, if at all. In addition, several legislative proposals have been made to reform the FDA. If such proposals are enacted they may result in significant changes in the regulatory environment the Company faces. These changes could result in different, more costly or more time consuming approval requirements for the Company's products, in the dilution of FDA resources available to review the Company's products, or in other unpredictable consequences. See "Government Regulation" in the Company's Annual Report on Form 10-K.

SOURCES OF CELLS AND OTHER MATERIALS - The Company's potential products require genetically engineered cell lines or living cells harvested from animal or human sources. There can be no assurance that the Company will successfully identify or develop sources of the cells required for its potential products and obtain such cells in quantities sufficient to satisfy the commercial requirements of its potential products. These supply limitations may apply, in particular, to primary cells that must be drawn directly from animal or human sources, such as the bovine adrenal chromaffin cells currently used in the Company's product for the treatment of pain. As an alternative to primary cells, the Company is developing products based on the use of genetically altered cells. Intellectual property rights to important genetic constructs used in developing such cells, including the constructs used to develop cells producing neurotrophic factors, are or may be claimed by one or more companies, which could prevent the Company from using such cells. In addition, many suppliers of materials used by the Company in its media, implants, and other components have restricted the use of such materials for implantation into humans; if the Company cannot obtain the necessary materials for its implants, the Company would be adversely affected.

MANUFACTURING UNCERTAINTIES - The Company's pilot manufacturing plant, may not have sufficient capacity to permit the Company to produce all the products for all of the clinical trials it anticipates developing. In addition, the Company has not developed the capability to commercially manufacture any of its proposed products and is unaware of any other company that has manufactured any membrane-encapsulated cell product on a commercial scale. There can be no assurance that the Company will be able to develop the capability of manufacturing any of its proposed products at a cost or in the quantities necessary to make a commercially viable product, if at all.

COMPETITION - Competitors of the Company are numerous and include major pharmaceutical and chemical companies, biotechnology companies, universities and other research institutions. Currently, several of these competitors market and sell therapeutic products for the treatment of chronic pain, Parkinson's disease and other CNS conditions. In addition, most of the Company's competitors have substantially greater capital resources, experience in obtaining regulatory approvals and, in the case of commercial entities,

experience in manufacturing and marketing pharmaceutical products, than the Company. A number of other companies are attempting to develop methods of delivering therapeutic substances within or across the blood brain barrier. There can be no assurance that the Company's competitors will not succeed in developing technologies and products that are more effective than those being developed by the Company or that would render the Company's technology and products obsolete or non-competitive. See "Competition" in the Company's Annual Report on Form 10-K.

DEPENDENCE ON KEY PERSONNEL - The Company is highly dependent on the principal members of its management and scientific staff and certain of its outside consultants. Loss of the services of any of these individuals could have a material adverse effect on the Company's operations. In addition, the Company's operations are dependent upon its ability to attract and retain additional qualified scientific and management personnel. There can be no assurance the Company will be able to attract and retain such personnel on acceptable terms given the competition among pharmaceutical, biotechnology and health care companies, universities and research institutions for experienced personnel.

REIMBURSEMENT AND HEALTH CARE REFORM - In both domestic and foreign markets, sales of the Company's potential products will 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. There can be no assurance that reimbursement will be provided by such payors at all or without substantial delay, or, if such reimbursement is provided, that the approved reimbursement amounts will provide sufficient funds to enable the Company to sell its products on a profitable basis. See "Reimbursement and Health Cost Control" in the Company's Annual Report on Form 10-K.