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As filed with the Securities and Exchange Commission on October 21, 2004

Registration No. 333-119585

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

AMENDMENT NO. 1
TO
FORM S-1

REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

XCYTE THERAPIES, INC.

(Exact name of registrant as specified in its charter)

Delaware	2834	91-1707622
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification Number)

1124 Columbia Street, Suite 130
Seattle, Washington 98104
(206) 262-6200

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Ronald J. Berenson, M.D.
President and Chief Executive Officer
Xcyte Therapies, Inc.
1124 Columbia Street, Suite 130
Seattle, Washington 98104
(206) 262-6200

(Name, address including zip code, and telephone number, including area code, of agent for service)

Sonya F. Erickson John C. Morrow Heller Ehrman White & McAuliffe LLP 701 Fifth Avenue, Suite 6100 Seattle, Washington 98104 (206) 447-0900	*Copies to:* Joanna L. Black General Counsel & Vice President Xcyte Therapies, Inc. 1124 Columbia Street, Suite 130 Seattle, Washington 98104 (206) 262-6200	Laura A. Berezin John M. Geschke Cooley Godward LLP Five Palo Alto Square 3000 El Camino Real Palo Alto, California 94306-2155 (650) 843-5000

Approximate date of commencement of proposed sale to the public: As soon as practicable after the Registration Statement becomes effective.

If any of the securities being registered on this form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. ☐
If this form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐ _____
If this form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐ _____
If this form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐ _____
If delivery of the prospectus is expected to be made pursuant to Rule 434, check the following box. ☐

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until this registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

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The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED OCTOBER 21, 2004

1,500,000 Shares

XCYTE THERAPIES, INC.

% Convertible Exchangeable Preferred Stock

(Cumulative Dividend, Liquidation Preference $10 Per Share)

- Xcyte Therapies, Inc. is offering 1,500,000 shares of % convertible exchangeable preferred stock, which is referred to in this prospectus as "convertible preferred stock."
- Dividends will be cumulative from the date of original issue at the annual rate of % of the liquidation preference of the convertible preferred stock, payable quarterly on the day of , , , and , commencing , 2005. Any dividends must be declared by our board of directors and must come from funds that are legally available for dividend payments.
- You may convert each share of the convertible preferred stock into shares of our common stock based on the initial conversion price of $, subject to certain adjustments.
- We may elect to automatically convert the convertible preferred stock into our common stock if the closing price of our common stock has exceeded $, which is 150% of the conversion price of the convertible preferred stock, for at least 20 trading days during any 30-day trading period, ending within five trading days prior to notice of automatic conversion.
- If we elect to automatically convert, or you elect to voluntarily convert, some or all of the convertible preferred stock into our common stock prior to , 2007, we will make an additional payment on the convertible preferred stock equal to the aggregate amount of dividends that would have been payable on the convertible preferred stock through and including , 2007, less any dividends already paid on the convertible preferred stock.
- We may elect to redeem the convertible preferred stock after , 2007 on the terms described in this prospectus.
- At our option, we may exchange the convertible preferred stock in whole, but not in part, on any dividend payment date beginning on , 2005 for our % convertible subordinated debentures. If we elect to exchange the convertible preferred stock for debentures, the exchange rate will be $10 principal amount of debentures for each share of the convertible preferred stock. The debentures, if issued upon exchange of the convertible preferred stock, will mature 25 years after the exchange date and will have terms substantially similar to those of the preferred stock.
- The convertible preferred stock has no maturity date and no voting rights prior to conversion into common stock, except under limited circumstances.
- Shares of our common stock are listed on the Nasdaq National Market under the symbol "XCYT." The last reported sale price of our common shares on October 20, 2004 was $2.74 per share. We have applied to list the convertible preferred stock on the Nasdaq National Market under the symbol "XCYTP."

This investment involves risk. See " Risk Factors" beginning on page 9.

	Per Share	Total
Public offering price	$	$
Underwriting discounts and commissions	$	$
Proceeds, before expenses, to Xcyte Therapies, Inc.	$	$

The underwriters have a 30-day option to purchase up to 225,000 additional shares of convertible preferred stock from us to cover over-allotments, if any.

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

Piper Jaffray **JMP Securities**

The date of this prospectus is , 2004.

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You should rely only on the information contained in this prospectus. We have not, and the underwriters have not, authorized any other person to provide you with different information. This prospectus is not an offer to sell, nor is it seeking an offer to buy, these securities in any state where the offer or sale is not permitted. The information in this prospectus is complete and accurate as of the date on the front cover, but the information may have changed since that date.

PROSPECTUS SUMMARY

This summary highlights selected information appearing elsewhere in this prospectus. While this summary highlights what we consider to be the most important information about us, you should carefully read this prospectus and the registration statement of which this prospectus is a part in their entirety before making an investment decision, especially the risks of investing in the convertible preferred stock, which we discuss under "Risk Factors" beginning on page 9, and our financial statements and related notes beginning on page F-1.

Unless the context requires otherwise, the words "Xcyte," "we," "company," "us" and "our" refer to Xcyte Therapies, Inc.

Our Business

We are a biotechnology company developing a new class of therapeutic products designed to enhance the body's natural immune responses to treat cancer, infectious diseases and other medical conditions associated with weakened immune systems. We derive our therapeutic products from a patient's own T cells, which are cells of the immune system that orchestrate immune responses and can detect and eliminate cancer cells and infected cells in the body. We use our patented and proprietary Xcellerate Technology to generate activated T cells, which we call Xcellerated T Cells, from blood that is collected from the patient. Activated T cells are T cells that have been stimulated to carry out immune functions. Our Xcellerate Technology is designed to rapidly activate and expand the patient's T cells outside of the body. These Xcellerated T Cells are then administered to the patient.

We believe, based on clinical trials to date, that our Xcellerate Technology can produce Xcellerated T Cells in sufficient numbers to generate rapid and potent immune responses to treat a variety of medical conditions. In our ongoing clinical studies using our Xcellerate Technology, we have observed an increase in the quantity and a restoration of the diversity of T cells in patients with weakened immune systems. We have submitted the findings on the increase in quantity of T cells to the FDA and plan to submit additional data in our next annual report. We believe we can efficiently manufacture Xcellerated T Cells for therapeutic applications. We expect Xcellerated T Cells may be used alone or in combination with other complementary treatments.

Our clinical trials and independent clinical trials using an earlier version of our technology, to date, have involved small numbers of patients and we have not designed nor been required to design such trials to produce statistically significant results as to efficacy. These trials have neither been randomized nor blinded to ensure that the results are due to the effects of Xcellerated T Cells. Success in early clinical trials neither ensures that large-scale trials will be successful nor predicts final results. We and other clinical investigators have completed or are conducting clinical trials in the following indications:

- ***Chronic lymphocytic leukemia, or CLL.*** In our ongoing Phase I/II clinical trial in CLL, treatment with Xcellerated T Cells resulted in a 50% to 100% reduction in the size of enlarged lymph nodes in 12 of 17 (71%) patients for whom data was available as of September 27, 2004. In addition, there was a 50% or greater reduction in spleen size as measured below the rib cage by physical examination in 10 of the 13 patients (77%) with enlarged spleens. These findings were submitted to the FDA in the Information Packet for a Type B End of Phase II meeting held on September 23, 2004. At this meeting we discussed with the FDA our plans for a Phase II/III clinical trial of Xcellerated T Cells in patients with CLL who have been previously treated with chemotherapy and have failed treatment with Campath, an FDA-approved drug used to treat CLL. Based on feedback from the FDA during this meeting, we intend to modify our planned protocol for this Phase II/III clinical trial to

provide the FDA with data we believe will address the FDA's concerns regarding the subcutaneous route of Campath administration and the dose and schedule of Xcellerated T Cells. While we believe these modifications will be responsive to the FDA's requests, we cannot be certain that this protocol will satisfy the FDA with respect to the issues raised at the FDA's September 23, 2004 meeting. We are also continuing to discuss issues related to chemistry, manufacturing and controls for the Xcellerated T Cells with the FDA. We have begun preparation for this Phase II/III clinical trial and expect to enroll our first patient by the end of the second quarter of 2005, subject to the FDA accepting our protocol and our proposals on chemistry, manufacturing and controls related matters.

- ***Multiple myeloma.*** In our ongoing Phase I/II clinical trial, we have shown that treatment with Xcellerated T Cells led to rapid recovery of T cells and lymphocytes in all 36 treated patients with multiple myeloma following treatment with high-dose chemotherapy and transplantation with the patient's own stem cells, known as autologous stem cell transplantation. Previous independent clinical studies have demonstrated a correlation between patient survival and the speed of recovery of lymphocytes following treatment with chemotherapy and stem cell transplantation. Preliminary results of our clinical trial show that, of the 35 patients evaluable for tumor responses, 18 patients (51%) had a greater than 90% decrease in the tumor marker used to measure disease. We have submitted these data to the FDA and will submit additional data in our next annual report. Additional follow-up will be required to determine the therapeutic effects of Xcellerated T Cells after transplant. In independent clinical trials, a greater than 90% decrease in the tumor marker has been associated with increased survival in multiple myeloma patients. We are also conducting a Phase II trial to treat patients who have advanced disease with Xcellerated T Cells without other anti-tumor therapy and expect to complete this trial by the end of the second quarter of 2005.

- ***Non-Hodgkin's lymphoma.*** In an independent clinical trial, conducted by one of our scientific founders under a physician-sponsored investigational new drug application, or IND, 16 non-Hodgkin's lymphoma patients undergoing high-dose chemotherapy and autologous stem cell transplantation were treated with T cells activated with an earlier version of our proprietary technology. Based on a September 2003 report of the results of this trial in the peer-reviewed journal, *Blood*, 8 out of these 16 patients with a very poor prognosis were still alive with a median follow-up of 33 months. These data were derived from an independent clinical trial, which we did not control and which was not designed to produce statistically significant results as to efficacy or to ensure the results were due to the effects of T cells activated using an earlier version of our proprietary technology. We have been advised that these data have been submitted to the FDA for review. We are also conducting a Phase II clinical trial in patients with low-grade non-Hodgkin's lymphoma who have failed prior therapies. We plan to enroll a total of 40 patients in this trial with most of the common forms of low-grade non-Hodgkin's lymphoma, including small lymphocytic, follicular, marginal zone and mantle cell types. We expect to complete this trial by the end of 2005.

- ***HIV.*** In an independent clinical trial in HIV patients with low T cell counts, conducted by one of our scientific founders under a physician-sponsored IND, treatment with T cells activated using an earlier version of our proprietary technology increased the patient population's average T cell count to within normal levels and maintained this normal count for at least one year following therapy. These data were derived from an independent clinical trial, which we did not control and which was not designed to produce statistically significant results as to efficacy or to ensure the results were due to the effects of T cells activated using

an earlier version of our proprietary technology. We have been advised that these data have been submitted to the FDA for review. The results of this study were published in a peer- reviewed journal, *Nature Medicine*, in January 2002. In several independent clinical studies, increased levels of T cells have been shown to correlate with increased patient survival and improved clinical outcome. Our collaborative partner, Fresenius Biotech GmbH, is conducting a Phase I clinical trial to treat HIV patients with genetically-modified T cells produced using our Xcellerate Technology. In addition, we are currently conducting laboratory studies in HIV and if these laboratory studies are successful, we plan to initiate a clinical trial using Xcellerated T Cells in patients with HIV.

Our Strategy

Our goal is to be a leader in the field of T cell therapy and to leverage our expertise in T cell activation to develop and commercialize products to treat patients with cancer, infectious diseases and other medical conditions associated with weakened immune systems. We plan to initially develop Xcellerated T Cells to treat life-threatening diseases, such as cancer and HIV, which currently have inadequate treatments. Key elements of our strategy include the following:

- ***Maximize speed to market.***
- ***Expand the therapeutic applications of Xcellerated T Cells.***
- ***Leverage complementary technologies and therapies.***
- ***Retain selected U.S. commercialization rights in cancer.***
- ***Enhance our manufacturing capabilities.***
- ***Expand and enhance our intellectual property.***

Risks Associated With Our Business

We are a development stage company. We are subject to numerous risks and obstacles, and we have highlighted the most important of them in “Risk Factors” beginning on page 9. In particular, we have a limited operating history and have incurred losses in each fiscal year since our inception. We incurred net losses of approximately $18.5 million for the year ended December 31, 2003 and $24.4 million for the six months ended June 30, 2004, and our deficit accumulated during the development stage was approximately $111.0 million as of June 30, 2004. We have no commercial products for sale, and we anticipate that we will incur substantial and increasing losses over the next several years as we expand our research, development and clinical trial activities, acquire or license technologies, scale up and improve our manufacturing operations, seek regulatory approval and, if we receive FDA approval, commercialize our products. Because of the numerous risks and uncertainties associated with our product development efforts, we are unable to predict whether or when we will achieve profitability. Our clinical trials and independent clinical trials using an earlier version of our technology, to date, have involved small numbers of patients, and we have not designed nor been required to design such trials to produce statistically significant results as to efficacy. These trials have neither been randomized nor blinded to ensure that the results are due to the effects of the Xcellerated T Cells. The results reported are preliminary and success in early clinical trials neither ensures that large-scale trials will be successful nor predicts final results.

Our Corporate Information

We were incorporated in Delaware as MolecuRx, Inc. in January 1996. We changed our name to CDR Therapeutics, Inc. in August 1996 and changed our name to Xcyte Therapies, Inc. in October 1997. Our principal executive offices are located at 1124 Columbia Street, Suite 130, Seattle, Washington 98104, and our telephone number is (206) 262-6200. Our web site address is *www.xcytetherapies.com*. The information contained on our web site is not incorporated by reference into and does not form any part of this prospectus.

THE OFFERING

Securities Offered	1,500,000 shares of % convertible exchangeable preferred stock, par value $0.001 per share (1,725,000 shares of convertible preferred stock if the underwriters exercise their over-allotment option in full).
Dividends	Dividends will be cumulative from the date of original issue at the annual rate of % of the liquidation preference of the convertible preferred stock, payable quarterly on the day of , , , and , commencing , 2005. Any dividends must be declared by our board of directors and must come from funds which are legally available for dividend payments.
Conversion Rights	Unless we redeem or exchange the convertible preferred stock, the convertible preferred stock can be converted at your option at any time into shares of our common stock at an initial conversion price of $ (equivalent to a conversion rate of approximately shares of common stock for each share of convertible preferred stock). The initial conversion price with respect to the convertible preferred stock is subject to adjustment in certain events, including a non-stock fundamental change or a common stock fundamental change, which are explained in more detail under the section entitled “Description of Convertible Preferred Stock—Conversion —Conversion Price Adjustment—Merger, Consolidation or Sale of Assets.”
Automatic Conversion	Unless we redeem or exchange the convertible preferred stock, we may elect to automatically convert some or all of the convertible preferred stock into shares of our common stock if the closing sale price of our common stock has exceeded 150% of the conversion price for at least 20 out of 30 consecutive trading days ending within five trading days prior to the notice of automatic conversion.
Dividend Make-Whole Payment	If we elect to automatically convert, or you voluntarily convert, some or all of the convertible preferred stock into shares of our common stock prior to , 2007, we will make an additional payment on the convertible preferred stock equal to the aggregate amount of cumulative

	dividends that would have accrued and become payable on the convertible preferred stock from the date of original issue through and including , 2007, less any dividends already paid on the convertible preferred stock. This additional payment is payable by us in cash or, at our option, in shares of our common stock, or a combination of cash and shares of our common stock.
Liquidation Preference	In the event of our voluntary or involuntary dissolution, liquidation or winding up, you will be entitled to be paid a liquidation preference equal to $10 per share of convertible preferred stock, plus accrued and unpaid dividends before any distribution of assets may be made to holders of capital stock ranking junior to the convertible preferred stock.
Optional Redemption	On or after , 2007, we may redeem the convertible preferred stock, in whole or in part, at our option at the redemption prices set forth in this prospectus, together with accrued dividends to, but excluding, the redemption date. See the section entitled “Description of Convertible Preferred Stock—Optional Redemption” below.
Voting Rights	Except as provided by law and in other limited situations described in this prospectus, you will not be entitled to any voting rights. However, you will, among other things, be entitled to vote as a separate class to elect two directors if we have not paid the equivalent of six or more quarterly dividends, whether or not consecutive. These voting rights will continue until we pay the full accrued but unpaid dividends on the convertible preferred stock.
Exchange Provisions	At our option, we may exchange the convertible preferred stock in whole, but not in part, on any dividend payment date beginning on , 2005 for our % convertible subordinated debentures. If we elect to exchange the convertible preferred stock for debentures, the exchange rate will be $10 principal amount of debentures for each share of convertible preferred stock.

Debentures	The debentures, if issued upon exchange of the convertible preferred stock, will have the following terms:
Interest Rate	The debentures will have an interest rate of % per year. Interest will be payable on and of each year, beginning on the first interest payment date after the exchange date.
Redemption	On or after , 2007 we may redeem the debentures at the redemption prices listed in this prospectus, plus accrued interest.
Maturity	The debentures will mature 25 years after the exchange date.
Conversion	The debentures may be converted at any time by the holder prior to maturity into shares of our common stock at the same conversion price applicable to the convertible preferred stock, subject to adjustment upon certain events.
Automatic Conversion	We may automatically convert the debentures into shares of our common stock at any time prior to maturity under the same terms applicable to the convertible preferred stock.
Interest Make-Whole Payment	If you voluntarily convert or we elect to automatically convert some or all of the debentures into shares of our common stock prior to , 2007, we will also make an additional payment on the debentures equal to the aggregate amount of interest that would have accrued and been payable from date of the original issuance of the debentures pursuant to the exchange through and including , 2007, less any interest paid with respect to such debentures. This additional payment is payable by us, in cash or, at our option, in shares of our common stock, or a combination of cash and shares of our common stock.

Subordination	The debentures are subordinated to all existing and future senior indebtedness and are effectively subordinated to all of the indebtedness and other liabilities (including trade and other payables, but excluding intercompany liabilities) of us and our subsidiaries. As of June 30, 2004, we had approximately $2.2 million of indebtedness outstanding that would have constituted senior indebtedness and approximately $4.6 million of indebtedness and other liabilities outstanding to which the debentures would have been effectively subordinated (including trade and other payables, but excluding intercompany liabilities). The indenture governing the debentures does not limit the amount of indebtedness, including senior indebtedness, that we and our subsidiaries may incur. See the section entitled “Description of Debentures—Subordination” below.
Use of Proceeds	We expect to use the net proceeds of this offering for working capital and general corporate purposes, including clinical trial, manufacturing and preclinical research and development activities, capital expenditures and complementary technology acquisitions.
Nasdaq National Market Symbol for our Common Stock	Our common stock is traded on the Nasdaq National Market under the symbol “XCYT.”
Nasdaq National Market Symbol for our Convertible Preferred Stock	We have applied to list the convertible preferred stock on the Nasdaq National Market under the symbol “XCYTP.”
Listing of Debentures	It is a condition to our ability to exchange the convertible preferred stock for debentures that the debentures be listed on one of the following markets: the Nasdaq National Market, Nasdaq SmallCap Market, American Stock Exchange or New York Stock Exchange or another similar national securities exchange.
Risk Factors	An investment in the convertible preferred stock involves a high degree of risk. See the section entitled “Risk Factors” beginning on page 9 for a discussion of certain factors that should be considered in evaluating an investment in the convertible preferred stock.

SUMMARY FINANCIAL DATA

The following summary financial data for the years ended December 31, 1999 through 2003 have been derived from our audited financial statements. The following summary financial data for the six-month periods ended June 30, 2003 and 2004, and the summary balance sheet data as of June 30, 2004 have been derived from our unaudited condensed financial statements. The unaudited condensed financial statements have been prepared on a basis consistent with our audited financial statements and include all adjustments we consider necessary for the fair presentation of the information. Operating results for the six months ended June 30, 2004 are not necessarily indicative of the results that may be expected for the entire year ending December 31, 2004. This information is only a summary and should be read together with the financial statements and the notes to those statements appearing elsewhere in this prospectus and the information under "Selected Financial Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations."

	Years ended December 31,					Six months ended June 30,	
	1999	2000	2001	2002	2003	2003	2004
	(in thousands, except per share data)					(unaudited)	
Statement of Operations Data							
Total revenue	$ 16	$ 98	$ 30	$ —	$ 170	$ 72	$ 36
Operating expenses:							
Research and development	5,471	11,257	14,701	14,663	13,685	7,029	8,601
General and administrative	1,654	2,403	5,204	4,979	4,322	2,194	3,297
Total operating expenses	7,125	13,660	19,905	19,642	18,007	9,223	11,898
Loss from operations	(7,109)	(13,562)	(19,875)	(19,642)	(17,837)	(9,151)	(11,862)
Other income (expense), net	162	621	363	189	(620)	(38)	(12,508)
Net loss	(6,947)	(12,941)	(19,512)	(19,453)	(18,457)	(9,189)	(24,370)
Accretion of preferred stock	—	—	(8,411)	(8,001)	—	—	(8,973)
Net loss applicable to common stockholders	$ (6,947)	$ (12,941)	$ (27,923)	$ (27,454)	$ (18,457)	$ (9,189)	$ (33,343)
Basic and diluted net loss per common share	$ (6.32)	$ (11.86)	$ (22.14)	$ (19.34)	$ (12.40)	$ (6.21)	$ (3.66)
Shares used in basic and diluted net loss per share calculation	1,100	1,091	1,261	1,420	1,488	1,481	9,107

The following table contains a summary of our balance sheet as of June 30, 2004:

- on an actual basis; and
- on an as adjusted basis to reflect the sale of 1,500,000 shares of the convertible preferred stock we are offering at an assumed public offering price of $10 per share, after deducting underwriting discounts and commissions and estimated offering expenses to be paid by us.

	As of June 30, 2004	
	Actual	As adjusted
	(unaudited, in thousands)	
Balance Sheet Data		
Cash, cash equivalents and short-term investments	$ 33,730	$ 47,315
Working capital	30,838	44,423
Total assets	39,860	53,445
Long-term obligations, less current portion	2,594	2,594
Total stockholders' equity	33,097	46,682

RISK FACTORS

Investing in the convertible preferred stock involves a high degree of risk. You should carefully consider the risks described below with all of the other information included in this prospectus before deciding to invest in the convertible preferred stock. If any of the following risks actually occur, they may materially harm our business and our financial condition and results of operations. In this event, the market price of the convertible preferred stock and our common stock could decline and you could lose part or all of your investment. Additional risks and uncertainties not presently known to us or that we currently believe to be immaterial may also adversely affect our business.

Risks Related To Our Business

We expect to continue to incur substantial losses, and we may never achieve profitability.

We are a development stage company with limited operating history. We have incurred significant operating losses since we began operations in 1996, including net losses of approximately $18.5 million for the year ended December 31, 2003 and $24.4 million for the six months ended June 30, 2004, and we may never become profitable. As of June 30, 2004, we had a deficit accumulated during the development stage of approximately $111.0 million. These losses have resulted principally from costs incurred in our research and development programs and from our general and administrative expenses. We also expect to incur significant costs to renovate our leased facility for the manufacture of Xcellerated T Cells for our planned clinical trials and, if we receive FDA approval, for initial commercialization activities. To date, we have derived no revenues from product sales or royalties. We do not expect to have any significant product sales or royalty revenue for a number of years. Our operating losses have been increasing during the past several years and will continue to increase significantly in the next several years as we expand our research and development, participate in clinical trial activities, acquire or license technologies, scale up and improve our manufacturing operations, seek regulatory approvals and, if we receive FDA approval, commercialize our products. These losses, among other things, have had and will continue to have an adverse effect on our stockholders' equity and working capital. Because of the numerous risks and uncertainties associated with our product development efforts, we are unable to predict when we may become profitable, if at all. If we are unable to achieve and then maintain profitability, the market value of our common and convertible preferred stock will likely decline.

We will need to raise substantial additional capital to fund our operations, and our failure to obtain funding when needed may force us to delay, reduce or eliminate our product development programs or collaboration efforts.

Developing products and conducting clinical trials for the treatment of cancer and infectious diseases require substantial amounts of capital. To date, we have raised capital through private equity financings, an initial public offering, the sale of convertible promissory notes and equipment leases. Currently, we anticipate that our cash, cash equivalents and investments will be adequate to satisfy our capital needs through at least the end of the second quarter of 2005 if we do not raise capital in this offering. If we are unable to obtain additional funding in a timely fashion, we may never conduct required clinical trials to demonstrate safety and clinical efficacy of Xcellerated T Cells, and we may never obtain FDA approval or commercialize any of our products. We will need to raise additional capital to, among other things:

- fund our clinical trials;
- expand our research and development activities;
- scale up and improve our manufacturing operations;
- finance our general and administrative expenses;
- acquire or license technologies;
- prepare, file, prosecute, maintain, enforce and defend our patent and other proprietary rights;

- pursue regulatory approval and commercialization of Xcellerated T Cells and any other products that we may develop; and
- develop and implement sales, marketing and distribution capabilities.

Our future funding requirements will depend on many factors, including, among other things:

- the progress, expansion and cost of our clinical trials and research and development activities;
- any future decisions we may make about the scope and prioritization of the programs we pursue;
- the development of new product candidates or uses for our Xcellerate Technology;
- changes in regulatory policies or laws that affect our operations; and
- competing technological and market developments.

If we raise additional funds by issuing securities, further dilution to stockholders may result and new investors could have rights superior to our current stockholders. In addition, debt financing, if available, may include restrictive covenants. If adequate funds are not available to us, we may have to liquidate some or all of our assets or delay, reduce the scope of or eliminate some portion or all of our development programs or clinical trials. We also may have to license to other companies our products or technologies that we would prefer to develop and commercialize ourselves.

Due to our limited resources and access to capital, we must prioritize our development programs and may choose to pursue programs that never receive regulatory approval or prove to be profitable.

Because we have limited resources and access to capital to fund our operations, our management must make significant prioritization decisions on which programs to pursue and how much of our resources to allocate to each program. We are currently focusing our research and development efforts on the use of Xcellerated T Cells to treat CLL, multiple myeloma, non-Hodgkin's lymphoma and HIV. Our management has broad discretion to suspend, scale down or discontinue any of these programs or to initiate new programs to treat other clinical indications. Xcellerated T Cells may never prove to be safe and clinically effective to treat any of these indications, and the market for these indications may never prove to be profitable even if we obtain regulatory approval for these indications. Accordingly, we cannot assure you that the programs we decide to pursue will lead to regulatory approval or will prove to be profitable.

If we are unable to protect our proprietary rights, we may not be able to compete effectively.

Our success depends in part on obtaining, maintaining and enforcing our patents and in-licensed and proprietary rights throughout the world. We believe we own, or have rights under licenses to, issued patents and pending patent applications that are necessary to commercialize Xcellerated T Cells. However, the patents on which we rely may be challenged and invalidated, and our patent applications may not result in issued patents. Moreover, our patents and patent applications may not be sufficiently broad to prevent others from practicing our technologies or developing competing products. We also face the risk that others may independently develop similar or alternative technologies or may design around our proprietary and patented technologies.

The patent positions of pharmaceutical and biotechnology companies can be highly uncertain and involve complex legal and factual questions for which important legal principles remain unresolved. No consistent policy regarding the breadth of claims allowed in biotechnology patents has emerged to date in the United States. Furthermore, the application and enforcement of patent laws and regulations in foreign countries is even more uncertain, particularly where, as here, patent rights are co-owned with others, thus requiring their consent to ensure exclusivity in the marketplace. Accordingly, we cannot assure you that we will be able to effectively file, protect or defend our proprietary rights in the United States or in foreign jurisdictions on a consistent basis.

Third parties may successfully challenge the validity of our patents. We will only be able to protect our technologies from unauthorized use by third parties to the extent that valid and enforceable patents or other

proprietary rights cover them. Because the issuance of a patent is not conclusive of its validity or enforceability, we cannot assure you how much protection, if any, will be given to our patents if we attempt to enforce them or if others challenge their validity in court. It is possible that a competitor may successfully challenge our patents or that a challenge will result in limiting the coverage of our patents. If the outcome of litigation is adverse to us, third parties may be able to use our technologies without payment to us.

In addition, it is possible that others may infringe upon our patents or successfully avoid them through design innovation. We may initiate litigation to police unauthorized use of our proprietary rights. However, the cost of litigation to uphold the validity of our patents and to prevent infringement could be substantial, particularly where patent rights are co-owned with others, thus requiring their participation in the litigation, and the litigation will consume time and other resources. Some parties may be better able to sustain the costs of complex patent litigation because they have substantially greater resources. Moreover, if a court decides that our patents are not valid, we will not have the right to stop others from using our inventions. There is also the risk that, even if the validity of our patents were upheld, a court may refuse to stop others on the grounds that their activities do not infringe upon our patents. Because protecting our intellectual property is difficult and expensive, we may be unable to prevent misappropriation of our proprietary rights.

We also rely on certain proprietary trade secrets and know-how, especially where we believe patent protection is not appropriate or obtainable. Trade secrets and know-how, however, are difficult to protect. We have taken measures to protect our unpatented trade secrets and know-how, including the use of confidentiality and invention assignment agreements with our employees, consultants and some of our contractors. It is possible, however, that these persons may unintentionally or willingly breach the agreements or that our competitors may independently develop or otherwise discover our trade secrets and know-how.

The clinical and commercial utility of our Xcellerate Technology is uncertain and may never be realized.

Our Xcellerate Technology is based on a novel approach to treat cancer and infectious diseases and is in an early stage of development. Our clinical trials and independent clinical trials using an earlier version of our technology, to date, have involved small numbers of patients, which, unless otherwise stated, were not designed to produce statistically significant results as to efficacy. In addition, these trials have neither been randomized nor blinded to ensure the results are due to the effect of Xcellerated T Cells. Some of the data regarding our Xcellerate Technology were derived from independent clinical trials, including physician-sponsored trials, which we do not control. In addition, data from these independent clinical trials were derived using T cells activated with an earlier version of our proprietary technology. Success in early clinical trials neither ensures that large-scale trials will be successful nor predicts final results. Acceptable results in early trials may not be repeated in later trials. In addition, we may not be able to treat patients if we cannot collect a sufficient quantity of T cells that meet our minimum specifications to enable us to produce Xcellerated T Cells. Also, some patients may be unable to tolerate the required procedures for blood collection and administration of Xcellerated T Cells. Finally, we only have limited experience in treating patients with multiple doses of Xcellerated T Cells, which may be required to achieve optimal therapeutic effects.

Although we have observed few serious side effects in patients infused with Xcellerated T Cells in clinical trials conducted to date, we may not ultimately be able to provide the FDA with satisfactory data to support a claim of clinical safety and efficacy sufficient to enable the FDA to approve Xcellerated T Cells for commercialization. This may be because later clinical trials may fail to reproduce favorable data we may have obtained in earlier clinical trials, because the FDA may disagree with how we interpret the data from these clinical trials or because the FDA may not accept these therapeutic effects as valid endpoints in pivotal trials necessary for market approval. For example, although our studies to date have indicated that our Xcellerate Technology can lead to increased T cell and lymphocyte counts, the FDA will not accept increased T cell and lymphocyte counts as a valid endpoint in pivotal studies necessary for market approval. Instead, we would be required to show that Xcellerated T Cells lead to a significant clinical benefit. We will also need to demonstrate that Xcellerated T Cells are safe. We do not have data on possible harmful long-term effects of Xcellerated T Cells and will not

have any data on long-term effects in the near future. We also have limited data on the safety and efficacy of Xcellerated T Cells to treat patients with very weakened immune systems, such as patients with HIV. For these and other reasons, the clinical effectiveness and commercialibility of our Xcellerate Technology is uncertain and may never be realized.

Our ability to initiate a pivotal trial in patients with CLL on our proposed protocol and timeline is uncertain and highly dependent on the FDA.

We cannot be sure that the FDA will accept the Phase II/III clinical trial protocol we plan to submit in the fourth quarter of 2004 for Xcellerated T Cells in patients with CLL, who have been previously treated with chemotherapy and have failed treatment with Campath. The FDA may conclude that we have not adequately addressed the issues they raised in our initial meeting on September 23, 2004 or they may propose additional modifications to address new concerns they have with our protocol. If the FDA does not accept the Phase II/III clinical trial protocol we plan to submit in the fourth quarter of 2004 or if the FDA requires us to conduct a separate clinical trial to address their concerns, then our plan to initiate a pivotal trial by the end of the second quarter of 2005 could be significantly delayed. Our clinical development plan for CLL is premised upon the continued existence of an unmet medical need in this population. FDA approval of another drug or biologic to treat Campath-refractory CLL could result in the FDA requiring that we conduct larger, controlled studies in more patients.

To date, Xcellerated T Cells have been shown in CLL patients to decrease lymph nodes and spleen size, but not leukemic blood counts. We cannot be sure that the FDA will accept two of these three major measurements of tumor response as sufficient to support product approval. In addition, although the FDA has accepted tumor response as a valid clinical endpoint in disease indications where there is an unmet clinical need such as CLL, we cannot be sure that the FDA will not require us to demonstrate patient survival in a pre-approval trial rather than a post-approval confirming trial that we plan to do. The Phase II/III clinical trial we plan to conduct is not randomized or powered statistically to demonstrate patient survival. To address decreases in leukemic counts in the blood in order to achieve all three major measurements of tumor response, we are planning to enroll CLL patients in our proposed Phase II/III clinical trial who have been recently treated with Campath, a drug that leads to decreases in leukemic counts in the blood. We have not previously tested the effects of using Xcellerated T Cells after use of Campath. We cannot be sure that patients' leukemic counts will not rise again after the use of Campath or that we will observe a similar safety profile and treatment effects of our Xcellerated T Cells in CLL patients who have received Campath as we have observed in our previous clinical trials.

Our ability to initiate a pivotal trial by the end of the second quarter of 2005, or at any other time, will also depend on our ability to address comments received from the FDA related to chemistry, manufacturing and controls issues for the Xcellerated T Cells. We plan to provide further information and have further discussions with the FDA concerning these issues. We cannot be sure that the FDA will accept our proposals.

We may fail to obtain or may experience delays in obtaining regulatory approvals to market Xcellerated T Cells, which will significantly harm our business.

We do not have the necessary approvals to market or sell Xcellerated T Cells in the United States or any foreign market. Before marketing Xcellerated T Cells, we must successfully complete extensive preclinical studies and clinical trials and rigorous regulatory approval procedures. We cannot assure you that we will obtain the necessary regulatory approvals to commercialize Xcellerated T Cells.

Conducting clinical trials is uncertain and expensive and often takes many years to complete. The results from preclinical testing and early clinical trials are often not predictive of results obtained in later clinical trials. In conducting clinical trials, we may fail to establish the effectiveness of Xcellerated T Cells for the targeted indication or we may discover unforeseen side effects. Moreover, clinical trials may require the enrollment of large numbers of patients, and suitable patients may be difficult to identify and recruit. Clinical trials are also often subject to unanticipated delays. Also, patients participating in the trials may die before completion of the

trial or suffer adverse medical effects unrelated to treatment with Xcellerated T Cells. This could delay or lead to termination of our clinical trials. A number of companies in the biotechnology industry have suffered significant setbacks in every stage of clinical trials, even in advanced clinical trials after positive results in earlier trials. In addition, we have developed a custom bioreactor system in our manufacturing process, and we will not be able to obtain FDA approval to commercialize Xcellerated T Cells without the FDA's acceptance of our manufacturing process using this bioreactor system.

To date, the FDA has approved only a few cell-based therapies for commercialization. The FDA recently formed a new division that will regulate biologic products, such as Xcellerated T Cells. The processes and requirements associated with this new division may cause delays and additional costs in obtaining regulatory approvals for our products. Because our Xcellerate Technology is novel, and cell-based therapies are relatively new, regulatory agencies may lack experience in evaluating product candidates like Xcellerated T Cells. This inexperience may lengthen the regulatory review process, increase our development costs and delay or prevent commercialization of Xcellerated T Cells.

In addition, the following factors may impede or delay our ability to obtain timely regulatory approvals, if at all:

- our limited experience in filing and pursuing the applications necessary to gain regulatory approvals;
- any failure to satisfy efficacy, safety or quality standards;
- any difficulty identifying, recruiting, enrolling and retaining a sufficient number of qualified patients for our clinical trials;
- a decision by us or regulators to suspend or terminate our clinical trials if the participating patients are being exposed to unacceptable health risks;
- regulatory inspections of our clinical trials or manufacturing facilities, which may, among other things, require us to undertake corrective action or suspend or terminate our clinical trials if investigators find us not to be in compliance with applicable regulatory requirements;
- our ability to produce sufficient quantities of Xcellerated T Cells to complete our clinical trials;
- varying interpretations of the data generated from our clinical trials; and
- changes in governmental regulations or administrative actions.

Any delays in, or termination of, our clinical trials could materially and adversely affect our development and collaboration timelines, which may cause our stock price to decline. If we do not complete clinical trials for Xcellerated T Cells and obtain regulatory approvals, we will not be able to commercialize Xcellerated T Cells and we may not be able to recover any of the substantial costs we have invested in the development of Xcellerated T Cells.

We have limited manufacturing experience and may not be able to manufacture Xcellerated T Cells on a large scale or in a cost-effective manner.

We currently manufacture Xcellerated T Cells for research and development and our clinical activities in one manufacturing facility in Seattle, Washington. We have not demonstrated the ability to manufacture Xcellerated T Cells beyond quantities sufficient for research and development and limited clinical activities. We have no experience manufacturing Xcellerated T Cells at the capacity that will be necessary to support large clinical trials or commercial sales. We plan to relocate our manufacturing activities to our leased property in Bothell, Washington, which we have recently renovated for the manufacture of Xcellerated T Cells for our planned clinical trials and, if we receive FDA approval, initial commercialization. However, we may encounter difficulties in obtaining the approvals for validating and operating this manufacturing facility. We may also be unable to hire the qualified personnel that we will require to accommodate the expansion of our operations and

manufacturing capabilities. If we relocate our manufacturing activities to a new facility during or after a pivotal clinical trial, we will be required to demonstrate to the FDA similarity of the Xcellerated T Cells manufactured in the new facility to the Xcellerated T Cells manufactured in the prior facility to obtain FDA approval. If we cannot adequately demonstrate similarity to the FDA, we could be required to repeat clinical trials, which would be expensive and substantially delay regulatory approval.

Because our Xcellerate Technology is a patient-specific, cell-based product, the manufacture of Xcellerated T Cells is more complicated than the manufacture of most pharmaceuticals. Our present manufacturing process may not meet our initial expectations as to reproducibility, yield, purity or other measurements of performance. In addition, we are using a custom bioreactor system in our manufacturing process and only have limited manufacturing experience using this bioreactor system to activate and expand T cells. Because this new manufacturing process is unproven, we may never successfully utilize our custom bioreactor system to commercialize our products. In addition, because some of our prior clinical trials were conducted using a prior version of the manufacturing system, which did not use the custom bioreactor, we may have to show comparability of the Xcellerated T Cells manufactured with the different versions of the manufacturing systems we have used. To show comparability, we may be required to conduct additional clinical trials. If we make additional modifications in our manufacturing process in the future, we may also have to show comparability of newer versions of the manufacturing process. We are currently negotiating a manufacturing and supply agreement with Wave Biotech LLC, the manufacturer of our bioreactor system. If we are unable to successfully negotiate this contract or are unable to procure a suitable alternative manufacturer in a timely manner, we could face a setback in the development of our manufacturing process. For these and other reasons, we may not be able to manufacture Xcellerated T Cells on a large scale or in a cost-effective manner.

We are the only manufacturer of Xcellerated T Cells. Although we are considering third-party manufacturing options, we expect that we will conduct most of our manufacturing in our own facility for the next several years. Furthermore, because we are the only manufacturer of Xcellerated T Cells and we currently use only one manufacturing facility, any damage to or destruction of our manufacturing facility or our equipment, prolonged power outage, contamination of our facility or shutdown by the FDA or other regulatory authority could significantly impair or curtail our ability to produce Xcellerated T Cells. In addition, we store our patients' cells in freezers at our manufacturing facility. If these cells are damaged at our facility, including by the loss or malfunction of these freezers or our back-up power systems, we would need to collect replacement patient cells, which would delay our patients' treatments. If we are unable to collect replacement cells from our patients, we could incur liability and our business could suffer.

The government and other third-party payors may control the pricing and profitability of our products.

Our ability to commercialize Xcellerated T Cells successfully will depend in part on the extent to which governmental authorities, private health insurers and other organizations establish appropriate reimbursement levels for the cost of Xcellerated T Cells and related treatments. Increasing emphasis on managed care in the United States will continue to put pressure on the pricing of healthcare products. In addition, governmental authorities may establish pricing and reimbursement levels for some disease indications but not others, which may reduce the demand for Xcellerated T Cells and our profitability. Pricing and profitability of healthcare products are also subject to governmental control in some foreign markets. Cost control initiatives could:

- result in lower prices for Xcellerated T Cells or any future products or their exclusion from reimbursement programs;
- reduce any future revenues we may receive from collaborators;
- discourage physicians from delivering Xcellerated T Cells to patients in connection with clinical trials or future treatments; and
- limit off-label use of Xcellerated T Cells.

We rely on third parties to conduct some of the clinical trials for Xcellerated T Cells, and their failure to timely and successfully perform their obligations to us, or their defective performance, could significantly harm our product development programs and our business.

Because we rely on academic institutions, site management organizations and clinical research organizations to conduct, supervise or monitor some or all aspects of clinical trials involving our Xcellerate Technology, we have limited control over the timing and other aspects of these clinical trials. If these third parties do not successfully carry out their duties under their agreements with us, fail to inform us if these trials fail to comply with clinical trial protocols or fail to meet expected deadlines, this may adversely affect our clinical trials and we may not be able to obtain regulatory approvals.

A third party on whom we rely to conduct clinical trials for Xcellerated T Cells could conduct those clinical trials defectively. This could lead to patients experiencing harmful side effects or could prevent us from proving that Xcellerated T Cells are effective, which may result in:

- our failure to obtain or maintain regulatory approval;
- physicians not using or recommending our products; and
- significant product liability.

Xcellerated T Cells may never achieve market acceptance even if we obtain regulatory approvals.

We do not expect to receive regulatory approvals for the commercial sale of any products derived from our Xcellerate Technology for several years, if at all. Even if we do receive regulatory approvals, the future commercial success of Xcellerated T Cells will depend, among other things, on its acceptance by physicians, patients, healthcare payors and other members of the medical community as a therapeutic and cost-effective alternative to commercially available products. Because only a few cell-based therapy products have been commercialized, we do not know to what extent cell-based immunotherapy products will be accepted as therapeutic alternatives. If we fail to gain market acceptance, we may not be able to earn sufficient revenues to continue our business. Market acceptance of and demand for any product that we may develop will depend on many factors, including:

- our ability to provide acceptable evidence of safety and efficacy;
- convenience and ease of administration;
- prevalence and severity of adverse side effects;
- availability of alternative and competing treatments;
- cost effectiveness;
- effectiveness of our marketing and distribution strategy and the pricing of any product that we may develop;
- publicity concerning our products or competitive products; and
- our ability to obtain sufficient third-party coverage or reimbursement.

If Xcellerated T Cells do not become widely accepted by physicians and patients, it is unlikely that we will ever become profitable.

Even if we obtain regulatory approvals for Xcellerated T Cells, those approvals and ongoing regulation of our products may limit how we manufacture and market our products, which could prevent us from realizing the full benefit of our efforts.

If we obtain regulatory approvals, Xcellerated T Cells, our Xcellerate Technology and our manufacturing facilities will be subject to continual review, including periodic inspections, by the FDA and other U.S. and foreign

regulatory authorities. In addition, regulatory authorities may impose significant restrictions on the indicated uses or marketing of Xcellerated T Cells or other products that we may develop. These and other factors may significantly restrict our ability to successfully commercialize Xcellerated T Cells and our Xcellerate Technology.

We and many of our vendors and suppliers are required to comply with current Good Manufacturing Practices, or cGMP, which include requirements relating to quality control and quality assurance as well as the corresponding maintenance of records and documentation. Furthermore, our manufacturing facilities must be approved by regulatory agencies before these facilities can be used to manufacture Xcellerated T Cells, and they will also be subject to additional regulatory inspections. Any material changes we may make to our manufacturing process may require approvals by the FDA and state or foreign regulatory authorities. Failure to comply with FDA or other applicable regulatory requirements may result in criminal prosecution, civil penalties, recall or seizure of products, partial or total suspension of production or withdrawal of a product from the market.

We must also report adverse events that occur when our products are used. The discovery of previously unknown problems with Xcellerated T Cells or our manufacturing facilities may result in restrictions or sanctions on our products or manufacturing facilities, including withdrawal of our products from the market. Regulatory agencies may also require us to reformulate our products, conduct additional clinical trials, make changes in the labeling of our product or obtain re-approvals. This may cause our reputation in the market place to suffer or subject us to lawsuits, including class action suits.

We rely on third parties to administer Xcellerated T Cells to patients, and our business could be harmed if these third parties administer Xcellerated T Cells incorrectly.

We rely on the expertise of physicians, nurses and other associated medical personnel to administer Xcellerated T Cells to patients. Although our Xcellerate Technology employs mostly standard medical procedures, if these medical personnel are not properly trained to administer, or are negligent in the administration of, Xcellerated T Cells, the therapeutic effect of Xcellerated T Cells may be diminished or the patient may suffer critical injury.

In addition, third-party medical personnel must thaw Xcellerated T Cells received from us. If this thawing is not performed correctly, the patient may suffer critical injury. While we intend to provide training materials and adequate resources to these third-party medical personnel, the thawing of Xcellerated T Cells will occur outside our supervision and may not be administered properly. If, due to a third-party error, people believe that Xcellerated T Cells are ineffective or harmful, the desire to use Xcellerated T Cells may decline, which will negatively impact our ability to generate revenue. We may also face significant liability even though we may not be responsible for the actions of these third parties.

There are risks inherent in our business that may subject us to potential product liability suits and other claims, which may require us to engage in expensive and time-consuming litigation or pay substantial damages and may harm our reputation and reduce the demand for our product.

Our business exposes us to product liability risks, which are inherent in the testing, manufacturing, marketing and sale of biopharmaceutical products. We will face an even greater risk of product liability if we commercialize Xcellerated T Cells. An individual may bring a product liability claim against us if Xcellerated T Cells cause, or merely appear to have caused, an injury. In addition, we are licensing our Xcellerate Technology in the field of HIV retroviral gene therapy to our collaborative partner, Fresenius Biotech GmbH, or Fresenius. We may incur liability and be exposed to claims for products manufactured by Fresenius.

Certain aspects of how Xcellerated T Cells are processed and administered may increase our exposure to liability. Our Xcellerate Technology requires us to activate a patient's T cells *ex vivo*, or outside of the body, using blood collected from the patient. Third-party physicians or other medical personnel initially collect a patient's blood through a process called leukapheresis, which may pose risks, such as bleeding and infection. The blood that we collect from our patients may contain infectious agents that may infect medical personnel or others with whom the blood comes in contact. Medical personnel administer Xcellerated T Cells to patients intravenously in an outpatient

procedure. This procedure poses risks to the patient similar to those occurring with infusions of other frozen cell products, such as stem cells, including blood clots, infection and mild to severe allergic reactions.

It is possible that we or third parties may misidentify Xcellerated T Cells and deliver them to the wrong patient. If these misidentified Xcellerated T Cells are administered to the wrong patient, the patient could suffer irreversible injury or death.

The discovery of unforeseen side effects of Xcellerated T Cells could also lead to lawsuits against us. Regardless of merit or eventual outcome, product liability or other claims may, among other things, result in:

- injury to our reputation and decreased demand for Xcellerated T Cells;
- withdrawal of clinical trial volunteers;
- costs of related litigation; and
- substantial monetary awards to plaintiffs.

We currently have clinical trial insurance that covers our clinical trials up to $5.0 million per occurrence with a $5.0 million aggregate limit, and we intend to obtain product liability coverage in the future. However, due to factors outside of our control, including the risks discussed above as well as conditions in the relevant insurance markets, we may not be able to renew or obtain such coverage on acceptable terms, if at all. Furthermore, even if we secure coverage, we may not be able to obtain policy limits adequate to satisfy any liability that may arise. If a successful product liability or other claim or series of claims is brought against us for uninsured liabilities or in excess of insured liabilities, our assets may not be sufficient to cover these claims and our business operations could suffer.

If Xcellerated T Cells or components of our Xcellerate Technology alone or in combination with complementary treatments cause unforeseen harmful side effects, physicians may not use our products and/or we may incur significant product liability, which will adversely affect our ability to operate our business.

Xcellerated T Cells or components of our Xcellerate Technology may cause unforeseen harmful side effects. For example, a patient receiving Xcellerated T Cells could have a severe allergic reaction or could develop an autoimmune condition. While we employ procedures to substantially remove the antibodies and beads used to generate Xcellerated T Cells, it is possible that residual antibodies or beads may be infused into patients and cause harmful effects.

In addition, we have not conducted studies on the long-term effects associated with the different types of media that we use to grow and freeze cells as part of our Xcellerate Technology. These media contain substances that have proved harmful if used in certain quantities. While we believe that we use sufficiently small quantities of these substances, harmful effects may still arise from our use of these media. As we continue to develop our Xcellerate Technology, we may encounter harmful side effects that we did not previously observe in our prior studies and clinical trials.

We believe Xcellerated T Cells may be used in combination with complementary treatments, including cancer vaccines, monoclonal antibodies, genes, cytokines or chemotherapy, and one or more of these other therapies could cause harmful side effects that could be attributed to Xcellerated T Cells. Any or all of these harmful side effects may occur at various stages of our product development, including the research stage, the development stage, the clinical stage or the commercial stage of our products. If people believe Xcellerated T Cells or any component of our Xcellerate Technology alone or in combination with complementary treatments causes harmful side effects, we may incur significant damages from product liability claims, which will adversely affect our ability to operate our business.

We rely on a limited number of manufacturers and suppliers for some of the key components of our Xcellerate Technology. The loss of these suppliers, or their failure to provide us with adequate quantities of these key components when needed, could delay our clinical trials and prevent or delay commercialization of Xcellerated T Cells.

We rely on third-party suppliers for some of the key components used to manufacture Xcellerated T Cells. We rely on Lonza Biologics PLC, or Lonza, to develop and manufacture the antibodies that we use in our Xcellerate Technology. Either party may terminate our agreements with Lonza for breach or insolvency of the other party or if Lonza is unable to perform its obligations for scientific or technical reasons. Our current agreements with Lonza provide for manufacturing development and validation, and the creation and submission of materials required to obtain regulatory approval of the antibody manufacturing process. We are using the antibodies supplied by Lonza under the agreements to manufacture the Xcellerated T Cells used in our clinical trials. We are currently negotiating an agreement with Lonza to manufacture the antibodies for commercial use. If we are unable to negotiate this contract with Lonza or are unable to procure a suitable alternative manufacturer in a timely manner and on favorable terms, if at all, we may incur significant costs and be unable to continue developing our Xcellerate Technology. We are aware of few companies with the ability to manufacture commercial-grade antibodies.

Our Xcellerate Technology also depends in part on the successful attachment of the antibodies to magnetic beads. We currently use magnetic beads developed and manufactured by Dynal A.S., or Dynal, in Oslo, Norway. Dynal has the right to terminate the agreement if we do not purchase a minimum quantity of beads. Either party may terminate the agreement as of August 2009 for any reason, or earlier for the material breach or insolvency of the other party. If the agreement is not terminated by August 2009, either party can elect to extend the term of the agreement for an additional 5 years. Otherwise, it will automatically renew on a year to year basis. We are contractually obligated to obtain our beads from Dynal unless Dynal is unable to fill our orders or certain other circumstances arise. If Dynal terminates our contract or if Dynal discontinues manufacturing our beads for any reason, we may be unable to find a suitable alternative manufacturer in a timely manner, or at all, which would delay our clinical trials and delay or prevent commercialization of Xcellerated T Cells.

Our manufacturing process currently uses a commercially available tissue culture media that is available from only one manufacturer, Cambrex Bio Science Walkersville, Inc. If Cambrex is unwilling or unable to supply us with this media, we would need to use an alternative tissue culture media, which may delay our clinical trials and harm our business. We do not have agreements with Cambrex which obligate them to provide us with any products for future clinical trials or future commercial sales.

In addition, we currently use a custom bioreactor to manufacture Xcellerated T Cells that is available from only one manufacturer, Wave Biotech LLC. There are a limited number of manufacturers that are capable of manufacturing custom bioreactors. If Wave Biotech is unwilling or unable to manufacture or supply us with custom bioreactors, we may be unable to find a suitable alternative in a timely manner, or at all, which would delay our clinical trials and delay or prevent commercialization of Xcellerated T Cells. We do not have agreements with Wave Biotech which obligate them to provide us with custom bioreactors.

We have qualified and validated commercially available disposable bags and tubing sets in our manufacturing process from only one manufacturer, Baxter International, Inc. If Baxter is unwilling or unable to supply us with the disposables, we would need to find an alternative manufacturer and qualify and validate alternative disposables, which may delay our clinical trials and harm our business. We do not have agreements with Baxter which obligate them to provide us with any products for future clinical trials or future commercial sales.

Although these and other suppliers have produced our components with acceptable quality, quantity and cost in the past, they may be unable or unwilling to timely meet our future demands. They may also increase the prices they charge us. Obtaining similar components from other suppliers and validating these components may be difficult and expensive. If we have to switch to a replacement supplier, we could face additional regulatory delays, which could interrupt the manufacture and delivery of our product for an extended period. In addition,

because Lonza and Dynal are located outside the United States, we are subject to foreign import laws and customs regulations, which complicate, and could delay, shipment of components to us and delay the development and production of Xcellerated T Cells. Any delay in the development or production of Xcellerated T Cells may impact our ability to generate revenue and cause our stock price to decline.

If we or any of our third-party manufacturers do not maintain high standards of manufacturing, our ability to develop and commercialize Xcellerated T Cells could be delayed or curtailed.

We and any third parties that we may use in the future to manufacture our products must continuously adhere to cGMP regulations enforced by the FDA through its facilities inspection program. If our facilities or the facilities of these third parties do not pass a pre-approval plant inspection, the FDA will not grant market approval for Xcellerated T Cells. In complying with cGMP, we and any third-party manufacturers must expend significant time, money and effort in production, record-keeping and quality control to assure that each component of our Xcellerate Technology meets applicable specifications and other requirements. We or any of these third-party manufacturers may also be subject to comparable or more stringent regulations of foreign regulatory authorities. If we or any of our third-party manufacturers fail to comply with these requirements, we may be subject to regulatory action, which could delay or curtail our ability to develop and commercialize Xcellerated T Cells. If our component part manufacturers and suppliers fail to provide components of sufficient quality, our clinical trials or commercialization of Xcellerated T Cells could be delayed or halted and we could face product liability claims.

Our leased facilities are at risk of damage by earthquakes, and any damage to our facilities will harm our clinical trials and development programs.

We currently rely on the availability and condition of our leased Seattle, Washington facility to conduct research and development and for the manufacture of Xcellerated T Cells. This facility is located in a seismic zone, and there is the possibility of an earthquake which, depending on its magnitude, could be disruptive to our operations. Our leased facility in Bothell, Washington, where we intend to locate our initial commercial manufacturing activities, is also in a seismic area. We currently have no insurance against damage caused by earthquakes.

If third-party carriers fail to ship patient samples and our products in a proper and timely manner, the treatment of patients could be delayed or prevented, our reputation may suffer and we may incur liability.

We depend on third-party carriers to deliver patient-specific blood cells to us and to deliver Xcellerated T Cells back to patients in a careful and timely manner. Our Xcellerate Technology currently requires that we process each patient's leukapheresis blood sample within 48 hours of collection. Xcellerated T Cells must currently be shipped in a frozen storage shipping container and received by the patient within six days from leaving our manufacturing facility. If the shipping containers fail to maintain the necessary temperature, Xcellerated T Cells could be damaged. If third-party carriers fail to timely deliver the leukapheresis blood sample to us or fail to timely ship Xcellerated T Cells to the clinic, or if they damage or contaminate them during shipment, the treatment of patients could be delayed or discontinued, our reputation may suffer and we may incur liability. In addition, as we expand our clinical trial sites, we may need to make modifications to the shipping process to ship internationally, such as requiring third parties to freeze the patient's white blood cells prior to shipment to us for processing, which may reduce our control over the production of Xcellerated T Cells. Furthermore, shipping blood products internationally will subject us to foreign import laws and customs regulations, which complicate, and could delay, shipment of components to and from us and delay the development, production and infusion of Xcellerated T Cells.

We use hazardous materials and must comply with environmental, health and safety laws and regulations, which can be expensive and restrict how we do business.

Our research and development and manufacturing processes involve the controlled storage, use and disposal of hazardous materials, including biological hazardous materials. We are subject to federal, state and local regulations governing the use, manufacture, storage, handling and disposal of materials and waste products.

Although we believe that our safety procedures for handling and disposing of these hazardous materials comply with the standards prescribed by law and regulation, we cannot completely eliminate the risk of accidental contamination or injury from hazardous materials. In the event of an accident, we could be held liable for any damages that result, and any liability could exceed the limits or fall outside the coverage of our insurance. We may not be able to obtain insurance on acceptable terms, if at all. We could incur significant costs to comply with current or future environmental laws and regulations.

Our current commercial property insurance provides coverage up to $25,000 for pollution clean-up or removal and up to $25,000 for biological agency clean-up or removal. Additionally our business income coverage provides for up to $250,000 for extra expenses for pollution clean-up or removal to enable us to re-establish operations after a hazardous event.

In some circumstances we plan to rely on collaborators to commercialize Xcellerated T Cells. If our current collaborators do not perform as expected or if future collaborators do not commit adequate resources to their collaboration with us, our product development and potential for profitability may suffer.

We have entered into alliances with third-party collaborators to develop and market Xcellerated T Cells for diseases and markets that we are not pursuing on our own. In addition, our strategy includes substantial reliance on additional strategic collaborations for research, development, manufacturing, marketing and other commercialization activities relating to Xcellerated T Cells. If our collaborators do not prioritize and commit substantial resources to these collaborations, or if we are unable to secure successful future collaborations, we may be unable to commercialize Xcellerated T Cells for important diseases and in important markets, which would limit our ability to generate revenue and become profitable. Furthermore, disputes may arise between us and our existing or future collaborators, which could result in delays in the development and commercialization of Xcellerated T Cells.

For example, we have licensed our Xcellerate Technology and some related improvements, on an exclusive basis in the field of HIV retroviral gene therapy to Fresenius, for research, development and commercialization in Europe, with a right of first negotiation under some circumstances to expand their territory to include North America. Our agreement with Fresenius requires us to license our Xcellerate Technology, including methods for manufacturing Xcellerated T Cells, to Fresenius. This agreement also requires us to supply all proprietary magnetic beads, or Xcyte Dynabeads, used to manufacture Xcellerated T Cells ordered by Fresenius to support its development and commercialization efforts. If we do not supply the Xcyte Dynabeads, Fresenius has the right to manufacture such Xcyte Dynabeads on its own or through a third party, until such time that we are able to supply the quantity of Xcyte Dynabeads ordered by Fresenius. The agreement terminates upon the last to expire of the licensed patents and is subject to earlier termination by Fresenius at any time if Fresenius determines it cannot develop a commercially viable product or complete a required manufacturing audit. The agreement may be terminated by Xcyte if Fresenius does not meet certain development and commercialization milestones and by either party for the material breach or insolvency of the other party. At Fresenius' expense, we are required to expend significant resources to transfer technology to Fresenius and assist them in developing and manufacturing products using our Xcellerate Technology. Even so, Fresenius may not have sufficient resources to fund, or may decide not to proceed with, development of our Xcellerate Technology. In this event, we may terminate the Fresenius agreement, but we may not have sufficient capital resources to develop the use of Xcellerate Technology in the field of HIV retroviral gene therapy in Europe or North America on our own.

We may be unable to establish sales, marketing and distribution capabilities necessary to successfully commercialize our products.

We currently have only limited marketing capabilities and no direct or third-party sales or distribution capabilities. We currently plan to develop an internal sales force to serve certain North American markets and pursue strategic partnerships to obtain development and marketing support for territories outside North America. However, we may be unable to establish marketing, sales and distribution capabilities necessary to commercialize and gain market acceptance for our potential products. In addition, developing a sales force, or

entering into co-promotion agreements with third parties, is expensive and time-consuming and could delay any product launch. Co-promotion or other marketing arrangements with third parties to commercialize potential products may also not be successful and could significantly limit the revenues we derive from Xcellerated T Cells.

We face competition in our industry, and many of our competitors have substantially greater experience and resources than we have.

Even if our Xcellerate Technology proves successful, we might not be able to remain competitive because of the rapid pace of technological development in the biotechnology field. We are currently aware of several companies developing *ex vivo* cell-based immunotherapy products as a method of treating cancer and infectious diseases. These competitors include Antigenics, Inc., CancerVax Corporation, Cell Genesys, Inc., CellExSys, Inc. (recently sold to Chromos Molecular Systems, Inc.), Dendreon Corporation, Favrille, Inc., Genitope Corporation, IDM, S.A. and Kirin Pharmaceutical. Some of our competitors have greater financial and other resources, larger research and development staffs and more experienced capabilities in researching, developing and testing products than we do. Many of these companies also have more experience in conducting clinical trials, obtaining FDA and other regulatory approvals and manufacturing, marketing and distributing therapeutic products. Smaller companies may successfully compete with us by establishing collaborative relationships with larger pharmaceutical companies or academic institutions. In addition, large pharmaceutical companies or other companies with greater resources or experience than us may choose to forgo *ex vivo* cell-based immunotherapy opportunities that would have otherwise been complementary to our product development and collaboration plans. Our competitors may succeed in developing, obtaining patent protection for or commercializing their products more rapidly than us. A competing company developing, or acquiring rights to, a more effective therapeutic product for the same diseases targeted by us, or one that offers significantly lower costs of treatment, could render our products noncompetitive or obsolete.

We plan significant growth, which we may not be able to effectively manage.

We will need to add a significant number of new personnel and expand our capabilities in order to successfully pursue our research, development and commercialization efforts and secure collaborations to market and distribute our products. This growth may strain our existing managerial, operational, financial and other resources. We also intend to add personnel in our research and development and manufacturing departments as we expand our clinical trial and research capabilities. Our failure to manage our growth effectively could delay or curtail our product development and commercialization efforts and harm our business.

If we lose key management or scientific personnel, our business could suffer.

Our success depends, to a significant extent, on the efforts and abilities of Ronald J. Berenson, M.D., our President and Chief Executive Officer, Robert L. Kirkman, M.D., our Chief Business Officer and Vice President, Stewart Craig, Ph.D., our Chief Operating Officer and Vice President, Mark Frohlich, M.D., our Medical Director and Vice President, and other members of our senior management and our scientific personnel. We do not have employment agreements with Dr. Berenson, Dr. Craig or several other members of our senior management. Additionally, any employment agreement that we may enter into will not ensure the retention of the employee. Since the pool of employees with relevant experience in immunology and biotechnology is small, replacing any of our senior management or scientific personnel would likely be costly and time-consuming. Although we maintain key person life insurance on Dr. Berenson, we do not maintain key person life insurance on any of our other officers, employees or consultants. The loss of the services of one or more of our key employees could delay or curtail our research and development and product development efforts.

We may undertake acquisitions in the future, and any difficulties from integrating these acquisitions could damage our ability to attain or maintain profitability.

We may acquire additional businesses, products or product candidates that complement or augment our existing business. However, we currently have no commitments or agreements, and are not involved in any negotiations,

to acquire any businesses, products or technologies. Integrating any newly acquired business or product could be expensive and time-consuming. We may not be able to integrate any acquired business or product successfully or operate any acquired business profitably. Moreover, we may need to raise additional funds through public or private debt or equity financing to make acquisitions, which may result in dilution to stockholders and the incurrence of indebtedness that may include restrictive covenants.

Changes in the value of the British pound and Euro relative to the U.S. dollar may adversely affect us.

We do not engage in foreign currency hedging; however, we have entered into certain contracts denominated in foreign currencies and therefore we are exposed to currency exchange risks.

Under our agreements with Lonza to purchase antibodies, we must make payments denominated in British pounds. As a result, from time to time, we are exposed to currency exchange risks related to the British pound. Accordingly, if the British pound strengthens against the U.S. dollar, our payments to Lonza will increase in U.S. dollar terms. We have paid a total of $4.9 million to Lonza under our agreements with them as of December 31, 2003, consisting of approximately $252,000, $1.7 million, $1.6 million and $1.3 million during the years ended December 31, 2000, 2001, 2002 and 2003, respectively. Assuming development and supply services are completed as scheduled under our agreements with Lonza, our remaining payments will be approximately $1.6 million through the end of 2005.

The terms of our license agreement with Fresenius include potential royalties on net sales as well as potential milestone payments to us denominated in the Euro. As a result, we are exposed to currency exchange risks related to the Euro. If the Euro weakens against the U.S. dollar, payments received from Fresenius will decrease in U.S. dollar terms.

If we do not achieve our projected development goals in the time frames we announce and expect, the commercialization of our products may be delayed and, as a result, our stock price may decline.

From time to time, we estimate the timing of the accomplishment of various scientific, clinical, regulatory and other product development goals, which we sometimes refer to as milestones. These milestones may include the commencement or completion of scientific studies and clinical trials and the submission of regulatory filings. From time to time, we may publicly announce the expected timing of some of these milestones. All of these milestones will be based on a variety of assumptions. The actual timing of these milestones can vary dramatically compared to our estimates, in some cases for reasons beyond our control. If we do not meet these milestones as publicly announced, the commercialization of our products may be delayed and, as a result, our stock price may decline.

If the use of our technologies conflicts with the rights of others, we could be subject to expensive litigation or be required to obtain licenses from others to develop or market Xcellerated T Cells.

Our competitors or others may have or acquire patent rights that they could enforce against us. If they do so, we may be required to alter our Xcellerate Technology, pay licensing fees or cease activities. If our Xcellerate Technology conflicts with patent rights of others, third parties could bring legal action against us or our licensees, suppliers, customers or potential collaborators, claiming damages and seeking to enjoin manufacturing and marketing of the affected products. If these legal actions are successful, in addition to any potential liability for damages, we might have to obtain a license in order to continue to manufacture or market the affected products. A required license under the related patent may not be available on acceptable terms, if at all.

We may be unaware that the use of our technology conflicts with pending or issued patents. Because patent applications can take many years to issue, there may be currently pending applications, unknown to us, that may later result in issued patents upon which our Xcellerate Technology or Xcellerated T Cells may infringe. There could also be existing patents of which we are unaware upon which our Xcellerate Technology or Xcellerated T Cells may infringe. In addition, if third parties file patent applications or obtain patents claiming technology also claimed by us in pending applications, we may have to participate in interference proceedings in the U.S. Patent and Trademark Office to determine priority of invention. If third parties file oppositions in foreign

countries, we may also have to participate in opposition proceedings in foreign tribunals to defend the patentability of the filed foreign patent applications. We may have to participate in interference proceedings involving our issued patents or our pending applications.

If a third party claims that we infringe upon its proprietary rights, any of the following may occur:

- we may become involved in time-consuming and expensive litigation, even if the claim is without merit;
- we may become liable for substantial damages for past infringement if a court decides that our technology infringes upon a competitor's patent;
- a court may prohibit us from selling or licensing our product without a license from the patent holder, which may not be available on commercially acceptable terms, if at all, or which may require us to pay substantial royalties or grant cross licenses to our patents; and
- we may have to redesign our technology or clinical candidate so that it does not infringe upon others' patent rights, which may not be possible or could require substantial funds or time.

If any of these events occurs, our business will suffer and the market price of our common stock will likely decline.

Our rights to use antibodies and technologies licensed to us by third parties are not within our control, and we may not be able to implement our Xcellerate Technology without these antibodies and technologies.

We have licensed patents and other rights which are necessary to our Xcellerate Technology and Xcellerated T Cells. Our business will significantly suffer if these licenses terminate, if the licensors fail to abide by the terms of the license or fail to prevent infringement by third parties or if the licensed patents or other rights are found to be invalid.

Our Xcellerate Technology uses two monoclonal antibodies that we license from third parties. We rely on our non-exclusive license from the Fred Hutchinson Cancer Research Center in Seattle, Washington to use the monoclonal antibody that binds to the CD3 molecule and our exclusive license from Diaclone S.A., or Diaclone, in Besancon, France to use the monoclonal antibody that binds to the CD28 molecule. These antibodies are necessary components of our Xcellerate Technology. Our rights to use these antibodies depend on the licensors abiding by the terms of those licenses and not terminating them. Our license agreement with the Fred Hutchinson Research Center is effective for 15 years following the first commercial sale of a product based on the license and may be terminated earlier by either party for material breach. Our license agreement with Diaclone is effective for 15 years from the date of the first FDA approval, or its foreign equivalent, of a therapeutic product containing a bead coated with the licensed antibody and may be terminated earlier by either party for material breach. With regard to our agreement with Diaclone, at the end of the relevant 15-year period, we will have a perpetual, irrevocable, fully-paid royalty-free, exclusive license. Except for certain circumstances which would permit us to obtain the monoclonal antibody from third parties or manufacture it ourselves, our agreement with Diaclone obligates us to purchase the monoclonal antibody from them until we begin preparing for Phase III clinical trials of a product covered by this license.

In addition, we have in-licensed several T cell activation patents and patent applications from the Genetics Institute, a subsidiary of Wyeth, Inc. The technology underlying these patents is a critical part of our Xcellerate Technology. Under our agreement, we have the right to enforce the licensed patents. The license from Genetics Institute terminates upon the end of the enforceable term of the last licensed patent or the license agreements under which Genetics Institute has sublicensed rights to Xcyte, and may also be terminated earlier by either party for material breach. Of the five in-licensed U.S. patents presently issued related to this technology, two patents expire in 2016, two others expire in 2019, and the remaining patent expires in 2020.

If we violate the terms of our licenses, or otherwise lose our rights to these antibodies, patents or patent applications, we may be unable to continue development of our Xcellerate Technology. Our licensors or others may dispute the scope of our rights under any of these licenses. Additionally, the licensors under these licenses might breach the terms of their respective agreements or fail to assist in the prevention of infringement of the

licensed patents by third parties. Loss of any of these licenses for any reason could materially harm our financial condition and operating results.

Risks Relating To This Offering

If our principal stockholders, executive officers and directors choose to act together, they may be able to control our management and operations, acting in their best interests and not necessarily those of other stockholders.

Our executive officers, directors and principal stockholders, and entities affiliated with them, will beneficially own in the aggregate approximately 44.0% of our common stock following this offering, and approximately % of our common and convertible preferred stock taken together on an as-converted to common stock basis. This significant concentration of share ownership may adversely affect the trading price of our common stock because investors often perceive disadvantages in owning stock in companies with controlling stockholders. These stockholders, acting together, will have the ability to exert substantial influence over all matters requiring approval by our stockholders, including the election and removal of directors and any proposed merger, consolidation or sale of all or substantially all of our assets. In addition, they could dictate the management of our business and affairs. This concentration of ownership could have the effect of delaying, deferring or preventing a change in control of us or impeding a merger, consolidation, takeover or other business combination that could be favorable to you. Since the convertible preferred stock has very limited voting rights prior to conversion, you will have little or no ability to control matters requiring approval of our stockholders.

The future sale of our common stock could negatively affect our stock price.

After this offering, based on shares outstanding as of September 27, 2004, we will have approximately 14,826,970 shares of common stock outstanding and 1,500,000 shares of convertible preferred stock outstanding that are convertible into shares of our common stock. The 1,500,000 shares of convertible preferred stock sold in this offering, or 1,725,000 shares if the underwriters exercise their over-allotment option in full, will be freely tradable without restriction under the federal securities laws unless purchased by our affiliates. The remaining shares of common and convertible preferred stock outstanding after this offering will be available for public sale subject in some cases to volume, lock-up and other limitations.

If our common or convertible preferred stockholders sell substantial amounts of our stock in the public market, or the market perceives that such sales may occur, the market price of our common and convertible preferred stock could fall. After this offering, according to the terms of our investors rights agreement, the holders of approximately 8,992,108 shares of our common stock and warrants will have rights, subject to some conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other stockholders. Furthermore, if we were to include in a company-initiated registration statement shares held by those holders pursuant to the exercise of their registrations rights, the sale of those shares could impair our ability to raise needed capital by depressing the price at which we could sell our common stock.

In addition, we will need to raise substantial additional capital in the future to fund our operations. If we raise additional funds by issuing equity securities, our stock price may decline and our existing stockholders may experience significant dilution.

Upon the expiration of a 90-day lock-up agreement, a substantial number of shares of our common stock will become available for sale in the public market which may cause the market price of our preferred and common stock to decline.

On , 2005, which is 90 days after the date of this offering, lock-up agreements covering approximately 5.5 million shares of our common stock held by existing stockholders will expire and those shares will become available for sale. If these stockholders sell substantial amounts of our common stock in the public market at concentrated times, the market price of our common and, in turn our convertible preferred stock, could fall. These sales also might make it more difficult for us to sell equity or equity-related securities in the future at a time and price acceptable to us.

An active, liquid trading market for the convertible preferred stock and debentures may never develop.

Prior to this offering, there was no public market for the convertible preferred stock. An active trading market for the convertible preferred stock may not develop following this offering. You may not be able to sell your shares quickly or at the market price if trading in our stock is not active. The public offering price may not be indicative of prices that will prevail in the trading market. See "Underwriting" for more information regarding the factors considered in determining the public offering price. In addition, if we exchange the convertible preferred stock for debentures, we are required to list the debentures on an exchange but there can be no assurances that a market in the debentures will develop. Our ability to list and continue to list the convertible preferred stock on the Nasdaq National Market will depend on our ability to meet the Nasdaq National Market listing requirements for both the convertible preferred stock and our common stock.

Our common and convertible preferred stock may experience extreme price and volume fluctuations, which could lead to costly litigation for us and make an investment in us less appealing.

The market price of our common and convertible preferred stock may fluctuate substantially due to a variety of factors, including:

- results of our clinical trials;
- announcements of technological innovations or new products or services by us or our competitors;
- media reports and publications about immunotherapy;
- announcements concerning our competitors or the biotechnology industry in general;
- new regulatory pronouncements and changes in regulatory guidelines;
- general and industry-specific economic conditions;
- additions to or departures of our key personnel;
- changes in financial estimates or recommendations by securities analysts;
- variations in our quarterly results;
- announcements about our collaborators or licensors; and
- changes in accounting principles.

The market prices of the securities of biotechnology companies, particularly companies like ours without consistent product revenues and earnings, have been highly volatile and are likely to remain highly volatile in the future. This volatility has often been unrelated to the operating performance of particular companies. In the past, companies that experience volatility in the market price of their securities have often faced securities class action litigation. Moreover, market prices for stocks of biotechnology-related and technology companies frequently reach levels that bear no relationship to the operating performance of these companies. These market prices generally are not sustainable and are highly volatile. Whether or not meritorious, litigation brought against us could result in substantial costs, divert our management's attention and resources and harm our financial condition and results of operations.

Our amended and restated certificate of incorporation and bylaws may delay or prevent a change in our management.

Our amended and restated certificate of incorporation and bylaws contain provisions that could delay or prevent a change in our board of directors and management teams. Some of these provisions:

- authorize the issuance of preferred stock that can be created and issued by the board of directors without prior stockholder approval, commonly referred to as "blank check" preferred stock, with rights senior to those of our common stock; and
- provide for a classified board of directors.

These provisions could make it more difficult for our stockholders to replace members of our board of directors. Because our board of directors is responsible for appointing the members of our management team, these provisions could in turn affect any attempt to replace our current management team.

We may have limited ability to pay cash dividends on the convertible preferred stock.

Delaware law may limit our ability to pay cash dividends on the convertible preferred stock. Under Delaware law, cash dividends on our capital stock may only be paid from "surplus" or, if there is no "surplus," from the corporations net profits for the current or preceding fiscal year. Delaware law defines "surplus" as the amount by which the total assets of a corporation, after subtracting its total liabilities, exceed the corporation's capital, as determined by its board of directors. Since we are not profitable, our ability to pay cash dividends will require the availability of adequate surplus. Even if adequate surplus is available to pay cash dividends on the convertible preferred stock, we may not have sufficient cash to pay dividends on the convertible preferred stock. We currently intend to pay cash dividends on the convertible preferred stock.

We may allocate the net proceeds from this offering in ways with which you may not agree.

We expect to use the net proceeds of this offering for working capital and general corporate purposes, including clinical trial, manufacturing and preclinical research and development activities, as well as capital expenditures and complementary technology acquisitions. See "Use of Proceeds." Our management, however, has broad discretion in the use of the net proceeds from this offering and could spend the net proceeds in ways that do not necessarily improve our operating results or the value of our common stock.

If we exchange the convertible preferred stock for debentures, the exchange will be taxable but we will not provide any cash to you to pay any tax liability you may incur.

An exchange of convertible preferred stock for debentures, as well as any dividend make-whole or interest make-whole payments paid in our common stock, will be taxable events for U.S. federal income tax purposes, which may result in tax liability for the holder of convertible preferred stock without any corresponding receipt of cash by the holder. In addition, the debentures may be treated as having original issue discount, a portion of which would generally be required to be included in the holder's gross income even though the cash to which such income is attributable would not be received until maturity or redemption of the debenture. We will not distribute any cash to you to pay these potential tax liabilities.

If we automatically convert the convertible preferred stock, you should be aware that there is a substantial risk of fluctuation in the price of our common stock from the date we elect to automatically convert to the conversion date.

We may elect to automatically convert the convertible preferred stock on or prior to maturity if our common stock price has exceeded 150% of the conversion price for at least 20 trading days during a 30-day trading period ending within five trading days prior to the notice of automatic conversion. You should be aware that there is a risk of fluctuation in the price of our common stock between the time when we may first elect to automatically convert the preferred and the automatic conversion date.

You will suffer immediate and substantial dilution.

The offering price of the convertible preferred stock is substantially higher than the book value per share of our outstanding common stock. Accordingly, investors purchasing shares of convertible preferred stock in this offering will pay a price per share of the common stock into which such preferred stock is convertible that substantially exceeds the value of our assets after subtracting liabilities.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, including the sections titled “Prospectus Summary,” “Risk Factors,” “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Business,” contains forward-looking statements. Forward-looking statements convey our current expectations or forecasts of future events. All statements contained in this prospectus other than statements of historical fact are forward-looking statements. Forward-looking statements include statements regarding our future financial position, business strategy, budgets, projected costs, plans and objectives of management for future operations. The words “may,” “continue,” “estimate,” “intend,” “plan,” “will,” “believe,” “project,” “expect,” “anticipate” and similar expressions may identify forward-looking statements, but the absence of these words does not necessarily mean that a statement is not forward-looking.

Any or all of our forward-looking statements in this prospectus may turn out to be inaccurate. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our financial condition, results of operations, business strategy and financial needs. They may be affected by inaccurate assumptions we might make or by known or unknown risks and uncertainties, including the risks, uncertainties and assumptions described in “Risk Factors.” In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this prospectus may not occur as contemplated, and actual results could differ materially from those anticipated or implied by the forward-looking statements.

You should not unduly rely on these forward-looking statements, which speak only as of the date of this prospectus. Unless required by law, we undertake no obligation to publicly update or revise any forward-looking statements to reflect new information or future events or otherwise. You should, however, review the factors and risks we describe in the reports we will file from time to time with the SEC after the date of this prospectus. See “Where You Can Find More Information.”

USE OF PROCEEDS

We estimate that the net proceeds to us from the sale of the 1,500,000 shares of convertible preferred stock we are offering will be approximately $13.6 million, assuming public offering price of $10 per share, after deducting underwriting discounts and commissions and the estimated offering expenses.

We expect to use the net proceeds of this offering for working capital and general corporate purposes, including:

- clinical trial activities, including our ongoing Phase I/II and Phase II clinical trials in chronic lymphocytic leukemia, or CLL, multiple myeloma, and non-Hodgkin's lymphoma, and our plans to initiate a new Phase II/III clinical trial in CLL in patients treated with Campath, as well as a new Phase II clinical trial in patients with HIV;
- manufacturing activities, including manufacture of Xcellerated T Cells for our ongoing and planned clinical trials;
- preclinical research and development activities;
- capital expenditures, including expansion and build-out of our new manufacturing facilities; and
- complementary technology acquisitions.

Although we have identified some types of uses above, we have and reserve broad discretion to use the proceeds from this offering differently. When and if the opportunity arises, we may use a portion of the proceeds to acquire or invest in complementary businesses, products or technologies. We currently have no commitments or agreements, and are not involved in any negotiations, to acquire any businesses, products or technologies. Pending any ultimate use of any portion of the proceeds from this offering, we intend to invest the proceeds in short-term, investment-grade and interest-bearing instruments.

Based on the current status of our product development and collaboration plans, we believe that the net proceeds of this offering, together with our cash, cash equivalents and investments, will be adequate to satisfy our capital needs through at least the end of 2005. See "Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources."

DIVIDEND POLICY

We currently intend to pay cash dividends on the convertible preferred stock. Dividends on the convertible preferred stock are cumulative, meaning that if they are not paid they continue to accrue and must be paid prior to the payment of any dividends on our common stock. For a discussion of dividends payable on the convertible preferred stock, please see "Description of Convertible Preferred Stock—Dividends."

We have never declared or paid any cash dividends on our common stock and do not currently anticipate declaring or paying cash dividends on our common stock in the foreseeable future. Except for dividends payable on the convertible preferred stock, we currently intend to retain all of our future earnings, if any, to finance operations. Any future determination relating to our dividend policy will be made at the discretion of our board of directors and will depend on a number of factors, including future earnings, capital requirements, financial conditions, future prospects, contractual restrictions and other factors that our board of directors may deem relevant.

RATIO OF EARNINGS TO FIXED CHARGES AND PREFERRED STOCK DIVIDENDS

Our ratio of earnings to fixed charges and preferred stock dividends for each of the periods indicated as follows:

	Fiscal Year Ended December 31,					Six Months Ended June 30,	
	1999	2000	2001	2002	2003	2003	2004
Ratio of earnings to fixed charges and preferred stock dividends[1]	—	—	—	—	—	—	—

[1] For the fiscal years ended December 31, 1999, 2000, 2001, 2002 and 2003, and for the six months ended June 30, 2003 and 2004, earnings were insufficient to cover fixed charges by $6.9 million, $12.9 million, $19.5 million, $19.5 million, $18.5 million, $9.2 million and $24.4 million, respectively. For this reason, no ratios are provided.

PRICE RANGE OF COMMON STOCK

Our common stock began trading March 16, 2004 and is traded on the Nasdaq National Market under the symbol “XCYT.” We have applied to list the convertible preferred stock on the Nasdaq National Market under the symbol “XCYTP.” The following table sets forth, for the calendar periods indicated, the high and low sale prices per share of the common stock as reported on the Nasdaq National Market:

	High	Low
2004		
First Quarter (Beginning March 16, 2004)	$8.50	$6.51
Second Quarter	$7.45	$4.00
Third Quarter	$5.04	$2.99
Fourth Quarter (Through October 20, 2004)	$3.70	$2.52

CAPITALIZATION

The following table sets forth our cash, cash equivalents and short term investments and capitalization as of June 30, 2004:

- on an actual basis;
- on an as adjusted basis to further reflect sale of 1,500,000 shares of our convertible preferred stock we are offering at an assumed public offering price of $10 per share, after deducting underwriting discounts and commissions and estimated offering expenses to be paid by us.

	As of June 30, 2004	
	Actual	As adjusted
	(unaudited, in thousands, except share and per share data)	
Cash, cash equivalents and short-term investments	$ 33,730	$ 47,315
Long-term obligations, less current portion	$ 2,594	$ 2,594
Stockholders' equity:		
Preferred stock, $0.001 par value per share; 5,000,000 shares authorized; no shares issued, actual; 1,725,000 shares designated % convertible exchangeable preferred stock, as adjusted; 1,500,000 shares issued and outstanding, as adjusted	—	2
Common stock, par value $0.001 per share; 70,000,000 shares authorized, actual; 100,000,000 shares authorized, as adjusted; 14,826,573 shares issued and outstanding, actual and as adjusted	15	15
Additional paid-in capital	146,511	160,094
Deferred stock compensation	(2,404)	(2,404)
Accumulated other comprehensive loss	(60)	(60)
Deficit accumulated during the development stage	(110,965)	(110,965)
Total stockholders' equity	33,097	46,682
Total capitalization	$ 35,691	$ 49,276

The table above should be read in conjunction with our financial statements and related notes included in this prospectus. This table is based on 14,826,573 shares of our common stock outstanding as of June 30, 2004 and excludes the following:

- shares of our common stock issuable upon conversion of the convertible preferred stock;
- 46,607 shares of our common stock issuable upon the exercise of warrants outstanding as of June 30, 2004 at a weighted average exercise price of $7.94 per share;
- 933,045 shares of our common stock issuable upon the exercise of stock options outstanding as of June 30, 2004 under our 1996 Stock Option Plan at a weighted average exercise price of $5.10 per share;
- 21,143 shares of our common stock reserved for future issuance under our 1996 Stock Option Plan as of June 30, 2004; and
- 636,363 shares of our common stock reserved for future issuance under our 2003 Stock Plan, 109,090 shares of our common stock reserved for future issuance under our 2003 Employee Stock Purchase Plan and 90,909 shares of our common stock reserved for future issuance under our 2003 Directors' Stock Option Plan, as of June 30, 2004.

SELECTED FINANCIAL DATA

This section presents our historical financial data. The following should be read with, and is qualified in its entirety by reference to, the financial statements included in this prospectus, including the notes to the financial statements, and the information under "Management's Discussion and Analysis of Financial Condition and Results of Operations." The statement of operations data for the years ended December 31, 2001, 2002 and 2003 and the balance sheet data as of December 31, 2002 and 2003 have been derived from our audited financial statements included elsewhere in this prospectus. The statement of operations data for the years ended December 31, 1999 and 2000 and the balance sheet data as of December 31, 1999, 2000 and 2001 have been derived from our audited financial statements that are not included in this prospectus. The statement of operations data for the six-month periods ended June 30, 2003 and 2004 and the balance sheet data as of June 30, 2004 have been derived from our unaudited condensed financial statements included elsewhere in this prospectus. The unaudited condensed financial statements have been prepared on a basis consistent with that of our audited financial statements and include all adjustments we consider necessary for the fair presentation of the information. Operating results for the six months ended June 30, 2004 are not necessarily indicative of the results that may be expected for the entire year ending December 31, 2004.

	Years ended December 31,					Six months ended June 30,	
	1999	2000	2001	2002	2003	2003	2004
	(in thousands, except per share data)					(unaudited)	
Statement of Operations Data							
Revenue:							
License fee	$ —	$ —	$ —	$ —	$ —	$ —	$ 12
Collaborative agreement	—	—	—	—	170	72	24
Government grant	16	98	30	—	—	—	—
Total revenue	16	98	30	—	170	72	36
Operating expenses:							
Research and development	5,471	11,257	14,701	14,663	13,685	7,029	8,601
General and administrative	1,654	2,403	5,204	4,979	4,322	2,194	3,297
Total operating expenses	7,125	13,660	19,905	19,642	18,007	9,223	11,898
Loss from operations	(7,109)	(13,562)	(19,875)	(19,642)	(17,837)	(9,151)	(11,862)
Other income (expense), net	162	621	363	189	(620)	(38)	(12,508)
Net loss	(6,947)	(12,941)	(19,512)	(19,453)	(18,457)	(9,189)	(24,370)
Accretion of preferred stock	—	—	(8,411)	(8,001)	—	—	(8,973)
Net loss applicable to common stockholders	$ (6,947)	$ (12,941)	$ (27,923)	$ (27,454)	$ (18,457)	$ (9,189)	$ (33,343)
Basic and diluted net loss per common share	$ (6.32)	$ (11,86)	$ (22.14)	$ (19.34)	$ (12.40)	$ (6.21)	$ (3.66)
Shares used in basic and diluted net loss per common share calculation	1,100	1,091	1,261	1,420	1,488	1,481	9,107

	As of December 31,					As of June 30, 2004
	1999	2000	2001	2002	2003	
	(in thousands)					(unaudited)
Balance Sheet Data						
Cash, cash equivalents and short-term investments	$ 7,363	$ 23,926	$ 21,098	$ 17,344	$ 13,540	$ 33,730
Working capital	6,100	21,785	19,135	15,570	(653)	30,838
Total assets	10,055	28,479	24,727	21,434	18,498	39,860
Long-term obligations, less current portion	854	952	1,046	1,514	1,555	2,594
Redeemable convertible preferred stock and warrants	23,405	49,053	57,629	65,673	67,071	—
Deficit accumulated during the development stage	(16,232)	(29,173)	(48,685)	(68,138)	(86,595)	(110,965)
Total stockholders' equity (deficit)	(15,804)	(25,384)	(36,260)	(48,125)	(64,840)	33,097

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

The following discussion of our financial condition and results of operations should be read in conjunction with our financial statements and the notes to those financial statements included elsewhere in this prospectus. This discussion contains forward-looking statements that involve risks and uncertainties. As a result of many factors, such as those set forth under "Risk Factors" and elsewhere in this prospectus, our actual results may differ materially from those anticipated in these forward-looking statements.

Overview

We are a biotechnology company developing a new class of therapeutic products designed to enhance the body's natural immune responses to treat cancer, infectious diseases and other medical conditions associated with weakened immune systems. We derive our therapeutic products from a patient's own T cells, which are cells of the immune system that orchestrate immune responses and can detect and eliminate cancer cells and infected cells in the body. We use our patented and proprietary Xcellerate Technology to generate activated T cells, which we call Xcellerated T Cells, from blood that is collected from the patient. Activated T cells are T cells that have been stimulated to carry out immune functions. Our Xcellerate Technology is designed to rapidly activate and expand the patient's T cells outside of the body. These Xcellerated T Cells are then administered to the patient. We believe, based on clinical trials to date, that our Xcellerate Technology can produce Xcellerated T Cells in sufficient numbers to generate rapid and potent immune responses to treat a variety of medical conditions.

Since our inception in 1996, we have focused our activities primarily on the development of these therapeutic products. We are a development-stage company and have incurred significant losses since our inception. As of June 30, 2004, our deficit accumulated during the development stage was $111.0 million. Our operating expenses consist of research and development expenses and general and administrative expenses.

We have recognized revenues from inception through June 30, 2004 of approximately $450,000 from license fees, payments under a collaborative agreement and income from a National Institutes of Health Phase I Small Business Innovation Research, or SBIR, grant in chronic lymphocytic leukemia. We currently do not market any products and will not for several years, if at all. Accordingly, we do not expect to have any product sales or royalty revenue for a number of years. Our net losses are primarily a result of research and development and general and administrative expenses incurred to support our operations. We anticipate incurring net losses over at least the next several years as we complete our clinical trials, apply for regulatory approvals, continue development of our technology and expand our operations.

Research and Development

To date, our research and development expenses have consisted primarily of costs incurred for drug discovery and research, preclinical development, clinical trials and regulatory activities. Research and development activity-related costs include:

- payroll and personnel-related expenses;
- clinical trial and regulatory-related costs;
- laboratory supplies;
- contractual costs associated with developing antibodies and beads;
- technology license costs;
- rent and facility expenses for our laboratory and cGMP-grade manufacturing facilities; and
- scientific consulting fees.

Our research and development efforts to date have primarily focused on the development of our proprietary Xcellerate Technology and Xcellerated T Cells. From inception through June 30, 2004, we incurred research and development expenses of approximately $75.4 million, substantially all of which relate to the research and development of this technology. Currently, we are focusing our efforts on advancing our product through clinical trials. Because of the risks and uncertainties inherent in the clinical trials and regulatory process, we are unable to estimate with any certainty the length of time or expenses to continue development of Xcellerated T Cells for commercialization. However, we expect our research and development expenses to increase as we continue to improve our proprietary Xcellerate Technology and develop Xcellerated T Cells for additional clinical indications.

General and Administrative Expenses

Our general and administrative expenses are costs associated with supporting our operations, including payroll and personnel-related expenses and professional fees. In addition, rent and facility expenses for our administrative office area and other general office support activities are also included in our general and administrative expenses.

Critical Accounting Policies

We have based our discussion and analysis of our financial condition and results of operations on our financial statements, which we have prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires us to make estimates and assumptions that affect the amounts reported in the financial statements. Actual results could differ from those estimates. While Note 1 to our financial statements summarizes each of our significant accounting policies that we believe is important to the presentation of our financial statements, we believe the following accounting policies to be critical to the estimates and assumptions used in the preparation of our financial statements.

Stock-Based Compensation

We have adopted the disclosure-only provisions of Financial Accounting Standards Board (FASB) Statement of Financial Accounting Standards No. 123, *Accounting for Stock-Based Compensation* (SFAS 123). Accordingly, we apply Accounting Principles Board Opinion No. 25, *Accounting for Stock Issued to Employees* (APB 25), and related interpretations in accounting for stock options. Pursuant to APB 25, we recognize employee stock-based compensation expense based on the intrinsic value of the option at the date of grant. Deferred stock-based compensation includes amounts recorded when the exercise price of an option is lower than the fair value of the underlying common stock on the date of grant. We amortize deferred stock-based compensation over the vesting period of the option using the graded vesting method.

We record stock options granted to non-employees using the fair value approach in accordance with SFAS 123 and Emerging Issues Task Force Consensus Issue No. 96-18, *Accounting for Equity Instruments That Are Issued to Other Than Employees for Acquiring, or in Conjunction with Selling, Goods or Services*. We periodically revalue the options to non-employees over their vesting terms. We determine the fair value of options granted to non-employees using the Black-Scholes option-pricing model.

Prior to our initial public offering, we determined the fair value of our common stock for purposes of these calculations based on our review of the primary business factors underlying the value of our common stock on the date these option grants were made or revalued, viewed in light of our initial public offering and the initial public offering price per share. Subsequent to our initial public offering, the fair value is determined based on the price of the common stock as reported by the Nasdaq National Market in *The Wall Street Journal*.

Revenue Recognition

To date, we have generated no revenues from sales of products. Revenues relate to fees received for licensed technology, cost reimbursement contracts and a SBIR grant awarded to us by the National Institutes of Health.

We recognize revenue associated with up-front license fees and research and development funding payments ratably over the relevant periods specified in the agreement, which generally is the period we are obligated to perform services. We recognize revenue under research and development cost-reimbursement agreements as the related costs are incurred. We recognize revenue related to grant agreements as the related research and development expenses are incurred.

Cash, Cash Equivalents and Investments

We classify all investment securities as available-for-sale, carried at fair value. We report unrealized gains and losses as a separate component of stockholders' equity (deficit). We include amortization, accretion, interest and dividends, realized gains and losses and declines in value judged to be other-than-temporary on available-for-sale securities in interest income. Statement of Financial Accounting Standards No. 115, *Accounting for Certain Investments in Debt and Equity Securities*, and Securities and Exchange Commission (SEC) Staff Accounting Bulletin (SAB) 59, *Accounting for Noncurrent Marketable Equity Securities*, provide guidance on determining when an investment is other-than-temporarily impaired. This evaluation depends on the specific facts and circumstances. Factors that we consider in determining whether an other-than-temporary decline in value has occurred include: the market value of the security in relation to its cost basis; the financial condition of the investee; and the intent and ability to retain the investment for a sufficient period of time to allow for possible recovery in the market value of the investment.

Results of Operations

Six Months Ended June 30, 2004 and 2003

Revenue

Revenue was approximately $36,000 and $72,000 for the six months ended June 30, 2004 and 2003, respectively. This consisted of revenue recognized related to the amortization of license fees received and reimbursements of our costs incurred under a collaboration agreement.

Research and Development

Research and development expenses represented approximately 72% and 76% of our operating expenses for the six months ended June 30, 2004 and 2003, respectively. Research and development expenses increased 22%, from $7.0 million for the six months ended June 30, 2003 to $8.6 million for the six months ended June 30, 2004. The increase was primarily the result of amounts charged to expense for contractual obligations relating to developing our bead technology, in addition to increases in clinical trial costs, laboratory supplies, salary and other personnel-related expenses and non-cash stock compensation expense. Expenses associated with developing our bead technology totaled $500,000 for the six months ended June 30, 2004, with no such costs incurred for the six months ended June 30, 2003. Clinical trial and laboratory supplies costs have increased as we continue to advance and expand our clinical testing. As of June 30, 2004 we had 71 employees in research and development and manufacturing operations compared to 53 employees in research and development and manufacturing operations as of June 30, 2003. In addition, our non-cash stock compensation expense increased from $399,000 for the six months ended June 30, 2003 to $603,000 for the six months ended June 30, 2004. These increases were partially offset by a reduction of $1.2 million in contractual payments relating to developing our antibody technology. The higher level of expense in the first half of 2003, related to our antibody technology, resulted from obligations to the third-party manufacturer of the antibodies that we use in our Xcellerate Technology. Since we store these antibodies in our inventory for use when needed in clinical trials and research and development activities, the manufacture of these antibodies occurs periodically, resulting in a corresponding increase in expense from time to time. We anticipate that research and development expenses will continue to grow in the foreseeable future as we expand our research, development and clinical trial activities.

General and Administrative

General and administrative expenses represented approximately 28% and 24% of our operating expenses for the six months ended June 30, 2004 and 2003, respectively. General and administrative expenses increased 50%,

from $2.2 million for the six months ended June 30, 2003 to $3.3 million for the six months ended June 30, 2004. The rise was due primarily to increases in professional fees, insurance costs, salary and other personnel-related expenses and non-cash stock compensation expense. Non-cash stock compensation expense increased from $326,000 for the six months ended June 30, 2003 to $614,000 for the six months ended June 30, 2004. We anticipate that general and administrative expenses will increase in the foreseeable future as we support our growth and incur costs related to being a public company.

Other Income (Expense)

Other expense, comprised primarily of interest expense and interest income, totaled $38,000 for the six months ended June 30, 2003, compared to $12.5 million for the six months ended June 30, 2004. Interest income increased 57%, from $94,000 for the six months ended June 30, 2003 to $148,000 for the six months ended June 30, 2004, due to increased average cash and investment balances upon which interest is earned. Interest expense increased from $131,000 for the six months ended June 30, 2003 to $12.7 million for the six months ended June 30, 2004, due to interest expense associated with the convertible promissory notes issued in October 2003. Upon consummation of our initial public offering and conversion of the notes to common stock, we recognized $11.3 million in interest expense, which represented the beneficial conversion feature of the notes. We also recognized an additional $1.1 million in interest expense associated with the discount on the notes, representing the value of the proceeds allocated to the warrants received by the note holders.

Accretion of Preferred Stock

For the six months ended June 30, 2004, we recognized $9.0 million in accretion of preferred stock to arrive at our net loss applicable to common stockholders. No such accretion was recognized for the six months ended June 30, 2003. This accretion represented the remaining discount associated with our Series E and F preferred stock, which was recognized when the preferred stock was converted into common stock upon the closing of our initial public offering.

Years Ended December 31, 2003 and 2002

Revenue

Revenue was approximately $170,000 in the year ended December 31, 2003, consisting of funds received under a cost-reimbursement agreement. We recognized no revenue in the year ended December 31, 2002.

Research and Development

Research and development expenses represented approximately 76% and 75% of our operating expenses for the years ended December 31, 2003 and 2002, respectively. Research and development expenses decreased 6.7%, from $14.7 million in the year ended December 31, 2002 to $13.7 million in the year ended December 31, 2003. The decrease was primarily due to a reduction in technology license costs, contractual payments relating to developing our bead technology and non-cash stock compensation expense. Technology license costs totaled $829,000 in the year ended December 31, 2002, representing the value of stock and cash paid for a license we obtained from an academic institution. We incurred no technology license costs in the year ended December 31, 2003. Expenses associated with developing our bead technology totaled $500,000 in 2002, with no such costs incurred in 2003. Non-cash stock compensation expense decreased from $1.3 million in the year ended December 31, 2002 to $884,000 in the year ended December 31, 2003, as a result of a reduction in the number of options granted. Decreases in research and development expenses were partially offset by an increase of $220,000 in contractual payments relating to developing our antibody technology, in addition to increases in clinical trial and laboratory supplies costs. The increase in payments related to our antibody technology resulted from the third-party manufacture of the antibodies that we use in our Xcellerate Technology. Since we store these antibodies in our inventory for use when needed in clinical trials and research and development activities, the manufacture of these antibodies occurs periodically, resulting in a corresponding increase in expense from time to time.

General and Administrative

General and administrative expenses represented approximately 24% and 25% of our operating expenses for the years ended December 31, 2003 and 2002, respectively. General and administrative expenses decreased 13.2%, from $5.0 million in the year ended December 31, 2002 to $4.3 million in the year ended December 31, 2003. The decrease was due primarily to a decrease in non-cash stock compensation expense and the absence of expenses related to an initial public offering registration process that we initiated and terminated in 2002. Non-cash stock compensation expense decreased 40%, from $1.3 million in the year ended December 31, 2002 to $783,000 in the year ended December 31, 2003, as a result of a reduction in the number of options granted. Costs we incurred in association with the initial public offering registration process in the year ended December 31, 2002 totaled $272,000.

Other Income (Expense)

Other income, comprised primarily of interest income and interest expense, totaled $189,000 in the year ended December 31, 2002, compared to other expense of $620,000 in the year ended December 31, 2003. Interest income decreased 68%, from $467,000 in the year ended December 31, 2002 to $149,000 in the year ended December 31, 2003, due to decreased cash and investment balances upon which interest is earned and declining interest rates. Interest expense increased 188% from $267,000 in the year ended December 31, 2002 to $768,000 in the year ended December 31, 2003, due primarily to interest expense associated with the convertible promissory notes issued in October 2003.

Years Ended December 31, 2002 and 2001

Revenue

Revenue was approximately $30,000 in the year ended December 31, 2001, consisting of income from a National Institutes of Health SBIR grant. We recognized no revenue in the year ended December 31, 2002.

Research and Development

Research and development expenses represented approximately 75% and 74% of our operating expenses for the years ended December 31, 2002 and 2001, respectively. Research and development expenses totaled $14.7 million in each of the years ended December 31, 2002 and 2001. While total expenses were the same for 2002 and 2001, several individual components of research and development expense fluctuated significantly between the years. Technology license costs, contractual payments relating to developing our bead technology and salary and other personnel-related expenses increased from 2001 to 2002. Technology license costs comprised the largest increase and totaled $829,000 in the year ended December 31, 2002, representing the value of stock and cash paid for a license we obtained from an academic institution. We incurred no technology license costs in the year ended December 31, 2001. These increases were offset by a reduction of $1.1 million in contractual payments relating to developing our antibody technology, in addition to reduced non-cash compensation expense. The higher level of payments in 2001 related to our antibody technology resulted from the third-party manufacture of the antibodies that we use in our Xcellerate Technology. Since we store these antibodies in our inventory for use when needed in clinical trials and research and development activities, the manufacture of these antibodies occurs periodically, resulting in a corresponding increase in expense from time to time. The reduction in non-cash compensation expense resulted primarily from a decrease in management’s estimate of the fair market value per share of common stock.

General and Administrative

General and administrative expenses represented approximately 25% and 26% or our operating expenses for the years ended December 31, 2002 and 2001, respectively. General and administrative expenses decreased 4.3%, from $5.2 million in the year ended December 31, 2001 to $5.0 million in the year ended December 31, 2002. The decrease was due primarily to an $880,000 reduction in professional fees related to an initial public offering that we withdrew in 2001, partially offset by a $351,000 increase in non-cash stock compensation and increases

in salary and other personnel-related expenses. The increase in non-cash stock compensation resulted from an increase in the number of options granted.

Other Income (Expense)

Other income, comprised primarily of interest income and interest expense, decreased 48%, from $363,000 in the year ended December 31, 2001 to $189,000 in the year ended December 31, 2002. Interest income decreased 33%, from $698,000 in the year ended December 31, 2001 to $467,000 in the year ended December 31, 2002, due to decreased cash and investment balances upon which interest is earned and declining interest rates. Interest expense increased 2.7%, from $260,000 in the year ended December 31, 2001 to $267,000 in the year ended December 31, 2002, due primarily to higher debt balances related to equipment financings.

Quarterly Financial Data

For information relating to our quarterly financial data, see Note 13 “Quarterly Financial Data” in our financial statements included elsewhere in this prospectus.

Stock-Based Compensation

During the years ended December 31, 2003, 2002 and 2001, we recorded deferred stock-based compensation totaling $2.4 million, $3.2 million and $1.7 million, respectively. During the six months ended June 30, 2004, we recorded deferred stock-based compensation totaling $811,000. We amortize the deferred stock-based compensation to expense using the graded vesting method. As of June 30, 2004, there was $2.4 million of deferred stock-based compensation to be amortized in future periods as follows: $978,000 for the six months ending December 31, 2004, $942,000 in 2005, $397,000 in 2006 and $86,000 in 2007. During the years ended December 31, 2003, 2002 and 2001, we granted non-employee stock options and warrants to purchase 24,543, 6,363 and 71,814 shares of our common stock, respectively. No such stock options or warrants were granted during the six months ended June 30, 2004. We determined the fair value of options and warrants granted to non-employees using the Black-Scholes option-pricing model. We will periodically measure this value as the underlying options vest. Total stock-based compensation expense for non-employees was $360,000, $65,000 and $1.1 million for the years ended December 31, 2003, 2002 and 2001, respectively. Total stock-based compensation expense for non-employees was $39,000 for the six months ended June 30, 2004.

Income Taxes

We have incurred net operating losses since inception, and we have consequently not paid any federal, state or foreign income taxes. As of December 31, 2003, we had net operating loss carryforwards of approximately $74 million and research and development tax credit carryforwards of approximately $3.2 million. If not utilized, the net operating loss and tax credit carryforwards will expire at various dates beginning in 2011. If we do not achieve profitability, our net operating loss carryforwards may be lost. In addition, the change-in-ownership provisions as specified under Section 382 of the Internal Revenue Code of 1986, as amended, may substantially limit utilization of net operating loss and tax credit carryforwards annually. We are currently not subject to these limitations. However, any future annual limitations may result in the expiration of our net operating loss and tax credit carryforwards before utilization.

Our deferred tax assets consist primarily of net operating loss carryforwards. Because of our history of operating losses, we do not have a sufficient basis to project that future income will be sufficient to realize the deferred tax assets during the carryforward period. As a result, we have provided a full valuation allowance on the net deferred tax assets for all periods presented. The valuation allowance has increased each fiscal year primarily due to that fiscal year’s net operating loss carryforward.

Liquidity and Capital Resources

As of June 30, 2004, we had cash, cash equivalents and short-term investments of $33.7 million, with cash equivalents being held in highly liquid money market accounts with financial institutions. Cash, cash equivalents

and short-term investments were $13.5 million, $17.3 million and $21.1 million as of December 31, 2003, 2002 and 2001, respectively.

In March 2004, we raised net proceeds of approximately $29.7 million from the sale of 4,200,000 shares of common stock in our initial public offering. In connection with the initial public offering, all of our outstanding shares of redeemable convertible preferred stock and all of our outstanding convertible promissory notes, including interest accrued thereon through the closing date of the offering, were converted into 6,781,814 and 1,357,357 shares of our common stock, respectively.

We have financed our operations since inception through private and public placements of securities, grant revenue, license fees, payments under a collaborative agreement, equipment financings and interest income earned on cash, cash equivalents and investments. From inception through June 30, 2004, we have raised net proceeds of $75.6 million from private equity financings, $29.7 million from our initial public offering and $12.7 million from the sale of convertible promissory notes. Since our inception to June 30, 2004, we have received $450,000 in revenue, $6.9 million in equipment financings and $3.6 million in interest income.

Since our inception, investing activities, other than purchases and maturities of investments, have consisted primarily of purchases of property and equipment. As of June 30, 2004, our investment in property and equipment was $7.5 million. We anticipate our capital expenditures will increase in the future as we construct and renovate our planned manufacturing plant and expand our current facilities.

Net cash used in operating activities was $8.0 million for each of the six-month periods ended June 30, 2004 and 2003. Net cash used in operating activities was $15.5 million, $15.2 million and $15.1 million for the years ended December 31, 2003, 2002 and 2001, respectively. Expenditures in these periods were generally a result of research and development expenses and general and administrative expenses in support of our operations.

We have entered into agreements to develop bead and antibody technology that required significant cash expenditures, including an agreement with Dynal under which we agreed to make payments totaling $3.0 million upon the accomplishment of bead development activities. Additionally, we have two agreements with Lonza under which we agreed to make payments to develop and produce cGMP-grade antibodies totaling $6.6 million. As of June 30, 2004, we have paid the entire $3.0 million to Dynal and $4.9 million to Lonza. We anticipate that the remaining payments to Lonza will be made in 2005. Under our license agreement with Genetics Institute, we must spend no less than $500,000 annually on research and development activities related to product development until the first commercial sale of a product.

The following summarizes our long-term contractual obligations as of December 31, 2003 (in thousands):

		Payments due by period			
Contractual obligations	**Total**	**Less than 1 year**	**1-3 years**	**3-5 years**	**After 5 years**
Operating leases	$ 9,046	$ 1,571	$3,010	$2,205	$2,260
Equipment financing	1,923	845	1,052	26	—
Total[(1)]	$10,969	$ 2,416	$4,062	$2,231	$2,260

[(1)]Does not include commitments for product development spending under the Genetics Institute license agreement, as described above.

We have financed the acquisition of laboratory and scientific equipment, furniture and fixtures, computer equipment and leasehold improvements through financing arrangements with General Electric Capital Corporation, Oxford Finance Corporation and Phoenix Leasing Incorporated. In connection with the financings, we have issued common stock warrants to these lenders. At December 31, 2003, we had two financing

arrangements. Under the first arrangement, with General Electric Capital Corporation, we could borrow up to $1.7 million. At June 30, 2004, we had $728,000 available under the outstanding arrangement, which was replaced by a new arrangement with General Electric Capital Corporation in July 2004. This new arrangement provides for borrowings up to $3.0 million, subject to credit approval, and expires in July 2005 unless renewed. Under the second arrangement, with Oxford Finance Corporation, we could borrow up to $2.5 million. At June 30, 2004, we had $1.7 million available under the outstanding arrangement, which was replaced by a new arrangement with Oxford Finance Corporation in July 2004. This new arrangement provides for borrowings up to $3.0 million, subject to credit approval, and expires in December 2005 unless renewed. Outstanding borrowings under the current and previous financing arrangements were $1.9 million and $1.8 million at years ended December 31, 2002 and 2003, respectively, and $2.3 million at June 30, 2004. Outstanding borrowings require monthly principal and interest payments and mature at various dates through 2008. Interest rates applicable to the outstanding borrowings at December 31, 2003 ranged from 9.18% to 14.11%. The weighted average interest rates for borrowings outstanding during the years ended December 31, 2001, 2002 and 2003 and the six months ended June 30, 2004 were 12.66%, 11.09%, 10.27% and 9.72%, respectively. Borrowings are secured by the acquired assets that have a net book value of $2.3 million at December 31, 2003. Under all agreements, we are required to comply with certain nonfinancial covenants.

We expect to use the net proceeds from this offering to fund clinical trial activities, manufacturing and preclinical research and development activities and for other general corporate purposes, including capital expenditures, technology acquisitions and working capital to fund anticipated operating losses. See “Use of Proceeds.”

Based on the current status of our product development and collaboration plans, we believe that the net proceeds of this offering, together with our cash, cash equivalents and investments, will be adequate to satisfy our capital needs through at least the end of 2005. We will likely seek additional financing prior to that time to, among other things, support our continuing product development, manufacturing and clinical trials for Phase II or Phase III clinical trials in future periods. Furthermore, we expect to require additional funding before we are able to generate revenue, if at all, from our potential products. Additional financing may not be available on favorable terms, if at all. If we are unable to raise additional funds when we need them, we may have to delay, reduce or eliminate some or all of our development programs or our clinical trials. We also may have to license our technologies to others, including technologies that we would prefer to develop internally, to raise capital.

Certain Relationships and Related Party Transactions

For a description of our related party transactions, see “Certain Relationships and Related Party Transactions.”

Recent Accounting Pronouncements

In January 2003, the FASB issued FIN 46, *Consolidation of Variable Interest Entities*. FIN 46 clarifies the application of Accounting Research Bulletin No. 51, *Consolidated Financial Statements*, to entities in which the equity investors do not have the characteristics of a controlling financial interest or do not have sufficient equity at risk for the entity to finance its activities without additional subordinated financial support from other parties. FIN 46 applies immediately to variable interest entities created after January 31, 2003 and to variable interest entities in which an enterprise obtains an interest after that date. It applies in the first fiscal year or interim period beginning after June 15, 2003 to variable interest entities in which an enterprise holds a variable interest that it acquired before February 1, 2003. FIN 46 applies to public enterprises as of the beginning of the applicable interim or annual period. We do not believe there will be a material effect on our financial condition or results of operations from the adoption of the provisions of FIN 46.

In November 2002, the Emerging Issues Task Force reached a consensus on Issue No. 00-21, *Revenue Arrangements with Multiple Deliverables* (EITF Issue No. 00-21). This Issue provides guidance on how to account for arrangements that involve the delivery or performance of multiple products, services and/or rights to use assets. The provisions of EITF Issue No. 00-21 will apply to revenue arrangements entered into in fiscal periods beginning after June 15, 2003. We are currently evaluating the effect that the adoption of EITF Issue No. 00-21 will have on our financial statements.

In May 2003, the FASB issued SFAS 150, *Accounting for Certain Financial Instruments with Characteristics of Both Liabilities and Equity*. SFAS 150 establishes standards for how an issuer classifies and measures certain financial instruments with characteristics of both liabilities and equity. SFAS 150 requires that an issuer classify a financial instrument that is within SFAS 150's scope as a liability by reporting the cumulative effect of a change in accounting principle. The requirements of SFAS 150 apply to the first fiscal period beginning after December 15, 2004. We are currently evaluating the impact of adopting SFAS 150.

Quantitative and Qualitative Disclosures About Market Risk

Interest Rate Risk

Our short-term investments as of June 30, 2004 consisted of $18.0 million in corporate bonds, $4.6 million in federal agency obligations, and $2.3 million in municipal bonds with contractual maturities of one year or less. Due to the short-term nature of our investments, we believe that our exposure to market interest rate fluctuations is minimal. The corporate bonds in which we invest are rated "A" or better by both Moody's and Standard and Poor's. Our cash and cash equivalents are held primarily in highly liquid money market accounts. A hypothetical 10% change in short-term interest rates from those in effect at June 30, 2004 would not have a significant impact on our financial position or our expected results of operations. We do not currently hold any derivative financial instruments.

Because interest rates on our equipment financing obligations are fixed at the beginning of the repayment term, exposure to changes in interest rates is limited to new financings.

Foreign Currency Risk

We do not engage in foreign currency hedging; however, we have entered into certain contracts denominated in foreign currencies and therefore we are subject to currency exchange risks.

For antibody development and supply services provided by Lonza, we must make payments denominated in British pounds. As a result, from time to time, we are exposed to currency exchange risks related to the British pound. If the British pound strengthens against the U.S. dollar, our payments to Lonza will increase in U.S. dollar terms. Assuming development and supply services are completed as scheduled under our agreements with Lonza, our remaining payments will be approximately $1.6 million through the end of 2005. A hypothetical 10% change in the British pound from the rate in effect at June 30, 2004 would not have a significant impact on our financial position or our expected results of operations.

The terms of our license agreement with Fresenius include the receipt of potential royalties on net sales as well as potential milestone payments to us denominated in Euro. As a result, we are exposed to currency exchange risks related to the Euro. If the Euro weakens against the U.S. dollar, payments received from Fresenius will decrease in U.S. dollar terms. A hypothetical 10% change in the Euro from the rate in effect at June 30, 2004 would not have a significant impact on our financial position or our expected results of operations.

BUSINESS

Overview

We are a biotechnology company developing a new class of therapeutic products designed to enhance the body's natural immune responses to treat cancer, infectious diseases and other medical conditions associated with weakened immune systems. We derive our therapeutic products from a patient's own T cells, which are cells of the immune system that orchestrate immune responses and can detect and eliminate cancer cells and infected cells in the body. We use our patented and proprietary Xcellerate Technology to generate activated T cells, which we call Xcellerated T Cells, from blood that is collected from the patient. Activated T cells are T cells that have been stimulated to carry out immune functions. Our Xcellerate Technology is designed to rapidly activate and expand the patient's T cells outside of the body. These Xcellerated T Cells are then administered to the patient.

We believe, based on clinical trials to date, our Xcellerate Technology can produce Xcellerated T Cells in sufficient numbers to generate rapid and potent immune responses to treat a variety of medical conditions. In our ongoing clinical studies using our Xcellerate Technology, we have observed an increase in the quantity and a restoration of the diversity of T cells in patients with weakened immune systems. We have submitted the findings on the increase in quantity of T cells to the FDA and plan to submit additional data in our next annual report. We believe we can efficiently manufacture Xcellerated T Cells for therapeutic applications. We expect Xcellerated T Cells may be used alone or in combination with other complementary treatments. We and other clinical investigators have completed or are conducting clinical trials in the following indications:

- ***Chronic lymphocytic leukemia, or CLL.*** In our ongoing Phase I/II clinical trial in CLL, treatment with Xcellerated T Cells resulted in a 50% to 100% reduction in the size of enlarged lymph nodes in 12 of 17 (71%) patients for whom data was available as of September 27, 2004. In addition, there was a 50% or greater reduction in spleen size as measured below the rib cage by physical examination in 10 of the 13 patients (77%) with enlarged spleens. These findings were submitted to the FDA in the Information Packet for a Type B End of Phase II meeting held on September 23, 2004. At this meeting we discussed with the FDA our plans for a Phase II/III clinical trial of Xcellerated T Cells in patients with CLL who have been previously treated with chemotherapy and have failed treatment with Campath, an FDA-approved drug used to treat CLL. Based on feedback from the FDA during this meeting, we intend to modify our planned protocol for this Phase II/III clinical trial to provide the FDA with data we believe will address the FDA's concerns regarding the subcutaneous route of Campath administration and the dose and schedule of Xcellerated T Cells. While we believe these modifications will be responsive to the FDA's requests, we cannot be certain that this protocol will satisfy the FDA with respect to the issues raised at the FDA's September 23, 2004 meeting. We are also continuing to discuss issues related to chemistry, manufacturing and controls for the Xcellerated T Cells with the FDA. We have begun preparation for this Phase II/III clinical trial and expect to enroll our first patient by the end of the second quarter of 2005, subject to the FDA accepting our protocol and our proposals on chemistry, manufacturing and controls related matters.
- ***Multiple myeloma.*** In our ongoing Phase I/II clinical trial, we have shown that treatment with Xcellerated T Cells led to rapid recovery of T cells and lymphocytes in all 36 treated patients with multiple myeloma following treatment with high-dose chemotherapy and autologous stem cell transplantation. Previous independent clinical studies have demonstrated a correlation between patient survival and the speed of recovery of lymphocytes following treatment with chemotherapy and stem cell transplantation. Preliminary clinical results of our clinical trial show that, of the 35 patients evaluable for tumor responses, 18 patients (51%) had a greater than 90% decrease in the tumor marker, which is used to measure disease. We have submitted some of these findings to the FDA, and will submit additional data in our next annual report. Additional follow-up will be required to determine the therapeutic effects of Xcellerated T Cells after transplant. In independent clinical trials, a greater than 90% decrease in the tumor marker has been associated with increased survival in multiple myeloma patients. We are also conducting a Phase II trial to treat patients who have advanced disease with Xcellerated T Cells without other anti-tumor therapy.

- ***Non-Hodgkin's lymphoma.*** In an independent clinical trial, conducted by one of our scientific founders under a physician-sponsored investigational new drug application, or IND, 16 non- Hodgkin's lymphoma patients undergoing high-dose chemotherapy and autologous stem cell transplantation were treated with T cells activated with an earlier version of our proprietary technology. As reported in the peer-reviewed journal, *Blood*, in September 2003, 8 out of these 16 patients with a very poor prognosis were still alive with a median follow-up of 33 months. These data were derived from an independent clinical trial, which we did not control and which was not designed to produce statistically significant results as to efficacy or to ensure the results were due to the effects of T cells activated using an earlier version of our proprietary technology. We have been advised that these data have been submitted to the FDA. We are also conducting a Phase II clinical trial in patients with low-grade non-Hodgkin's lymphoma who have failed prior therapies. We plan to enroll a total of 40 patients in this trial with most of the common forms of low-grade non-Hodgkin's lymphoma, including small lymphocytic, follicular, marginal zone and mantle cell types. We expect to complete this trial by the end of 2005.
- ***HIV.*** In an independent clinical trial, in HIV patients with low T cell counts, conducted by one of our scientific founders under a physician-sponsored IND, treatment with T cells activated using an earlier version of our proprietary technology increased the patient population's average T cell count to within normal levels and maintained this normal count for at least one year following therapy. The results of this study were published in a peer-reviewed journal, *Blood*, in September 2003. These data were derived from an independent clinical trial, which we did not control, and was not designed to produce statistically significant results as to efficacy or to ensure the results were due to the effects of T cells activated using an earlier version of our proprietary technology. We have been advised that these data have been submitted to the FDA for review. The results of this study were published in a peer-reviewed journal, *Nature Medicine*, in January 2002. In several independent clinical studies, increased levels of T cells have been shown to correlate with increased patient survival and improved clinical outcome. Our collaborative partner, Fresenius Biotech GmbH, is conducting a Phase I clinical trial to treat HIV patients with genetically-modified T cells produced using our Xcellerate Technology. In addition, we are currently conducting laboratory studies in HIV and if these laboratory studies are successful, we plan to initiate a clinical trial using Xcellerated T Cells in patients with HIV.

In clinical trials, we have observed few side effects in most patients. As of September 27, 2004, in over 156 infusions of Xcellerated T Cells, we have had only two serious adverse events reportable to the FDA that were judged as possibly or probably related to the treatment. The first of these was a rash that resolved following treatment. The second of these was congestive heart failure in a patient with pre-existing severe anemia that resolved approximately two hours following treatment. We subsequently amended our protocol to identify patients with anemia prior to administering Xcellerated T Cells. In general, side effects were similar to those observed with infusions of other kinds of cells, such as red blood cells or frozen cell products, and typically minor, including fever, chills, increased heart rate, nausea and sweating. Our clinical trials and independent clinical trials using an earlier version of our technology, to date, have involved small numbers of patients, and we have not designed nor been required to design such trials to produce statistically significant results as to efficacy. These trials have neither been randomized nor blinded to ensure that the results are due to the effects of the Xcellerated T Cells. Success in early clinical trials neither ensures that large-scale trials will be successful nor predicts final results.

Based on these clinical results, we believe there are several important clinical opportunities for Xcellerated T Cells. We plan to initially focus our development efforts in those clinical indications that we believe have significant commercial opportunities and offer the most rapid path to regulatory approval. We believe hematological malignancies, including CLL, multiple myeloma and non-Hodgkin's lymphoma, represent major potential markets for Xcellerated T Cells. In addition, these types of cancer are generally incurable, which means that Xcellerated T Cells may qualify for fast track approval by the FDA, which could shorten the time to potential regulatory approval and commercialization. We plan to initiate one or more pivotal clinical trials in these hematological malignancies in 2005.

Background

T Cells and the Immune System

T cells are critically important to a properly functioning immune system. The immune system is responsible for protecting the body from foreign invaders and eliminating tumor cells and pathogens, including bacteria, viruses and fungi. Classically, the immune system is divided into two arms, known as humoral immunity and cell-mediated immunity. Humoral immune responses are mediated by antibodies, which several biopharmaceutical companies have developed into major commercial products to treat a range of diseases, including cancer, infectious diseases and autoimmune diseases. Cell-mediated immunity also plays a critical role in fighting many of these illnesses. T cells, the most common type of lymphocyte, play the central role in cell-mediated immunity. We believe T cells may be used to treat cancer, infectious diseases and autoimmune diseases.

Healthy individuals have a few hundred billion T cells that circulate throughout the body. Upon encountering tumor cells or pathogens, T cells become activated and recognize and eliminate them from the body. They do this by performing several important functions. First, T cells stimulate many other components of the immune system that are required for effective immune responses. For example, activated T cells control the proliferation and differentiation of other lymphocytes, B cells, which make antibodies that help fight infections. Additionally, activated T cells recognize and mark abnormal cells, such as tumor cells or infected cells, for destruction by the immune system. Activated T cells also participate directly in killing tumor cells and infectious agents, such as viruses. Finally, T cells also produce substances that stimulate the production of important blood cells including neutrophils and natural killer cells that may help fight infections, platelets that prevent bleeding, and red blood cells that carry oxygen to tissues.

Every T cell carries its own distinct receptor, the T cell receptor, which is capable of recognizing a specific antigen. Antigens are substances produced by tumor cells, viruses, bacteria or other pathogens that cause disease and may be distinguishable from substances produced by healthy cells. Healthy individuals have a population of T cells that expresses millions of different T cell receptors. It is this broad spectrum of T cell receptors that provides the diverse T cell repertoire that makes it possible for the immune system to recognize and respond to a wide variety of harmful pathogens that cause disease.

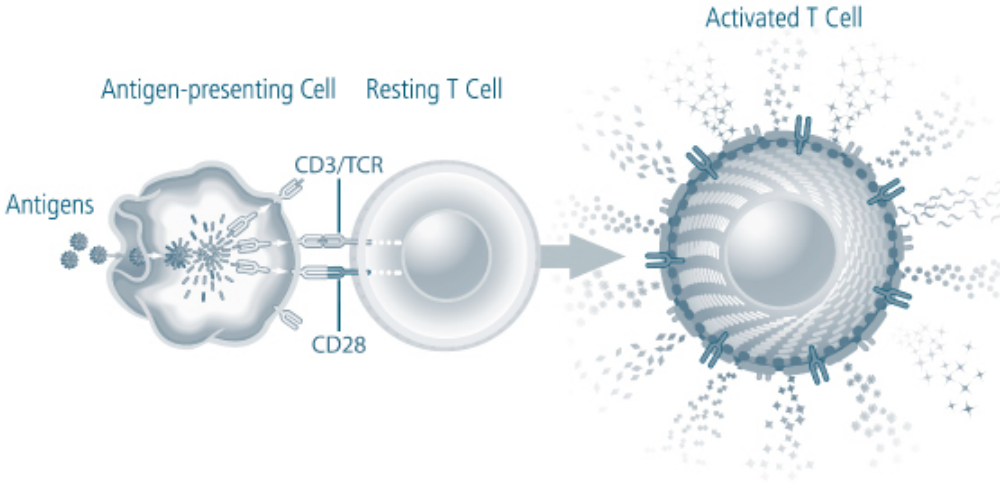
Activation of T Cells

T cells remain in a resting state until they become activated upon encountering antigens expressed by infected cells or tumor cells. Although activation depends on the specificity of binding of an antigen to a T cell receptor, all T cells display similar characteristics upon activation. For example, when T cells undergo activation, they become more sensitive to stimulation by antigens. This makes activated T cells especially effective at eradicating pathogens that would otherwise escape recognition from the immune system. In addition, upon activation, T cells rapidly multiply to large numbers in the body. Accordingly, it is the process of activation that makes T cells potent therapeutic agents.

Two signals are required to activate T cells, Signal 1 and Signal 2, which are delivered by two molecules, CD3 and CD28, present on the surface of T cells. Signal 1 occurs when the CD3 molecule, which is tightly associated with the T cell receptor, is stimulated by engagement of the receptor by an antigen taken up, processed and presented by an antigen-presenting cell. Signal 2 occurs when the same antigen-presenting cell engages the CD28 molecule on the T cell. When the CD3 and CD28 molecules are stimulated, T cells become activated and produce an immune response. If only Signal 1 is generated, T cells are only partially activated and die quickly. If only Signal 2 is generated, no immune response occurs at all. Only the simultaneous delivery of both Signal 1 and Signal 2 generates activated T cells that can function properly in the body and survive for prolonged periods.

When a T cell becomes activated, it produces a number of different molecules to carry out its many functions. Some of these molecules, known as cytokines, are secreted by the T cell while other molecules are expressed on the surface of the T cell. Many of these molecules activate other cellular elements of the immune system. The activated T cell also produces several toxic substances that are responsible for directly killing pathogens. Several different molecules that a T cell produces in proper amounts work together to generate an effective immune response. Many of these molecules are extremely potent and would be extremely toxic if they were administered

intravenously or by other routes that allow them to circulate throughout the body. The activated T cell is able to control the production and site of delivery of these molecules in order to generate a safe immune response that is concentrated at the site of disease.



The Dangers of T Cell Deficiencies

The quantity, quality and diversity of T cells are critically important for a properly functioning immune system.

- ***Quantity.*** A variety of treatments for cancer and autoimmune diseases destroy T cells, including chemotherapy, radiation and some monoclonal antibodies. In addition, many diseases, such as HIV and several kinds of primary immunodeficiencies, are associated with low numbers of T cells. When the number of T cells decreases significantly, the human immune system is less able to defend the body against cancer and infectious diseases.
- ***Quality.*** In many diseases, such as cancer and HIV, T cells have a reduced ability to generate effective immune responses. Many chemotherapy drugs and immunosuppressive agents also depress the activity and function of T cells. Defective T cells may not be able to respond to normal signals required for an effective immune response. These T cells may produce insufficient numbers of molecules required either to mark tumor cells for destruction or to directly destroy them.
- ***Diversity.*** A decreased diversity of T cell receptors is observed in many diseases, including cancer, HIV and autoimmune diseases. This decreased spectrum of T cell receptors narrows the ability of T cells to recognize a broad array of antigens. This may reduce a patient's ability to respond to and eliminate cancer and infectious diseases.

In many patients, decreases in the quantity, quality and diversity of T cells occur together. This puts patients at an increased risk of developing serious and often life-threatening infectious diseases as well as cancer. For example, patients with autoimmune diseases treated with immunosuppressive drugs have an increased risk of infections. Additionally, transplant patients treated with similar drugs have an increased risk of infections and non- Hodgkin's lymphoma. Patients with HIV have an increased risk of developing non-Hodgkin's lymphoma and multiple myeloma. Patients with certain types of primary immunodeficiencies have an increased risk of developing infections as well as non-Hodgkin's lymphoma and gastric cancer. In each of these medical conditions, patients often have poorly functioning T cells that are reduced in number and have limited diversity, which makes these patients particularly susceptible to infection and cancer.

Conversely, the presence of a sufficient number of healthy T cells is associated with improved therapeutic outcome in patients with cancer, HIV and autoimmune diseases. At the time of diagnosis, patients with non-Hodgkin's lymphoma who have higher lymphocyte counts have better survival. Several recent independent

clinical studies have shown that cancer patients who experience more rapid and complete recovery of lymphocytes after chemotherapy have improved survival and clinical outcome. Improved prognosis has been well documented in HIV patients whose T cell counts significantly increased after anti-HIV therapy. These patients demonstrate improvements in T cell function as well as in T cell receptor repertoire diversity after successful treatment. Restoring healthy T cell diversity has also been associated with remission of disease in patients with certain autoimmune diseases.

Current Approaches to Activate the Immune System and Their Limitations

There has been a major clinical focus on developing therapeutic agents to strengthen and activate a patient's immune system. Many of these agents are used to activate the patient's T cells inside the body. These therapeutic agents include:

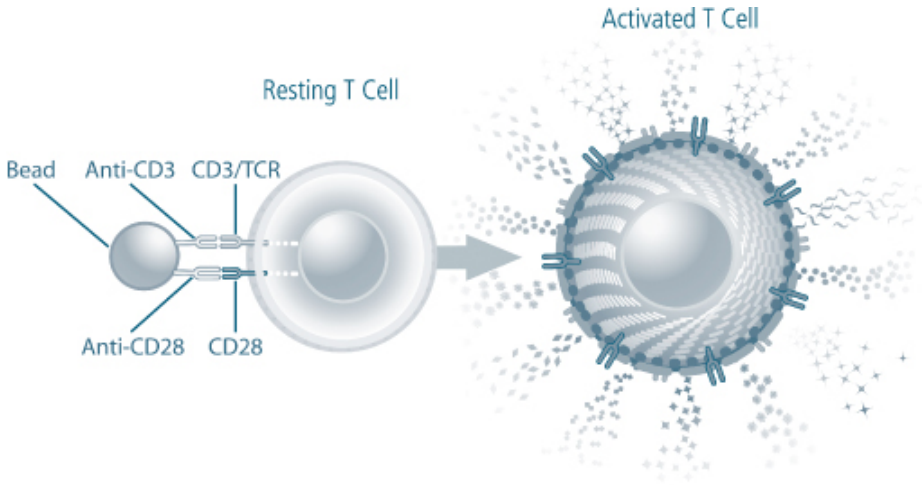
- ***Cytokines.*** Cytokines, such as IL-2, are potent chemical messengers produced by the immune system that stimulate T cells and generate an immune response. Although cytokines have demonstrated therapeutic effects in cancer and infectious diseases, they are associated with serious and sometimes life-threatening side effects when administered to patients. In order to reduce adverse effects, these drugs are often given at decreased doses, which may compromise their therapeutic effects.
- ***Monoclonal antibodies.*** A variety of different monoclonal antibodies are being developed that target molecules expressed on the surface of T cells. Some of these target molecules activate T cells, while others inhibit T cell activation. By blocking the molecules that inhibit T cell activation, T cell activity can be increased. These antibodies have demonstrated limited therapeutic activity, and some of these molecules have been associated with serious side effects due to overactive T cells.
- ***Adjuvants.*** Other therapeutic agents known as adjuvants have also been developed to stimulate immune responses. Some of the most potent adjuvants are derived from bacteria that make a variety of molecules that stimulate immune responses. Adjuvants are used for some clinical applications, but their use is limited due to toxicity. Recently, several of the molecules produced by bacteria that activate the immune system have been identified, and some are being developed as immunotherapeutic agents. However, it is unclear whether these individual molecules will retain the therapeutic effects of whole adjuvants.
- ***Vaccines.*** A number of different vaccines are under development to treat cancer and HIV. These vaccines are made up of antigens expressed by tumor cells or HIV and are often administered with adjuvants. Patients are treated with the goal of stimulating T cells to respond to antigens, so that the T cells become activated and destroy the cancer or virus. However, many patients with cancer or HIV have deficiencies in the quantity, quality or diversity of their T cells, which may limit their ability to generate an effective response to the vaccine. This may be one reason vaccines have been ineffective in treating cancer and HIV.
- ***Dendritic cells.*** Cells of the immune system known as dendritic cells are being used to stimulate immune responses in patients with cancer. In healthy individuals, dendritic cells deliver both Signal 1 and Signal 2, which activate T cells. For most clinical applications, a patient's own dendritic cells are grown outside of the body and then administered back to the patient. However, the ability to generate dendritic cells varies from patient to patient. Recently, it has been documented that dendritic cells under some circumstances may also make molecules that inhibit T cell responses. In addition, many patients with cancer or HIV have T cell deficiencies, which may limit their ability to respond to dendritic cells. Accordingly, dendritic cells may be limited in their ability to activate patients' T cells and generate effective immune responses.
- ***Activated T cells generated using other methods.*** To overcome the limitations of activating T cells inside of the body, researchers have attempted to activate and grow patients' T cells *ex vivo*, or outside of the body, before administering them for therapeutic applications. The development of monoclonal antibodies, which are proteins derived from a single clone of antibody-producing cells

that bind to well-defined targets, made it possible to develop reagents that bind to the CD3 molecule and deliver Signal 1 to T cells. These antibodies are used to activate and grow T cells outside of the body. However, the process generates only one of the two signals required to activate T cells. Without Signal 2, this results in limited activity, growth and survival of T cells in the laboratory as well as after their administration into patients. Some recent approaches use antigens to target T cell receptors to generate antigen-specific T cells. However, these approaches result in a restricted T cell response that may not be effective for many clinical applications requiring broader T cell responses.

Our Solution

Our Therapeutic Approach

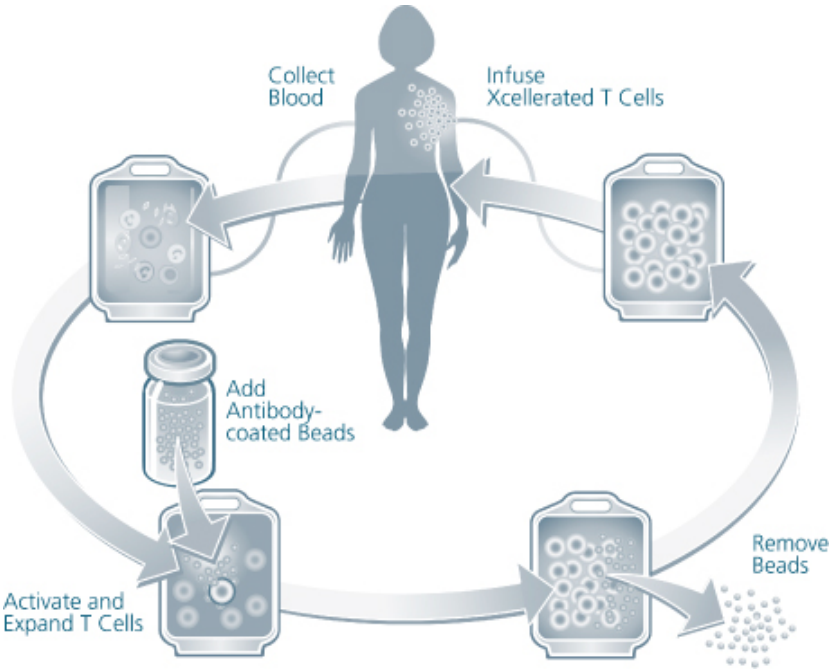
We have developed our patented and proprietary Xcellerate Technology, which can be used to consistently activate and grow large numbers of T cells outside of the body for therapeutic applications. The cells generated with this process, which we call Xcellerated T Cells, have been observed to have the broad diversity of T cell receptors that we believe are required to recognize and eliminate cancer and infectious diseases. These activated T cells secrete a wide spectrum of molecules, such as cytokines, and express a broad range of molecules on their cell surfaces to generate an effective immune response. In addition, T cells generated using an earlier version of our proprietary technology have been shown to survive for more than one year after infusion in patients. We believe the long-term survival of these cells may lead to sustained therapeutic responses.



Our patented Xcellerate Technology is used in a process that employs magnetic beads, which are plastic-coated magnetic microspheres, densely covered with two monoclonal antibodies that deliver Signal 1 and Signal 2 to activate T cells. One of the monoclonal antibodies delivers Signal 1 to T cells by binding directly to the CD3 molecule. Our Xcellerate Technology also uses another monoclonal antibody that binds to the CD28 molecule to deliver Signal 2 to T cells. We attach both of these monoclonal antibodies to the surface of magnetic beads. When T cells bind to the monoclonal antibodies on these magnetic beads, they become activated and significantly increase in number. We believe these magnetic beads can provide the signals required to activate and grow a broad spectrum of T cells characterized by a diverse T cell receptor repertoire. These Xcellerated T Cells are then administered to the patient with the goal of restoring the health of the patient's immune system and ability to eliminate cancer and infectious diseases.

To produce Xcellerated T Cells, white blood cells, a rich source of T cells, are first collected from a patient's blood in an outpatient clinical setting using a standard procedure called leukapheresis. These cells are sent to our

cGMP manufacturing facility, where they are frozen and stored. When needed, the cells are thawed and processed in a closed system to avoid exposure to the outside environment, reducing the risk of microbial contamination. In this process, the patient's white blood cells are mixed with our microscopic magnetic beads and then placed in a sterile, custom disposable bioreactor containing a solution of nutrients and a low level of IL-2 that sustains the growth of the T cells. These beads are covered with our two monoclonal antibodies, which deliver Signal 1 and Signal 2 to activate the T cells in the solution. During an approximate 10-13 day period after the application of the beads, the T cells become activated and rapidly increase in number. At the end of this period, the antibody-coated magnetic beads are substantially removed with a magnetic device. The Xcellerated T Cells are then frozen for increased shelf life. We have documented that we can store the Xcellerated T Cells in a frozen state for at least 12 months without significant loss of activity. When requested by the physician, the frozen Xcellerated T Cells are shipped to the outpatient clinic where they are thawed and administered by intravenous infusion in approximately two hours.



For purposes of safety and regulatory compliance, we have established procedures designed to track patients' cells during the manufacture and shipment of Xcellerated T Cells. Each patient receives a unique identifying number that also contains a code for the clinical site where they are being treated. This unique identifying number is used to track, monitor and record all documentation, labels and materials relating to the production of the patient's Xcellerated T Cells from blood collection through infusion of the final product. Before the product is shipped to the clinical site, we conduct quality control procedures in our laboratory. These procedures are designed to assure that Xcellerated T Cells meet strict quality control criteria such as T cell purity, dosage, potency, safety and sterility.

Benefits of Xcellerated T Cells

We believe Xcellerated T Cells may be an effective treatment for cancer and infectious diseases and may have the following clinical benefits:

- ***Increased T cell quantity.*** Using our Xcellerate Technology, we have documented the activation and growth of more than 100 billion T cells, representing a 100-fold to 300-fold increase in T cells

during the manufacturing process. The results of this process for manufacturing Xcellerated T Cells for multiple myeloma patients and CLL patients were published in the peer-reviewed *BioProcessing Journal* in November 2003 and accepted for publication in the peer-reviewed journal *Cytotherapy* in December 2004, respectively. We have submitted some of these data to the FDA and plan to submit additional data for their review. One hundred billion T cells represents approximately 25% to 30% of the total number of T cells found in healthy individuals. We believe this number of Xcellerated T Cells is sufficient to generate therapeutic effects in patients with cancer, infectious diseases and autoimmune diseases. In our ongoing Phase I/II clinical trial in multiple myeloma, we have evidence that treatment with Xcellerated T Cells leads to rapid T cell and lymphocyte recovery in patients treated with high-dose chemotherapy and autologous stem cell transplantation.

- ***Prolonged T cell survival.*** In an independent clinical trial, T cells activated using an earlier version of our proprietary technology have been documented to survive in the body for more than a year after their administration. We have been advised that these data have been submitted to the FDA for review. We believe the prolonged survival of Xcellerated T cells may enable less frequent administration than existing therapeutic products for cancer and infectious diseases.
- ***Improved T cell quality.*** We have documented that Xcellerated T Cells produce a broad spectrum of cytokines and express many important surface molecules required to generate an effective immune response. We have submitted these data to the FDA for review. In laboratory studies, our Xcellerate Technology has been used to restore healthy immune responses in T cells from patients with leukemia activated and grown using our Xcellerate Technology. These Xcellerated T Cells have been shown in the laboratory to mark patients' leukemic cells for destruction by the immune system. We have also observed that the Xcellerated T Cells can directly kill the patients' tumor cells. In our ongoing Phase I/II clinical trial in CLL, treatment with Xcellerated T Cells resulted in a 50% to 100% reduction in the size of enlarged lymph nodes in 12 of 17 patients (71%) evaluated and a 50% or greater reduction in spleen size as measured below the ribcage by physical examination in 10 of the 13 patients (77%) with enlarged spleens. We have submitted these findings to the FDA for review.
- ***Increased numbers of white blood cells, red blood cells and platelets.*** In our ongoing Phase I/II trial in CLL, we have observed that the infusion of Xcellerated T Cells results in increased numbers of white blood cells including T cells, neutrophils and natural killer cells, which may help fight infections and cancer, increased numbers of red blood cells, as measured by hemoglobin levels, which carry oxygen to tissues, and increased numbers of platelets, which prevent bleeding. We have submitted these findings to the FDA for review.
- ***Favorable side effect profile.*** Xcellerated T Cells are produced from T cells originating from the patient. We believe that using a patient's own cells may result in a safer product than chemotherapy drugs. Xcellerated T Cells and T cells generated using an earlier version of our proprietary technology have been administered to over 204 patients in clinical trials. We have observed few side effects in most patients. The side effects associated with administration of Xcellerated T Cells are typically minor and similar to those observed with infusions of other kinds of cells, such as red blood cells or frozen cell products. To date, there have been only two serious adverse events reportable to the FDA that were judged as possibly or probably related to the therapy, both of which were resolved. The first of these was a rash that resolved following treatment. The second of these was congestive heart failure in a patient with pre-existing severe anemia that resolved approximately two hours following treatment. We subsequently amended our protocols to identify patients with anemia prior to administering Xcellerated T Cells.
- ***Complementary to other therapies.*** Based on our clinical observations to date, we believe Xcellerated T Cells may be complementary to current therapies, such as chemotherapy, radiation and monoclonal antibodies. Xcellerated T Cells may help repair the damage to the immune system

caused by chemotherapy or other drugs that suppress the immune system. In addition, we believe Xcellerated T Cells may be combined with anti-viral drugs as well as therapies that activate the immune system, such as cancer vaccines. We and other clinical investigators have performed both preclinical animal studies as well as laboratory studies using patients' tissues demonstrating the feasibility of using this approach to improve the potential efficacy of combining T cells activated with our proprietary technology with cancer vaccines.

Benefits of Our Xcellerate Technology

We believe our Xcellerate Technology may have the following benefits:

- ***Ex vivo process.*** We designed our Xcellerate Technology to be used *ex vivo*, or outside of the body. This allows us to grow and monitor Xcellerated T Cells in a controlled environment where we can provide optimal conditions for the activation and growth of T cells.
- ***Broad clinical applications.*** Based on recent clinical trials, we believe our Xcellerate Technology can be applied to a variety of diseases. We have demonstrated in the laboratory as well as in our cGMP manufacturing facility that our Xcellerate Technology can be used to activate and grow T cells from patients with a variety of cancers, including kidney cancer, prostate cancer, non-Hodgkin's lymphoma, multiple myeloma and leukemia. Other clinical investigators have used an earlier version of our proprietary technology to activate and grow T cells from HIV patients for clinical applications. In addition, we have entered into a collaboration under which Fresenius Biotech GmbH has treated ten HIV patients with genetically-modified T cells produced using our Xcellerate Technology. Recently, we have demonstrated in the laboratory that we can use our Xcellerate Technology to activate and grow T cells from patients with autoimmune diseases, including rheumatoid arthritis, systemic lupus erythematosus and scleroderma. In addition, we have demonstrated that we can modify our Xcellerate Technology for potential application in other areas of immunotherapy, including vaccines and antigen-specific T cell approaches. These findings were recently published in the peer-reviewed *Journal of Immunotherapy* in September 2004.
- ***Ease of administration.*** We initially collect a patient's white blood cells, a rich source of T cells, in a standard outpatient procedure called leukapheresis. After our process is completed, Xcellerated T Cells are administered in approximately two hours using a routine intravenous procedure in an outpatient clinic. This is similar to what is performed today in most oncology practices where chemotherapy, monoclonal antibodies and red blood cell transfusions are administered intravenously.
- ***Reproducible and cost-effective manufacturing.*** We use the same standardized process to produce Xcellerated T Cells for all patients. Other than our proprietary components, our Xcellerate Technology incorporates commercially available products and standard clinical and blood bank supplies, which enables us to efficiently manufacture Xcellerated T Cells. We do not require materials that must be obtained by surgery, such as samples of the patient's tumor. We can freeze the cells we initially collect from our patients as well as freeze the Xcellerated T Cells we generate from those cells. We have documented storage of Xcellerated T Cells in our facility for at least 12 months without significant loss of activity. Freezing may enable us to generate several Xcellerated T Cell treatments from one manufacturing procedure. In addition, we believe freezing should allow us to supply Xcellerated T Cells to patients throughout the United States from a central manufacturing site.

Our Strategy

Our goal is to be a leader in the field of T cell therapy and to leverage our expertise in T cell activation to develop and commercialize products to treat patients with cancer, infectious diseases, autoimmune diseases and compromised immune systems. Key elements of our strategy include the following:

- ***Maximize speed to market.*** We plan to initiate one or more pivotal clinical trials in CLL, multiple myeloma or non-Hodgkin's lymphoma in 2005. We believe these clinical indications provide the most rapid and cost-effective commercialization strategy for Xcellerated T Cells. We believe that focusing on life-threatening diseases can facilitate rapid entry into the market for Xcellerated T Cells. The FDA has adopted fast track approval and priority trial procedures for therapies that address life-threatening diseases, and we may apply for fast track designation.
- ***Expand the therapeutic applications of Xcellerated T Cells.*** In addition to cancer and HIV, we believe Xcellerated T Cells can be used to treat patients with other illnesses, including infectious diseases, such as hepatitis. In addition, we are studying the potential therapeutic benefits of Xcellerated T Cells in patients with autoimmune diseases treated with immunosuppressive drugs and in patients with compromised immune systems, such as those with primary immunodeficiencies. We may also expand the application of Xcellerated T Cells to other types of cancer. We are also exploring the use of Xcellerated T Cells in patients with autoimmune diseases who have been treated with immunosuppressive drugs. In addition to our own clinical trials, our scientific founders are conducting a number of independent clinical studies using an earlier version of our proprietary technology for additional clinical applications. Based on the results of their studies, we may pursue some of these clinical opportunities using Xcellerated T Cells.
- ***Leverage complementary technologies and therapies.*** Xcellerated T Cells may be effective in combination with current treatments for cancer and infectious diseases, such as chemotherapy. We believe Xcellerated T Cells may help ameliorate the effects of immunosuppression associated with treatment of autoimmune diseases. We also intend to explore opportunities to combine complementary technologies and therapies, such as cancer vaccines and monoclonal antibodies, with Xcellerated T Cells. In addition, we may supplement our internal efforts by acquiring or licensing technologies and product candidates that complement our Xcellerate Technology.
- ***Retain selected U.S. commercialization rights in cancer.*** We intend to retain marketing and commercialization rights in North America for products in specialized markets, such as cancer. We may seek development and marketing support for clinical indications that have broader patient populations in North America. In addition, we plan to pursue strategic partnerships with biopharmaceutical companies to obtain development and marketing support for territories outside North America, such as Europe and Asia.
- ***Enhance our manufacturing capabilities.*** We have a major focus on developing an efficient and cost-effective process to manufacture Xcellerated T Cells. We currently produce T cells for clinical trials using a cost-effective process that is readily scaleable. We intend to make additional improvements to our manufacturing procedures and components, which should further reduce the costs of manufacturing. In addition, we plan to optimize our manufacturing process for other disease indications in the future.
- ***Expand and enhance our intellectual property.*** We have a portfolio of issued patents and patent applications that we own or exclusively license, which we believe provides patent coverage for our Xcellerate Technology. As we continue to improve our Xcellerate Technology, including developing process improvements and improving the activity and the specificity of Xcellerated T Cells, we intend to file patents to protect these improvements.

Clinical Applications

The table below summarizes the current status of clinical trial applications that use our proprietary technology:

Disease and indication	Clinical trial status	Sponsor
Cancer—Hematological malignancies		
Chronic Lymphocytic Leukemia		
· Progressive disease	Ongoing Phase I/II	Xcyte
· Post-Campath	Planned Phase II/III	Xcyte
Multiple myeloma		
· Post-autologous stem cell transplant	Ongoing Phase I/II	Xcyte
	Ongoing Phase I/II	Physician
· Relapsed	Ongoing Phase II	Xcyte
Non-Hodgkin's lymphoma	Completed Phase I	Physician
	Ongoing Phase II	Xcyte
HIV	Completed Phase I	Physician
	Ongoing Phase I	Fresenius
	Ongoing Phase II	Physician
	Planned Phase II	Xcyte
Cancer—Solid tumors		
Kidney cancer	Completed Phase I/II	Xcyte
Prostate cancer	Completed Phase I/II	Xcyte

Cancer—Hematological Malignancies

Hematological malignancies are cancers of the blood or bone marrow. The American Cancer Society estimates that there will be approximately 110,960 new cases of hematological malignancies in the United States in 2004. Hematological malignancies include leukemia, non-Hodgkin's lymphoma, multiple myeloma and Hodgkin's lymphoma. Because hematological malignancies have usually spread throughout the body by the time of diagnosis, they typically require treatment with chemotherapy. Recently, immune-based therapeutic products have been developed to treat some hematological malignancies. Most kinds of hematological malignancies, including CLL, multiple myeloma and the vast majority of non-Hodgkin's lymphomas, are cancers of lymphocytes known as B cells. In healthy individuals, T cells control the proliferation of B cells. However, in patients with B cell malignancies, T cells are abnormal, and this may contribute to uncontrolled B cell proliferation and tumor progression.

Chronic Lymphocytic Leukemia

According to third-party sources, approximately 75,000 patients have CLL in the United States, and there will be 8,190 new cases of CLL and 4,800 deaths due to this disease in the United States in 2004. The disease is characterized by proliferation of malignant lymphocytes in the bone marrow, lymph nodes and spleen, which leads to an increase in white blood cell counts, as well as enlarged lymph nodes and spleens in most patients. A number of chemotherapy drugs can be used to treat leukemia. Recently, the FDA approved two drugs, fludarabine, a chemotherapy agent, and Campath, a monoclonal antibody, to treat CLL. These drugs are effective in some patients but do not cure the disease. Both fludarabine and Campath are powerful drugs that destroy all lymphocytes. Consequently, patients treated with these drugs suffer from severe T cell deficiencies, which increase the risk of infection.

In 2003, we began treating patients with CLL with a single infusion of Xcellerated T Cells with no other therapy in a Phase I/II clinical trial. We treated a minimum of three patients at each of three different dose levels of 10, 30 and 60-100 billion Xcellerated T Cells. Serious injury has sometimes occurred with other therapeutic agents used to treat CLL due to rapid destruction of leukemic cells. To reduce this risk, we started with a low dose in

this trial and have gradually increased the dose of Xcellerated T Cells. A total of 17 patients have been treated as of September 27, 2004. We have observed few side effects in most patients. As of September 27, 2004, we have reported one serious adverse event to the FDA for this trial, which involved a patient who developed an abnormal heart rhythm 17 days following treatment. In the judgment of the attending physician, the event was "unlikely related" to the therapy. In addition, we have documented a 50% to 100% reduction in the size of enlarged lymph nodes in 12 of 17 patients (71%) evaluated and a 50% or greater reductions in spleen size as measured below the ribcage by physical examination in 10 of the 13 patients (77%) with enlarged spleens. To date, we have not observed any significant decrease in leukemia counts in the blood of these patients. We have also documented increases in white blood cells including T cells, neutrophils and natural killer T cells, which may help fight infections and cancer, increases in platelets, which prevent bleeding, and increases in red blood cells as measured by hemoglobin, which carry oxygen. These findings have been submitted to the FDA in the Information Packet for a Type B End of Phase II meeting held on September 23, 2004. In July 2004, we amended the protocol for the Phase I/II clinical trial to allow patients to receive a second infusion of Xcellerated T Cells and to enroll additional patients in this trial.

Our clinical trials to date have involved small numbers of patients, and we have not designed or been required to design such trials to produce statistically significant results as to efficacy. These trials have neither been randomized nor blinded to ensure that the results are due to the effects of the Xcellerated T Cells. Success in early clinical trials neither ensures that large-scale trials will be successful nor predicts final results.

We plan to initiate a Phase II /III clinical trial in which patients who have previously received chemotherapy and who have failed treatment with Campath will be treated with Xcellerated T Cells. Use of Campath is a standard treatment for CLL but increases the risk of infection in part because Campath eradicates nearly all T cells for several months following treatment. In addition, although Campath can decrease leukemic cell counts in the blood, it has less therapeutic activity in the lymph nodes and spleens of CLL patients. Accordingly, we believe there is a strong clinical rationale for combining Xcellerated T Cells with Campath. We discussed our plans for this trial with the FDA at an End of Phase II meeting on September 23, 2004. Based on feedback from the FDA during this meeting, we intend to modify our planned protocol for this Phase II/III clinical trial to provide the FDA with data we believe will address the FDA's concerns regarding the subcutaneous route of Campath administration and the dose and schedule of Xcellerated T Cells. While we believe these modifications will be responsive to the FDA's requests, we cannot be certain that this protocol will satisfy the FDA with respect to the issues raised at the FDA's September 23, 2004 meeting. We are also continuing to discuss issues related to chemistry, manufacturing and controls for the Xcellerated T Cells with the FDA. We have begun preparation for this Phase II/III clinical trial and expect to enroll our first patient by the end of the second quarter of 2005, subject to the FDA accepting our protocol and our proposals on chemistry, manufacturing and controls related matters.

Multiple Myeloma

Multiple myeloma is a form of cancer that usually originates in the bone marrow and has metastasized to multiple bone sites by the time of diagnosis. According to third-party sources, approximately 50,000 patients have multiple myeloma in the United States, approximately 15,270 new patients will be diagnosed with multiple myeloma and 11,070 patients will die of the disease in 2004. Chemotherapy has been the most common form of treatment for multiple myeloma. More recently, physicians started using drugs such as Velcade and thalidomide to treat this disease. These drugs can temporarily reduce the tumor load in patients with myeloma but only rarely eradicate the disease. The most effective therapeutic approach for treatment of multiple myeloma is high-dose chemotherapy followed by autologous stem cell transplantation. However, this therapy is not curative, and only approximately 25% of patients achieve a complete response. In addition, patients whose lymphocyte counts recover slowly after transplant have a poor clinical outcome. We believe that administering Xcellerated T Cells may be able to accelerate lymphocyte recovery and improve the clinical outcome of these patients.

We have completed treatment of all 36 of the planned patients in our ongoing Phase I/II clinical trial in patients with multiple myeloma. Patients received a single infusion of Xcellerated T Cells three days following high-dose chemotherapy and autologous stem cell transplantation. Treatment with Xcellerated T Cells has resulted in few side effects in most patients and two serious adverse events reportable to the FDA. Of these two events only one,

which involved a patient who developed a rash after treatment that subsequently resolved, was judged to be possibly or probably related to the therapy. Lymphocyte recovery and T cell recovery in all 36 patients has been much more rapid than observed in a comparable group of patients who did not receive Xcellerated T Cells after stem cell transplantation. Rapid lymphocyte recovery has been correlated with improved prognosis and increased survival in previous independent clinical studies. We believe the improvements in the time to lymphocyte recovery may lead to a better clinical outcome in these patients. We are currently monitoring these patients for infections, days in hospital and other clinical parameters that may be associated with immune recovery. Preliminary results of our clinical trial show that, of the 35 patients evaluable for tumor responses, 18 patients (51%) had a greater than 90% decrease in the tumor marker used to measure disease. We have submitted these findings to the FDA and will submit additional data in our next annual report. Additional follow-up will be required to determine the therapeutic effects of Xcellerated T Cells after transplant. In independent clinical trials, a greater than 90% decrease in the tumor marker has been associated with increased survival in multiple myeloma patients.

In an ongoing independent Phase I clinical trial, one of our scientific founders and his collaborators have treated 40 multiple myeloma patients with activated T cells following high-dose chemotherapy and autologous stem cell transplantation. These patients received T cells activated using an earlier version of our proprietary technology. Administration of activated T cells resulted in few side effects in most patients and was associated with rapid lymphocyte and T cell recovery. In addition, tumor responses have been documented in a majority of these patients.

We are conducting a Phase II clinical trial in multiple myeloma in which we plan to enroll approximately 30 patients who have failed prior therapies. Patients in this trial are randomized to treatment with either a single infusion of Xcellerated T Cells alone or treatment with the drug fludarabine followed by a single infusion of Xcellerated T Cells. This trial is designed to evaluate whether treatment with Xcellerated T Cells is effective as a stand-alone therapy and whether fludarabine can enhance the anti-tumor effects of Xcellerated T Cells in patients with multiple myeloma. As of September 27, 2004, we have treated 18 patients in this trial. Our clinical trials to date have involved small numbers of patients and we have not designed nor been required to design such trials to produce statistically significant results as to efficacy. These trials have neither been randomized nor blinded to ensure that the results are due to the effects of the Xcellerated T Cells. Success in early clinical trials neither ensures that large-scale trials will be successful nor predicts final results.

Non-Hodgkin's Lymphoma

Non-Hodgkin's lymphoma is a cancer that originates in the lymph nodes of the body. According to third-party sources, approximately 310,000 patients have non-Hodgkin's lymphoma, and approximately 54,370 new patients will be diagnosed with this disease in the United States in 2004. About 60% of newly diagnosed patients have an aggressive disease course, while approximately 40% of patients have a slow growing, low-grade form of the disease. Chemotherapy and radiation are used to treat patients with non-Hodgkin's lymphoma. More recently, immune-based therapeutic products, such as the monoclonal antibody Rituxan, have increasingly been used alone or in combination with chemotherapy. Patients with low-grade lymphoma often respond to Rituxan treatment, but they cannot be cured with any form of therapy. These patients eventually become refractory to all forms of therapy and die from their disease. Patients with aggressive non-Hodgkin's lymphoma may be cured with chemotherapy treatment. However, most patients relapse or fail to respond to therapy and have a poor prognosis. Some of these patients may be treated with high-dose chemotherapy followed by an autologous stem cell transplant, but there are few patients with long-term survival.

An independent clinical trial was conducted by one of our scientific founders under a physician-sponsored IND with the FDA in 16 non-Hodgkin's lymphoma patients with aggressive disease and a poor prognosis. The patients were treated with high-dose chemotherapy and an autologous stem cell transplant followed by administration of a single infusion of activated T cells generated using an earlier version of our proprietary technology. As reported in the medical journal *Blood* in September 2003, 8 out of these 16 patients with a very poor prognosis were still alive with a median follow-up of 33 months. These data were derived from an independent clinical trial, which we did not control and which was not designed to produce statistically

significant results as to efficacy or to ensure the results were due to the effects of T cells activated using an earlier version of our proprietary technology. We have been advised that these data have been submitted to the FDA for review.

We believe administration of Xcellerated T Cells may increase the lymphocyte counts of patients with low-grade lymphoma. Recent studies have demonstrated a correlation between lymphocyte counts in patients with low-grade lymphoma and their survival. In addition, low-grade lymphoma has many similar characteristics to CLL. However, in contrast to CLL, tumor cells are rarely found on routine examination of the blood in patients with lymphoma. The primary site of disease in patients with low-grade lymphoma is the lymph nodes. There is one type of low-grade lymphoma, known as small lymphocytic lymphoma, which is classified as the same disease as CLL, except for the absence of tumor cells in the blood. Because of similarities between some of these low-grade lymphomas and CLL and the effects that we have documented in the lymph nodes in patients with CLL, we have initiated a Phase II clinical trial to test whether Xcellerated T Cells can be used to treat patients with the most common forms of low-grade lymphomas, including small lymphocytic, follicular, marginal zone and mantle cell types. As of September 27, 2004, we had treated 9 patients in this clinical trial. Our clinical trials to date have involved small numbers of patients, and we have not designed nor been required to design such trials to produce statistically significant results as to efficacy. These trials have neither been randomized nor blinded to ensure that the results are due to the effects of the Xcellerate Technology. Success in early clinical trials neither ensures that large-scale trials will be successful nor predicts final results.

HIV

According to third-party sources, there are estimated to be approximately 950,000 individuals infected with HIV in the United States. HIV patients are at increased risk of infections and cancer. In HIV, patients' T cells become infected with the virus, leading to low numbers of T cells and an extremely narrow T cell receptor repertoire. According to independent clinical studies, it has been shown that increasing T cell count and restoring T cell repertoire are associated with improved clinical outcome. Patients with HIV are currently treated with combinations of anti-viral drugs known as highly active antiretroviral therapy, or HAART. Although HAART is effective in suppressing the virus and delaying the onset of acquired immunodeficiency syndrome, or AIDS, HAART often ceases to be effective in a significant number of patients over time. HAART is also associated with serious side effects.

One of our scientific founders independently demonstrated in the laboratory that T cells activated using an earlier version of our proprietary technology were resistant to infection with HIV. In an independent clinical trial conducted by one of our scientific founders under a physician-sponsored IND with the FDA, eight HIV patients were administered T cells activated using an earlier version of our proprietary technology. The results were published in the medical journal *Nature Medicine* in January 2002, where it was reported that the treatment increased the average of the patient population's T cell counts to within the normal range for at least one year following initiation of therapy. We have been advised that these data have been submitted to the FDA. In laboratory studies, the investigators also demonstrated that they were able to restore a broad T cell receptor diversity in the T cells that were produced using this technology.

We have entered into a collaboration under which Fresenius Biotech GmbH has treated HIV patients with genetically-modified T cells produced using our Xcellerate Technology. Ten patients have been enrolled in a Phase I clinical trial under this collaboration. In addition, one of our scientific founders is independently conducting clinical trials using genetically modified T cells grown using an earlier version of our proprietary technology to treat patients infected with HIV, the results of which are not yet publicly available. We do not control independent clinical trials, including physician-sponsored trials, and such trials have not been designed nor are they required to be designed to produce statistically significant results as to efficacy. These trials have neither been randomized nor blinded to ensure that the results are due to the effects of the T cells activated by an earlier version of our proprietary technology. Success in early clinical trials neither ensures that large-scale trials will be successful nor predicts final results.

One of our scientific founders and his collaborators conducted a preclinical study in an HIV model in monkeys in which he demonstrated that T cells activated using proprietary technology administered after one month of anti-viral drug therapy suppressed viral infection for more than a year. The results of this study were published in the medical journal *Blood* in January 2002. We have been advised that these data have been submitted to the FDA. Based on this study, we are conducting laboratory studies in HIV with the goal of pursuing a similar approach in HIV patients. If these laboratory studies are successful, we plan to initiate a clinical trial using Xcellerated T Cells in patients with HIV.

Cancer—Solid Tumors

Solid tumors are cancers that originate in organs of the body. The American Cancer Society estimates that there will be over one million new patients with solid tumors, such as breast, prostate, kidney, lung, liver and colon cancers and approximately 450,000 people will die from these types of cancers in the United States in 2004. These cancers are typically treated with surgery or radiation. Chemotherapy is used with limited success in treating solid tumors such as breast cancer, but it is generally ineffective in curing patients once the cancer has spread or metastasized. Recently, immune-based therapeutic products, including monoclonal antibodies, such as Herceptin, are being used to treat patients with solid tumors, such as breast cancer and ovarian cancer.

Kidney Cancer

The American Cancer Society estimates that approximately 35,710 patients will be diagnosed with kidney cancer in the United States in 2004. Approximately one-third of the patients with kidney cancer will develop metastatic disease. Once patients develop metastatic disease, they have a very poor prognosis with an average survival of approximately one year. According to third-party sources, the five-year survival for patients with metastatic kidney cancer is less than 5%, and approximately 12,000 deaths were expected to occur in the United States in 2003. The only drug currently approved by the FDA for treating metastatic kidney cancer is IL-2, a cytokine that activates T cells and increases lymphocyte counts. However, the FDA-approved regimen requires extremely high doses of IL-2, which are associated with serious and life-threatening side effects. Several recent clinical studies have demonstrated a strong correlation between the increase in lymphocyte counts that occurs with IL-2 therapy and clinical outcome in patients with metastatic kidney cancer. We believe administration of Xcellerated T Cells may improve the clinical outcome in these patients by boosting lymphocyte counts.

In February 2003, we completed a Phase I/II clinical trial of Xcellerated T Cells in 25 patients with metastatic kidney cancer. In this clinical trial, patients were treated with two infusions of Xcellerated T Cells approximately four weeks apart. After each infusion of Xcellerated T Cells, patients were treated with low doses of IL-2. We observed few side effects in most patients and no serious adverse events reportable to the FDA related to the therapy. We also observed the complete elimination of detectable bone metastases in two patients. Furthermore, there was a statistically significant increase in lymphocyte counts with treatment, and there was an increase in post-infusion survival in patients achieving higher lymphocyte counts. The median survival in these patients was 21 months. Several independent clinical trials have shown that the median survival in patients with metastatic kidney cancer is approximately 12 months. The results of our clinical trial were reported in the medical journal *Clinical Cancer Research* in September 2003, and have been submitted to the FDA for review.

We are evaluating partnership opportunities to support further development of this clinical indication. Our clinical trials to date have involved small numbers of patients and we have neither designed nor been required to design such trials to produce statistically significant results as to efficacy. These trials have neither been randomized nor blinded to ensure that the results are due to the effects of the Xcellerated T Cells. Success in early clinical trials neither ensures that large-scale trials will be successful nor predicts final results.

Prostate Cancer

Prostate cancer is the most common form of cancer in men in the United States. The American Cancer Society estimates that there will be 230,110 new cases and approximately 29,900 patients will die of prostate cancer in

the United States in 2004. Patients with prostate cancer can be cured by surgery if the disease is localized. However, once the disease spreads to other organs, it cannot be cured with current standard treatments, either hormonal therapy or chemotherapy.

In June 2003, we completed a Phase I/II clinical trial in 19 patients with hormone-refractory prostate cancer. Patients were treated with a single infusion of Xcellerated T Cells. The therapy resulted in few side effects in most patients and led to significant and sustained increases in patients' lymphocyte counts. Two patients demonstrated greater than 50% decreases in serum levels of the tumor marker, PSA. We have submitted these data to the FDA for review. In some independent clinical studies, decreases in PSA levels have been shown to correlate with improved survival in patients with prostate cancer. There was one serious adverse event reportable to the FDA involving a patient with pre-existing severe anemia who suffered congestive heart failure. The patient's symptoms resolved approximately two hours following treatment. We subsequently amended our protocol to identify patients with anemia prior to administering Xcellerated T Cells. Our clinical trials to date have involved small numbers of patients, and we have not designed nor been required to design such trials to produce statistically significant results as to efficacy. These trials have neither been randomized nor blinded to ensure that the results are due to the effects of the Xcellerated T Cells. Success in early clinical trials neither ensures that large-scale trials will be successful nor predicts final results.

Potential Future Applications in Autoimmune Diseases

An overactive immune system is believed to play a central role in a variety of illnesses classified as autoimmune diseases, including rheumatoid arthritis, systemic lupus erythematosus and scleroderma. Attempts to control the disease with therapeutic agents that suppress the immune system are often effective. However, some patients have more serious forms of these diseases and do not respond to conventional therapy, while others experience serious side effects from these chronic immunosuppressive therapies. Recently, high-dose chemotherapy and/or radiation have been used with autologous stem cell transplantation to eradicate these patients' diseased immune systems in an attempt to cure several of these diseases. Although effective in many patients, this form of therapy has been associated with serious and life-threatening toxicities. Many scientists now believe that certain populations of T cells play a central role in causing several autoimmune diseases. This is manifested by narrowing of the T cell receptor repertoire, which has been shown to return to normal when patients with some of these diseases achieve remission. Many therapeutic agents are available that can selectively eliminate T cells without causing the serious toxicities associated with the intensive regimens used with stem cell transplantation. We believe that if our Xcellerate Technology can be used to generate healthy T cells from patients with autoimmune diseases, it may be possible to administer Xcellerated T Cells to restore a healthy immune system after patients are treated with drugs that eliminate T cells in the body.

We have demonstrated in laboratory studies that our Xcellerate Technology can be used to activate and grow T cells from patients with several autoimmune diseases, including rheumatoid arthritis, systemic lupus erythematosus and scleroderma. These studies have also shown that we can restore the narrow T cell repertoire characteristic of many of these patients to a more normal diverse pattern using our Xcellerate Technology.

Research and Development

As of September 27, 2004, we had a total of 26 employees dedicated to research and development, including 9 with advanced degrees. We spent approximately $14.7 million, $14.7 million and $13.7 million during the years ended December 31, 2001, 2002 and 2003, respectively, and $8.6 million during the six months ended June 30, 2004 on the research and development of our Xcellerate Technology and Xcellerated T Cells. Our internal research and development efforts are focused on:

- ***Improving our Xcellerate Technology.*** We intend to continuously evaluate and improve our Xcellerate Technology. We have developed methods that further simplify our Xcellerate Technology, allowing us to increase our production yield, reduce labor and materials and lower the costs associated with the production of Xcellerated T Cells.

- ***Increasing the therapeutic activity of Xcellerated T Cells.*** We intend to continuously evaluate and improve the therapeutic activity of Xcellerated T Cells. We are currently evaluating whether other molecules of the immune system or genes could be used to improve the therapeutic activity of Xcellerated T Cells. We are working with several groups to evaluate using Xcellerated T Cells in conjunction with recently discovered antigens to specifically target cancers and infectious diseases associated with those antigens. We have conducted laboratory studies demonstrating that we can generate large numbers of antigen-specific Xcellerated T Cells with anti-tumor activity in several types of cancer, including melanoma, breast cancer, kidney cancer and lung cancer. We expect that some of our collaborators will be conducting physician-sponsored clinical trials with these approaches in the near future.
- ***Developing additional clinical indications for Xcellerated T Cells.*** There are many medical conditions that are associated with deficiencies in T cells. We are currently studying the potential to use Xcellerated T Cells to treat these illnesses. For example, patients with autoimmune diseases are treated with immunosuppressive drugs that damage their immune systems. We have demonstrated in laboratory studies that we can activate and grow T cells and restore a normal T cell repertoire in patients with several of these diseases. In addition, we may study the use of Xcellerated T Cells in patients with primary immunodeficiencies. Finally, we are interested in exploring the potential therapeutic use of Xcellerated T Cells in the elderly, who often have weakened immune systems.

Manufacturing and Supply

We designed, built and operate our current manufacturing facility in Seattle, Washington in accordance with cGMP. We use this facility to manufacture Xcellerated T Cells for clinical trials. We have completed the construction of the initial phase of an additional leased facility to manufacture Xcellerated T Cells for our planned clinical trials and, if we obtain FDA approval, initial commercialization. This facility is undergoing qualification and validation, and we expect to begin manufacturing Xcellerated T Cells at this facility in the first half of 2005. Except for our antibody-coated beads and custom bioreactor system, all of the components that are required to implement our Xcellerate Technology are commercially available products and standard clinical and blood bank supplies.

In August 1999, we entered into an agreement with Dynal for the cGMP-grade manufacture of our antibody-coated beads for clinical and future commercial uses. In March 2004, we amended our agreement to allow Dynal to sell a research-grade version of our antibody-coated beads. We have paid Dynal $3.0 million as of July 31, 2004 for completed milestones. Dynal has the right to terminate the contract if we do not purchase a minimum quantity of beads. Either party may terminate the agreement as of August 2009 for any reason, or earlier upon a material breach by, or insolvency of, the other party. If the agreement is not terminated by August 2009, either party can elect to extend the term of the agreement for an additional 5 years. Otherwise, it will automatically renew on a year to year basis.

In June 2000, we entered into two service agreements with Lonza, which were subsequently amended, for the cGMP-grade manufacture of the two monoclonal antibodies for use with our antibody-coated beads. Under the terms of these agreements, we are obligated to make certain payments to Lonza. We have paid $4.9 million as of June 30, 2004. Assuming development and supply services under our agreements with Lonza are completed as scheduled under our agreements with Lonza, our remaining payments will be approximately $1.6 million through the end of 2005. These agreements may be terminated by either party for breach or insolvency of the other party or in the event that the manufacturing services cannot be completed for scientific or technical reasons.

We use tissue culture media and a custom bioreactor in our manufacturing process. We currently do not have agreements with third parties to supply us with tissue culture media or bioreactors.

Competition

The biotechnology and pharmaceutical industries are characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary products. Many entities, including pharmaceutical and biotechnology companies, academic institutions and other research organizations are actively engaged in the discovery, research and development of products that could compete with our products under development. They may also compete with us in recruiting and retaining skilled scientific talent.

There are numerous pharmaceutical and biotechnology companies that are developing therapies for cancer and infectious disease generally, and many of these companies are focused on activating the immune system using therapeutic agents, including monoclonal antibodies, cytokines, vaccines, adjuvants, dendritic cells, nucleotides and cells. We are currently aware of several companies developing *ex vivo* cell-based immunotherapy products as a method of treating cancer and infectious diseases. These competitors include Antigenics, Inc., CancerVax Corporation, Cell Genesys, Inc., CellExSys, Inc. (recently sold to Chromos Molecular Systems, Inc.), Dendreon Corporation, Favrille, Inc., Genitope Corporation, IDM, S.A. and Kirin Pharmaceutical. Even if our Xcellerate Technology proves successful, we might not be able to remain competitive in this rapidly advancing area of technology. Some of our potential competitors may have more financial and other resources, larger research and development staffs and more experienced capabilities in researching, developing and testing products. Some of these companies also have more experience than us in conducting clinical trials, obtaining FDA and other regulatory approvals and manufacturing, marketing and distributing medical products. Smaller companies may successfully compete with us by establishing collaborative relationships with larger pharmaceutical companies or academic institutions. Our competitors may succeed in developing, obtaining patent protection for or commercializing their products more rapidly than us. A competing company developing, or acquiring rights to, a more effective therapeutic product for the same diseases targeted by us, or one that offers significantly lower costs of treatment, could render our products noncompetitive or obsolete.

Intellectual Property

We rely on a combination of patent, trademark, copyright and trade secret laws to protect our proprietary technologies and products. We aggressively seek U.S. and international patent protection to further our business strategy and for major components of our Xcellerate Technology, including important antibody components and methods of T cell activation. We also rely on trade secret protection for our confidential and proprietary information. We enter into licenses to technologies we view as necessary.

We have a portfolio of issued patents and patent applications, which we believe provides patent coverage for our Xcellerate Technology. As of October 1, 2004, we owned or held exclusive rights to six issued patents, six allowed patent applications and numerous pending patent applications in the United States in the field of or directed to *ex vivo* T cell stimulation. Three of the issued patents relate to methods of stimulating T cells utilized by our Xcellerate Technology, two of which expire in 2019 and one of which expires in 2021, while two other issued patents, which expire in 2016, relate to a method of stimulating T cells and an antibody that we are not currently using. Two additional issued patents expire in 2020 and are in the field of or directed to immunosuppression and the treatment and prevention of disorders related to T cells. These two issued patents are directed to the use of a specific compound for these applications, and one of these patents is directed specifically to compositions of matter including likely derivatives of this compound. The final issued patent expires in 2020 and relates to *ex vivo* T cell stimulation to improve uptake of exogenous nucleic acid molecules, thus having gene therapy applications. We also have licensed numerous currently pending foreign patent applications and seven issued foreign patents corresponding to our T cell stimulation technology.

In general, we apply for patent protection of methods and products relating to immunotherapy for treatment of cancer, immune deficiencies, autoimmune diseases and infectious diseases. With respect to proprietary know-how that is not patentable, we have chosen to rely on trade secret protection and confidentiality agreements to protect our interests. We have taken security measures to protect our proprietary know-how, technologies and confidential data and continue to explore further methods of protection.

We require all employees, consultants and collaborators to enter into confidentiality agreements, and all employees and most consultants enter into invention assignment agreements with us. The confidentiality agreements generally provide that all confidential information developed or made known to the individual during the course of such relationship will be kept confidential and not disclosed to third parties, except in specified circumstances. These invention agreements generally provide that all inventions conceived by the individual in the course of rendering services to us will be our exclusive property. We cannot assure you, however, that these agreements will provide meaningful protection or adequate remedies for any breach or that our trade secrets will not otherwise become known or be independently discovered by our competitors. Any of these events could adversely affect our competitive position in the marketplace.

In the case of a strategic partnership or other collaborative arrangement which requires the sharing of data, our policy is to disclose to our partner, under controlled circumstances, only data that is relevant to the partnership or arrangement during the contractual term of the strategic partnership or collaborative arrangement, subject to a duty of confidentiality on the part of our partner or collaborator. Disputes may arise as to the ownership and corresponding rights in know-how and inventions resulting from research by us and our corporate partners, licensors, scientific collaborators and consultants. We cannot assure you that we will be able to maintain our proprietary position or that third parties will not circumvent any proprietary protection we have. Our failure to maintain exclusive or other rights to these technologies could harm our competitive position.

To continue developing and commercializing our current and future products, we may license intellectual property from commercial or academic entities to obtain the rights to technology that is required for our discovery, research, development and commercialization activities.

In preparation for the commercial distribution of our products and services if we obtain FDA approval, we have filed a number of trademark applications.

Corporate Collaborations

Part of our strategy is to establish corporate collaborations with pharmaceutical, biopharmaceutical and biotechnology companies for the development and commercialization of our Xcellerate Technology. We focus our efforts on partnering our technologies in markets and diseases that we do not plan to pursue on our own. We target collaborators that have the expertise and capability to develop, manufacture, obtain regulatory approvals for and commercialize our Xcellerate Technology. In our corporate collaborations, we seek to cover our research and development expenses through research funding, milestone payments and technology or license fees. We also seek to retain significant downstream participation in product sales through either profit sharing or product royalties paid on annual net sales.

Fresenius Biotech GmbH

In November 2003, we licensed our Xcellerate Technology and some related improvements on an exclusive basis in the field of HIV retroviral gene therapy to Fresenius for research, development, and commercialization in Europe, with a right of first negotiation under some circumstances to expand their territory to include North America. Our agreement with Fresenius requires us to license our Xcellerate Technology, including methods for manufacturing Xcellerated T Cells, to Fresenius, transfer certain enabling technology and supply all proprietary magnetic beads, or Xcyte Dynabeads, ordered by Fresenius to support its development and commercialization efforts. If we do not supply the Xcyte Dynabeads, Fresenius has the right to manufacture such Xcyte Dynabeads on its own or through a third party, until such time that we are able to supply the quantity of Xcyte Dynabeads ordered by Fresenius. Fresenius has agreed to reimburse us for our expenses in transferring the technology and pay us for the Xcyte Dynabeads on a cost-plus basis. In addition, under the agreement Fresenius has granted us a perpetual, irrevocable, non-exclusive, fully paid worldwide license to technology invented by Fresenius that directly relates to our Xcellerate Technology. This agreement includes royalties on net sales as well as up to 5.4 million Euros in potential milestone payments to us, less applicable sublicense fees payable by us to third parties, for each product developed under this agreement. Fresenius' obligation to pay us royalties under this

agreement terminates on a country-by-country basis upon the later of the last to expire of the licensed patents or 15 years after the first commercial sale of a product in the country. The agreement is also subject to earlier termination by Fresenius at any time if Fresenius determines it cannot develop a commercially viable product or complete a required manufacturing audit, at any time by Xcyte if Fresenius does not meet certain development and commercialization milestones and by either party for the material breach or insolvency of the other party. The agreement specifies that the termination of certain technology licenses, under which we obtained much of our Xcellerate Technology, is a breach of this agreement.

Fresenius is conducting a Phase I trial to treat HIV patients with genetically-modified T cells produced using our Xcellerate Technology.

Technology Licenses

Where consistent with our strategy, we seek to obtain technologies that complement and expand our existing technology base. We have licensed and will continue to license technology from selected research and academic institutions, as well as other organizations. Under these license agreements, we generally seek to obtain sublicense rights. We are generally obligated under these agreements to pursue product development and pay royalties on any product sales. We have not been required to pay any royalties through September 27, 2004. In addition to license agreements, we seek relationships with other entities that may benefit us and support our business goals.

- ***Diaclone S.A.*** In October 1999, we entered into a license agreement with Diaclone. Under the agreement, Diaclone granted us an exclusive, worldwide license to make, use and sell products or services using the monoclonal antibody that binds to the CD28 molecule for all *ex vivo* uses involving therapeutic and research applications. We have an option and right of first refusal to expand our license to include *in vivo* therapeutic and research purposes. We are currently obligated to purchase all our requirements for this monoclonal antibody from Diaclone until we begin preparing for Phase III clinical trials of a product covered by this license. Under certain circumstances, we would be permitted to have the monoclonal antibody made by third parties or manufacture it ourselves. This agreement has a term of 15 years from the date of first approval by the FDA, or its foreign equivalent, of a therapeutic product containing a bead coated with the licensed antibody and may be terminated earlier by either party for material breach or insolvency of either party. We currently do not have FDA approval of any therapeutic products containing a bead coated with the licensed antibody. At the end of the term, we will have a perpetual, irrevocable, royalty-free, exclusive license. We paid initial non-refundable license fees totaling $75,000 to Diaclone and are required to pay royalties if our products are commercialized.
- ***Fred Hutchinson Cancer Research Center.*** In October 1999, we entered into a license agreement with the Fred Hutchinson Cancer Research Center. Under the agreement, the Fred Hutchinson Cancer Research Center granted us a non-exclusive, worldwide license to make, use and sell products or services using the monoclonal antibody that binds to the CD3 molecule for T cell stimulation for *ex vivo* therapeutic and research uses other than cell separation and selection. We paid a non-refundable up-front licensing fee of $25,000 to the Fred Hutchinson Cancer Research Center, and we are obligated to pay the Fred Hutchinson Cancer Research Center a royalty fee if we or our sublicensees commercialize products or services that use the licensed monoclonal antibody. We are also required to pay fees to Fred Hutchinson Cancer Research Center under certain circumstances if we sublicense these rights to third parties. We paid sublicense fees in connection with our Fresenius collaboration totaling $42,227 to the Fred Hutchinson Cancer Research Center. On December 1, 2000, we amended this license agreement to broaden the field of use to include any *ex vivo* use involving therapeutic and research applications in exchange for an additional non-refundable up-front fee of $25,000 and the issuance of 27,272 shares of our common stock to the Fred Hutchinson Cancer Research Center. Our obligation to pay royalties under this license agreement will remain in effect for 15 years following the first commercial sale of our product and

may be terminated earlier by either party for material breach or by Fred Hutchinson Cancer Research Center for Xcyte's insolvency. Thereafter, our license will be fully-paid.

- ***Genetics Institute.*** In July 1998, we entered into a license agreement with Genetics Institute. Under the agreement, Genetics Institute granted us an exclusive license under its rights to patents and patent applications covering methods of *ex vivo* activation or expansion of human T cells for treatment and prevention of infectious diseases, cancer and immunodeficiency. We also granted Genetics Institute an option under certain circumstances to an exclusive worldwide license to certain improvements outside of our field that directly relate to the licensed patents. The technology underlying these methods originated from two of our scientific founders and their collaborators and is incorporated into our Xcellerate Technology. The term of the Genetics Institute license terminates upon the end of the enforceable term of the last licensed patent or the license agreements under which Genetics Institute has sublicensed rights to Xcyte, and may also be terminated earlier by either party for material breach. As of October 1, 2004, two licensed patents whose terms expire in 2016, two other patents whose terms expire in 2019 and one patent whose term expires in 2021, have been issued in the United States for the methods licensed. In consideration of the license, we paid a non-refundable up-front license fee totaling approximately $53,000, issued 26,522 shares of our common stock to Genetics Institute and issued a warrant under which Genetics Institute has the right to purchase 35,362 additional shares of our common stock. We are also obligated to pay royalties to Genetics Institute on sales of products covered by the patents licensed to us under the agreement. We are also required to pay fees to Genetics Institute if we sublicense these rights to third parties. We paid sublicense fees in connection with our Fresenius collaboration totaling $9,049 to Genetics Institute. Additionally, if we fail to devote a specified amount of resources to develop a product using these rights, Genetics Institute may convert this license from exclusive to non-exclusive.

Governmental Regulation

Governmental authorities in the United States and other countries extensively regulate the preclinical and clinical testing, approval, manufacturing, labeling, storage, record-keeping, reporting, advertising, promotion, import, export, marketing and distribution, among other things, of immunotherapy products and other drugs and biological products. In the United States, the FDA, under the Federal Food, Drug, and Cosmetic Act, the Public Health Service Act and other federal statutes and regulations, subjects pharmaceutical products to rigorous review and regulation. If we do not comply with applicable requirements, we may be fined, our products may be recalled or seized, our clinical trials may be suspended or terminated, our production may be partially or totally suspended, the government may refuse to approve our marketing applications or allow us to distribute our products and we may be subject to an injunction and/or criminally prosecuted. The FDA also has the authority to revoke previously granted marketing authorizations.

In order to obtain approval of a new product from the FDA, we must, among other requirements, submit proof of safety and efficacy as well as detailed information on the manufacture, quality, composition and labeling of the product in a new drug application or a biologics license application. In most cases, this proof entails extensive laboratory tests and preclinical and clinical trials. This testing, the preparation of necessary applications, the processing of those applications by the FDA and review of the applications by an FDA advisory panel of outside experts are expensive and typically take many years to complete. Additionally, the FDA recently formed a new division that will regulate biologic products, such as Xcellerated T Cells. The processes and requirements associated with this new division may cause delays and additional costs in obtaining regulatory approval of our products or regulatory authorization for our clinical trials. The FDA may not act quickly or favorably in reviewing these applications, or may deny approval altogether, and we may encounter significant difficulties or costs in our efforts to obtain FDA approval, which could delay or preclude us from marketing any products we may develop. The FDA may also require post-marketing testing and surveillance to monitor the effects of approved products or place conditions on any approval that could restrict the commercial applications of these products. The FDA may withdraw product approval if we fail to comply with regulatory standards, if we encounter problems following initial marketing or if new safety or other issues are discovered regarding our products after approval. With respect

to patented products or technologies, delays imposed by the governmental approval process may materially reduce or eliminate the period during which we will have the exclusive right to exploit the products or technologies.

In order to conduct research to obtain regulatory approval for marketing, we must submit information to the FDA on the planned research in the form of an investigational new drug application. The investigational new drug application must contain, among other things, an investigational plan for the therapy, a study protocol, information on the study investigators, preclinical data, such as toxicology data, and other known information about the investigational compound. An investigational new drug application generally must be submitted by a commercial sponsor who intends to collect data on the safety and efficacy of a new drug or biological product prior to conducting human trials and submitting an application for marketing approval. In certain circumstances, an investigational new drug application may also be submitted which allows physicians to gain an initial understanding of the compound through an expanded access program. Data from expanded access trials can generally be used to support the safety, but not the efficacy, of a product.

After an investigational new drug application becomes effective, a sponsor may commence human clinical trials. The sponsor typically conducts human clinical trials in three sequential phases, but the phases may overlap. In Phase I clinical trials, the product is generally tested in a small number of patients or healthy volunteers primarily for safety at one or more doses. In Phase II, in addition to safety, the sponsor typically evaluates the efficacy of the product in a patient population somewhat larger than Phase I clinical trials. It is customary in cancer clinical trials for the FDA to allow companies to combine Phase I and Phase II clinical trials into a Phase I/II clinical trial. Phase III clinical trials typically involve additional testing for safety and clinical efficacy in an expanded population at geographically dispersed test sites and are intended to generate the pivotal data on which a marketing application will be based. The studies must be adequate and well-controlled and otherwise conform to appropriate scientific and legal standards.

Prior to the commencement of each clinical trial, the sponsor must submit to the FDA a clinical plan, or protocol, accompanied by the approval of an institutional review board responsible for protecting the welfare of study subjects for a site participating in the trials. The sponsor must also ensure that investigators obtain informed consent from all study subjects prior to commencement of each study, and the sponsor must comply with monitoring, reporting and so-called good clinical practice requirements throughout the conduct of the study, among other legal requirements. The FDA may prevent an investigational new drug application from taking effect, or may order the temporary or permanent discontinuation of a clinical trial, at any time. An institutional review board may also prevent a study from going forward, or may temporarily or permanently discontinue a clinical trial, at any time. If a study is not conducted in accordance with applicable legal requirements and sound scientific standards, the data from the study may be deemed invalid and unusable.

The sponsor must submit to the FDA the results of the preclinical and clinical trials, together with, among other things, detailed information on the manufacture, quality and composition of the product, in the form of a new drug application or, in the case of a biologic, a biologics license application. The application must also contain proposed labeling for the product setting forth the proposed conditions of use for which the applicant is seeking approval and be accompanied by the payment of a significant user fee. The FDA can refuse to file an application if it is deemed not sufficiently complete to permit review, or has some other deficiency.

Because the FDA is regulating Xcellerated T Cells as a biologic, we must submit biologics license applications to the FDA to obtain approval of our products. A biologics license application requires data showing the safety, purity and potency of the product. In a process which generally takes several years or more, the FDA reviews this application and, when and if it decides that adequate data are available to show that the new compound is both safe and effective and that other applicable requirements have been met, approves the drug or biologic for marketing. Prior to issuing a denial or an approval, the FDA often will seek recommendations from one of its advisory committees of independent experts. The amount of time taken for this approval process is a function of a number of variables, including the quality of the submission and studies presented, the potential contribution that the compound will make in improving the treatment of the disease in question, the recommendations of the

FDA advisory committee and the workload at the FDA. It is possible that our Xcellerate Technology will not successfully proceed through this approval process or that the FDA will not approve our applications in any specific period of time, or at all. Any approval, if obtained, could be limited or could be made contingent on burdensome post-approval commitments or could be otherwise restricted.

Congress enacted the Food and Drug Administration Modernization Act of 1997, in part, to ensure the availability of safe and effective drugs, biologics and medical devices by expediting the FDA review process for new products. The Modernization Act establishes a statutory program for the approval of fast track products, including qualifying biologics. We may, from time to time, decide to request fast track approval for Xcellerated T Cells. A fast track product is defined as a new drug or biologic intended for the treatment of a serious or life- threatening disease or condition that demonstrates the potential to address unmet medical needs for this disease or condition. Under the fast track program, the sponsor of a new drug or biologic may request the FDA to designate the drug or biologic as a fast track product at any time during the clinical development of the product.

The Modernization Act specifies that the FDA must determine whether the product qualifies for fast track designation within 60 days of receipt of the sponsor's request. The FDA can base approval of a marketing application for a fast track product on an effect on a clinical endpoint or on another "surrogate" endpoint that is reasonably likely to predict clinical benefit. The FDA may subject approval of an application for a fast track product to post-approval studies to validate the surrogate endpoint or confirm the effect on the clinical endpoint and prior review of all promotional materials. In addition, the FDA may withdraw its approval of a fast track designation on a number of grounds, including the sponsor's failure to conduct any required post-approval study with due diligence.

If the FDA's preliminary review of clinical data suggests that a fast track product may be effective, the agency may initiate review of sections of a marketing or license application for a fast track product before the sponsor completes the entire application. This rolling review may be available if the applicant provides a schedule for submission of remaining information and pays applicable user fees. However, the time periods specified under the Prescription Drug User Fee Act concerning timing goals to which the FDA has committed in reviewing an application do not begin until the sponsor submits the entire application.

We have requested, and may from time to time continue to request, orphan drug status for Xcellerated T Cells. Orphan drug designation may be granted to those products developed to treat diseases or conditions that affect fewer than 200,000 persons in the United States. We believe that some of our target cancer patient populations meet these criteria. Under the law, the developer of an orphan drug may be entitled to seven years of market exclusivity following the approval of the product by the FDA, exemption from user fee payments to the FDA and a 50% tax credit for the amount of money spent on human clinical trials. We cannot predict whether the FDA will grant either an orphan drug or fast track designation or whether our products will ultimately receive FDA approval or orphan drug market exclusivity. We also cannot predict the ultimate impact, if any, of the fast track process or orphan drug status on the timing, likelihood or scope of FDA approval of our immunotherapy products. Even if we are able to obtain FDA approval with orphan drug marketing exclusivity, other competing products may still be approved if they are deemed to be sufficiently different than our products, or clinically superior or under certain other circumstances. This could reduce or eliminate the value of any orphan drug marketing exclusivity.

The FDA may, during its review of a new drug application or biologics license application, ask for additional test data. If the FDA does ultimately approve the product, it may require post-marketing testing, including potentially expensive Phase IV studies, and surveillance to monitor the safety and effectiveness of the product. In addition, the FDA may in some circumstances impose restrictions on the use of the product, which may be difficult and expensive to administer, may affect whether the product is commercially viable and may require prior approval of promotional materials.

Before approving a new drug application or biologics license application, the FDA will also inspect the facilities where the product is manufactured and will not approve the product unless the manufacturing facilities are in

compliance with cGMP. In addition, the manufacture, holding and distribution of a product must remain in compliance with cGMP following approval. Manufacturers must continue to expend time, money and effort in the area of production and quality control and record keeping and reporting to ensure full compliance with those requirements.

The labeling, advertising, promotion, marketing and distribution of a drug or biologic product must be in compliance with FDA regulatory requirements. Our distribution of pharmaceutical samples to physicians must comply with the Prescription Drug Marketing Act. In addition, manufacturers are required to report adverse events and errors and accidents in the manufacturing process. Changes to an approved product, or changes to the manufacturing process, may require the filing of a supplemental application for FDA review and approval. Failure to comply with applicable requirements can lead to the FDA demanding that production and shipment cease, and, in some cases, that the manufacturer recall products or to FDA enforcement actions that can include seizures, injunctions and criminal prosecution. These failures can also lead to FDA withdrawal of approval to market the product. Where the FDA determines that there has been improper promotion or marketing, it may require corrective communications such as “Dear Doctor” letters. Even if we comply with FDA and other requirements, new information regarding the safety or effectiveness of a product, or a change in the law or regulations, could lead the FDA to modify or withdraw a product approval.

In addition to FDA requirements, our manufacturing, sales, promotion, and other activities following product approval are subject to regulation by numerous other regulatory authorities, including, in the United States, the Centers for Medicare & Medicaid Services, other divisions of the Department of Health and Human Services and state and local governments. Among other laws and requirements, our sales, marketing and scientific/educational programs must comply with the Federal Medicare-Medicaid anti-fraud and abuse statutes and similar state laws. Our pricing and rebate programs must comply with the Medicaid rebate requirements of the Omnibus Budget Reconciliation Act of 1990. If products are made available to authorized users of the Federal Supply Schedule of the General Services Administration, additional laws and requirements apply. All of our activities are potentially subject to federal and state consumer protection and unfair competition laws.

We are also subject to regulation by the Occupational Safety & Health Administration, or OSHA, and the Environmental Protection Agency, or EPA, and to various laws and regulations relating to safe working conditions, laboratory and manufacturing practices and the use and disposal of hazardous or potentially hazardous substances, including radioactive compounds used in connection with our research and development activities, and we may in the future be subject to other federal, state or local laws or regulations. OSHA, the EPA or other regulatory agencies may promulgate regulations that may affect our research and development programs. We are also subject to regulation by the Department of Transportation and to various laws and regulations relating to the shipping of cells and other similar items. We are unable to predict whether any agency will adopt any regulation that could limit or impede our operations.

Depending on the circumstances, failure to meet these other applicable regulatory requirements can result in criminal prosecution, fines or other penalties, injunctions, recall or seizure of products, partial or total suspension of production, denial or withdrawal of pre-marketing product approval or refusal to allow us to enter into supply contracts, including government contracts.

Sales of pharmaceutical products outside the United States are subject to foreign regulatory requirements that vary widely from country to country. Whether or not we have obtained FDA approval, we must obtain approval of a product by comparable regulatory authorities of foreign countries prior to the commencement of marketing the product in those countries. The time required to obtain this approval may be longer or shorter than that required for FDA approval. The foreign regulatory approval process includes all the risks associated with FDA regulation set forth above, as well as country-specific regulations, including in some countries price controls.

In May 2000, we filed our initial Phase I investigational new drug application, or IND, involving Xcellerated T Cells to treat metastatic kidney cancer. The FDA allowed us to start the trial in June 2000. The trial was

completed in February 2003. In September 2001, we amended the IND to add a Phase I study of Xcellerated T Cells to treat hormone refractory prostate cancer. The trial was completed in June 2003. In August 2002, we amended the IND to add a Phase I/II to treat multiple myeloma patients post autologous stem cell transplantation. This trial is ongoing. In November 2002, we amended the IND to add a Phase I/II study to treat CLL. This CLL study was subsequently amended in July 2004 to allow for additional patients and is still ongoing. In September 2003, we amended the IND to add a randomized Phase II study to treat multiple myeloma patients with and without fludarabine. We anticipate completion of the trial by the end of the second quarter of 2005. In December of 2003, we amended the IND to add a Phase II study to treat non-Hodgkin's lymphoma patients. We anticipate completion of the trial by the end of 2005.

Legal Proceedings

From time to time, we may be involved in litigation relating to claims rising out of our ordinary course of business. We are not currently a party to any material legal proceedings.

Employees

As of September 27, 2004, we had 98 employees, 26 of whom are directly involved in research and development and 38 of whom are involved in manufacturing operations. We consider our relations with our employees to be good.

Facilities

We currently lease a total of approximately 63,500 square feet of space at three facilities. We lease approximately 22,000 square feet of office and laboratory space and a cGMP manufacturing facility in Seattle, Washington, with monthly payments of approximately $49,000. The lease on this space expires in October 2006, and we have options to renew for two additional five-year terms. We sublease approximately 1,000 square feet of laboratory space and equipment in Seattle, Washington, with monthly payments of approximately $3,333. The sublease on this space expires in March 2005, and we have options to extend for additional six-month terms at the sublessor's discretion. We also lease approximately 40,500 square feet of space in Bothell, Washington, with monthly payments of approximately $77,000. We have renovated approximately 20,000 square feet of this facility for the manufacture Xcellerated T Cells for our planned clinical trials and, if we obtain regulatory approval, initial commercialization. The initial lease term on this space expires December 2010, and we have options to renew until December 2020. Under the terms of the lease, we also have rights to negotiate for further expansion space in the building. We believe that this facility has sufficient space to accommodate expansion of our operations.

SCIENTIFIC ADVISORY BOARD

Our Scientific Advisory Board is our network of medical, scientific and clinical advisors and collaborators who consult with our scientists. In addition, our Scientific Advisory Board members, none of whom are our employees, advise us regarding our research and development programs, the design of our clinical trials, as well as other medical and scientific matters relating to our business. The following persons serve on our Scientific Advisory Board:

Joseph Bertino, M.D., is the Associate Director of the Cancer Institute of New Jersey and University Professor of Medicine and Pharmacology at the University of Medicine and Dentistry of New Jersey.

Jeffrey Bluestone, Ph.D., is one of our scientific founders and is a Professor at the University of California, San Francisco and the Director of the UCSF Diabetes Center.

Edward Clark, Ph.D., is a Professor of Immunology and a Professor of Microbiology at the University of Washington.

John Hansen, M.D., is a Member, Fred Hutchinson Cancer Research Center and Professor, Division of Medical Oncology, University of Washington.

Carl June, M.D., is one of our scientific founders and is Professor of Pathology and Laboratory Medicine at the University of Pennsylvania.

Hyam Levitsky, M.D., is a Professor of Oncology, Medicine and Urology at Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins University.

Ronald Levy, M.D., is Professor of Medicine and Chief of the Division of Oncology at the Stanford Medical Center.

Gerald Nepom, M.D., Ph.D., is the Director, Benaroya Research Institute, at Virginia Mason.

E. Donnall Thomas, M.D., is a Member and former Director of Clinical Research at the Fred Hutchinson Cancer Research Center. Dr. Thomas was awarded the 1990 Nobel Prize in Medicine.

Craig Thompson, M.D., is one of our scientific founders and is the Scientific Director of the Abramson Family Cancer Research Institute at the University of Pennsylvania.

Robert M. Williams, Ph.D., is a University Distinguished Professor, Department of Chemistry, at Colorado State University. Dr. Williams is also a member of our board of directors.

MANAGEMENT

Executive Officers and Directors

Set forth below is the name, age, position and a brief account of the business experience of each of our executive officers and directors:

Name	Age	Position(s)
Ronald J. Berenson, M.D.	52	President, Chief Executive Officer and Director
Robert L. Kirkman, M.D.	55	Chief Business Officer and Vice President
Stewart Craig, Ph.D.	43	Chief Operating Officer and Vice President
Mark Frohlich, M.D.	42	Medical Director and Vice President
Lawrence A. Romel, M.S.	47	Vice President, Clinical Operations and Project Management
Mark L. Bonyhadi, Ph.D.	50	Vice President of Research
Kathi L. Cordova, C.P.A.	44	Senior Vice President of Finance and Treasurer
Joanna S. Black, J.D.	31	General Counsel, Vice President and Secretary
Jean Deleage, Ph.D.	64	Director
Dennis Henner, Ph.D.	53	Director
Peter Langecker, M.D., Ph.D.	53	Director
Robert T. Nelsen, M.B.A.	41	Director
Daniel K. Spiegelman, M.B.A.	46	Director
Stephen N. Wertheimer, M.M.	53	Director
Robert M. Williams, Ph.D.	51	Director

Ronald J. Berenson, M.D., is our founder and has served as our President, Chief Executive Officer and as a member of our board of directors since our inception. From April 1989 until February 1995, Dr. Berenson held several positions at CellPro, Inc., a stem cell therapy company that he founded, with his last positions being Executive Vice President, Chief Medical and Scientific Officer and Director. Dr. Berenson also serves on the board of directors of the Fred Hutchinson Cancer Research Center Foundation. Dr. Berenson was a faculty member at the Fred Hutchinson Cancer Research Center, where he last held the position of Assistant Member. Dr. Berenson is a board-certified internist and medical oncologist who completed his medical oncology fellowship training at Stanford University Medical Center. Dr. Berenson received a B.S. in biology from Stanford University and an M.D. from Yale University School of Medicine.

Robert Kirkman, M.D., has served as our Vice President and Chief Business Officer since January 2004. Prior to joining us, Dr. Kirkman held the position of Vice President of Business Development and Corporate Communications at Protein Design Labs, Inc. from July 1998 to August 2003. Prior to that, Dr. Kirkman served as Chief of the Division of Transplantation at Brigham and Women's Hospital, and as an Associate Professor of Surgery at Harvard Medical School. Dr. Kirkman received a B.A. in Economics from Yale University and an M.D. from Harvard Medical School. He is a Fellow of the American College of Surgeons.

Stewart Craig, Ph.D., has served as our Chief Operating Officer and Vice President since October 1999. From July 1996 to September 1999, Dr. Craig served as Vice President of Development and Operations at Osiris Therapeutics, Inc., a stem cell therapy company. From January 1994 to June 1996, Dr. Craig served as Vice President of Product and Process Development at SyStemix Inc., a stem cell and gene therapy company. From June 1987 to December 1993, Dr. Craig held the positions of Group Leader and Senior Scientist at British Biotech, a biotechnology company. Dr. Craig received a B.Sc. in biochemistry and a Ph.D. in physical biochemistry from the University of Newcastle upon Tyne, UK.

Mark Frohlich, M.D., has served as our Medical Director since October 2001 and has served as our Vice President since January 2002. Dr. Frohlich is a board-certified medical oncologist with an appointment as

Clinical Assistant Professor of Medicine at the University of Washington. From July 1998 to October 2001, Dr. Frohlich held the position of Assistant Adjunct Professor of Medicine at the University of California at San Francisco. From July 1994 to June 1998, Dr. Frohlich completed his fellowship in medical oncology at the University of California at San Francisco. Dr. Frohlich received a B.S. in electrical engineering and economics from Yale University and an M.D. from Harvard Medical School.

Lawrence A. Romel, M.S., has served as our Vice President of Clinical Operations and Project Management since July 2004. From June 2002 to July 2004, Mr. Romel served as Senior Director of Project Management, New Product Planning, and Clinical Operations at Cell Genesys, Inc., a cancer vaccine and oncolytic viral therapies company. From July 2000 to June 2002, Mr. Romel served as Vice President of Clinical Operations at SuperGen, Inc., an emerging pharmaceutical company. From August 1999 to July 2000, Mr. Romel served as Vice President Clinical Operations and Regulatory Affairs at Onyx Pharmaceuticals, Inc., a biotechnology company. Mr. Romel received a M.S. in Chemistry from the University of Illinois-Chicago.

Mark L. Bonyhadi, Ph.D., has served as our Vice President of Research since January 2003. Dr. Bonyhadi previously served as our Director of Research from January 2002 to January 2003, Director of Strategic Scientific Development from April 2001 to December 2001 and Director of Biological Research from May 1997 to March 2001. From September 1990 to April 1997, Dr. Bonyhadi served as Senior Scientist with SyStemix, Inc., a stem cell and gene therapy company. Dr. Bonyhadi received a B.A. in biology from Reed College and a Ph.D. in immunology from the University of California at Berkeley.

Kathi L. Cordova, C.P.A., has served as our Senior Vice President of Finance and Treasurer since September 2003. Ms. Cordova previously served as our Vice President of Finance from March 1997 to September 2003. From February 1994 to February 1997, Ms. Cordova held the position of Assistant Controller in a joint venture between American Life Insurance Company, a subsidiary of American International Group, an insurance company, and Italy's Confederazione Italiana Sindicati dei Lavoratori, a labor union. From August 1991 to January 1994, Ms. Cordova served as Management Associate with the Life Division of American International Group, an insurance company. Ms. Cordova received a B.A. in international relations from Stanford University and an M.A. in international relations from The Johns Hopkins University.

Joanna S. Black, J.D., has served as our General Counsel and Secretary since January 2002 and has served as our Vice President since September 2003. From September 1998 to January 2002, Ms. Black worked as an attorney at Venture Law Group, A Professional Corporation, a law firm. From August 1997 to August 1998, Ms. Black worked as an attorney at Wilson Sonsini Goodrich & Rosati, P.C., a law firm. Ms. Black received a B.A. in economics and public policy from Stanford University and a J.D. from Columbia University School of Law.

Jean Deleage, Ph.D., has served as one of our directors since August 1996. Dr. Deleage has been a founder and managing director of Alta Partners, a venture capital firm since 1996, and was previously a founder of Burr, Egan, Deleage & Company, a venture capital fund, and Sofinnova Ventures, Inc., a venture capital fund. Dr. Deleage is a director of Kosan Biosciences Incorporated, Rigel Pharmaceuticals, Inc. and several private companies, all biopharmaceutical companies. Dr. Deleage received an M.S. in electrical engineering from the Ecole Supérieure d'Electricité and a Ph.D. in economics from the Sorbonne.

Dennis Henner, Ph.D., has served as one of our directors since July 2002. Dr. Henner has been a General Partner at MPM Capital, a venture capital firm, since January 2002 and was a Venture Partner at MPM Capital from May 2001 through December 2001. From April 1996 to February 2001, Dr. Henner held the positions of Senior Vice President of Research and Vice President of Research at Genentech, Inc., a biotechnology company. Dr. Henner is currently a director of biotechnology companies Tercica, Inc., Rigel Pharmaceuticals, Inc., Synergia Pharma, Inc. and Rinat Neuroscience Corporation. Dr. Henner received his B.A. in Life Sciences and his Ph.D. from the Department of Microbiology at the University of Virginia.

Peter Langecker, M.D., Ph.D., has served as one of our directors since January 2000. Since October 1999, Dr. Langecker has served as Chief Medical Officer and Vice President of Clinical Affairs of BioMedicines, Inc.,

a biotechnology company. From July 1997 to September 1999, Dr. Langecker served as Vice President of Clinical Affairs and Regulatory Affairs of Sugen, Inc., a biotechnology company. From March 1995 to July 1997, Dr. Langecker served as Vice President of Clinical Affairs of Coulter Pharmaceuticals, Inc., a biotechnology company. Before that, Dr. Langecker held various medical positions at Ciba Geigy and Schering-Plough. Dr. Langecker received an M.D. and a Ph.D. in medical sciences from Ludwig Maximilians University in Munich.

Robert T. Nelsen, M.B.A., has served as one of our directors since August 1996. Since 1992, Mr. Nelsen has served as a managing director of ARCH Venture Partners, a venture capital firm. Mr. Nelsen also serves as a director of Adolor Corporation, an analgesics development company. Mr. Nelsen received a B.S. in biology and economics from the University of Puget Sound and an M.B.A. from the University of Chicago.

Daniel K. Spiegelman , M.B.A., has served as one of our directors since September 2004. Since September 1999, Mr. Spiegelman has served as the Senior Vice President and Chief Financial Officer for CV Therapeutics, Inc. From January 1998 to September 1999, Mr. Spiegelman served as Vice President and Chief Financial Officer for CV Therapeutics, Inc. From July 1991 until January 1998, Mr. Spiegelman was employed by Genentech, Inc., a biotechnology company, holding the position of treasurer from January 1996 to January 1998, assistant treasurer from July 1992 to December 1996, and treasury manager from July 1991 to July 1992. Mr. Spiegelman holds a B.A. in economics from Stanford University and an M.B.A. from Stanford Graduate School of Business.

Stephen N. Wertheimer, M.M., has served as one of our directors since November 2003. Mr. Wertheimer has served as a managing director of W Capital Partners, a private equity firm, since June 2001. From 1996 to June 2001, Mr. Wertheimer held the position of managing director of CRT Capital Group. Mr. Wertheimer is currently a director of El Paso Electric Company, an electric utility. Mr. Wertheimer received an M.M. from the Kellogg School, Northwestern University, and earned a B.S. in finance and economics at Indiana University.

Robert M. Williams, Ph.D., has served as one of our directors since November 1996 and a member of our Scientific Advisory Board since 1995. Since September 1980, Professor Williams has served as a Professor of Chemistry at Colorado State University, and, in 2001, he was appointed University Distinguished Professor. During his career, Professor Williams has provided consulting services to several biotechnology and pharmaceutical companies, including Cubist Pharmaceutical Company, Microcide Pharmaceuticals, Hoffman-La Roche, G.D. Searle, and EPIX Medical, Inc. Professor Williams received a B.A. in chemistry from Syracuse University and a Ph.D. in organic chemistry from the Massachusetts Institute of Technology. Following graduate school, Professor Williams served as a postdoctoral fellow at Harvard University.

Board Composition

Our board of directors is currently comprised of eight directors. The board is divided into three classes, with each director serving a three-year term and one class being elected at each year's annual meeting of stockholders. Dr. Langecker and Dr. Williams will be in the class of directors whose initial term expires at the 2005 annual meeting of stockholders. Dr. Deleage, Dr. Henner and Mr. Wertheimer will be in the class of directors whose initial term expires at the 2006 annual meeting of stockholders. Dr. Berenson, Mr. Spiegelman and Mr. Nelsen will be in the class of directors whose initial term expires at the 2007 annual meeting of stockholders.

Board Committees

Our board of directors has established an audit committee, a compensation committee, a nominating committee and a stock option committee.

The audit committee consists of Dr. Deleage, Mr. Spiegelman and Mr. Wertheimer. Dr. Deleage serves as the chairperson of the committee. The audit committee is responsible for assuring the integrity of our financial control, audit and reporting functions and reviews with our management and our independent auditors the effectiveness of our financial controls and accounting and reporting practices and procedures. In addition, the audit committee reviews the qualifications of our independent auditors, is responsible for their appointment, compensation, retention and oversight and reviews the scope, fees and results of activities related to audit and non-audit services.

The compensation committee consists of Mr. Nelsen, Dr. Langecker and Mr. Spiegelman. The compensation committee's principal responsibility is to administer our stock plans and to set the salary and incentive compensation, including stock option grants, for our Chief Executive Officer and other executive officers.

The nominating committee consists of Dr. Langecker, Mr. Wertheimer and Dr. Williams. The purpose of the nominating committee is to identify individuals qualified to serve as members of our Board, and recommend nominees for election.

The stock option committee consists of Dr. Berenson and Mr. Nelsen. The stock option committee's principal responsibility is to grant stock options under the our stock plans to newly hired non-executive officers in accordance with set parameters outlined by the Board.

Director Compensation

Our seven outside directors are compensated with cash and options to purchase our common stock pursuant to our 2003 Directors' Stock Option Plan. Non-employee directors are entitled to an annual cash retainer of $20,000, and receive $1,000 for each board meeting attended in person, $500 for each board meeting participated in telephonically, and $500 for each committee meeting participated, in addition to reimbursement for out-of-pocket expenses incurred in connection with attending board and committee meetings.

In November 1996, Dr. Deleage and Dr. Williams were each awarded non-statutory options for 5,454 shares of our common stock. In November 1999, Dr. Langecker was awarded a non-statutory option for 5,454 shares of our common stock. These shares vest over a four-year period at a rate of 25% of the total number of shares one year after the date of grant, with the remaining shares vesting monthly in equal installments over the next 36 months. In November 2003, Dr. Williams was awarded non-statutory options for 2,727 fully vested shares of our common stock in connection with his service on our Scientific Advisory Board. In September 2004, in connection with his election to our board of directors, Mr. Spiegelman was granted an option to purchase 10,000 shares of our common stock under the amended 2003 Directors' Stock Option Plan, which option is subject to stockholder approval and is not exercisable until such approval. Directors who are our employees are eligible to participate in our 1996 Stock Option Plan, our 2003 Stock Plan and 2003 Employee Stock Purchase Plan. Directors who are not our employees are eligible to participate in our 2003 Directors' Stock Option Plan.

Pursuant to our 2003 Directors' Stock Option Plan, each non-employee director joining our board after June 2, 2004 is automatically granted an option to purchase 10,000 shares of our common stock. In addition, on the date of each annual meeting of our stockholders, each non-employee director is granted an option to purchase 10,000 shares of common stock if, on that date, the director has served on our board of directors for at least six months. Furthermore, directors serving as the chairperson of a committee of our board, or as members of the audit committee of our board, are granted an option to purchase 2,500 shares of common stock on the date of each annual meeting of our stockholders. The total number of shares subject to options granted under this plan vests in equal monthly installments over two years. Although this plan is currently effective, prior to receiving stockholder approval, options granted under this plan will not be exercisable and will be contingent on such approval

Compensation Committee Interlocks and Insider Participation

Dr. Deleage, Mr. Nelsen, and Dr. Berenson served on our compensation committee in 2003. During 2003, none of our executive officers served as a director or member of the compensation committee of any other entity that had any executive officer who served on our board of directors or on our compensation committee.

Limitations on Liability and Indemnification of Officers and Directors

Our amended and restated certificate of incorporation limits the liability of our directors to the maximum extent permitted by Delaware law. Delaware law provides that a corporation may eliminate the personal liability of its

directors for monetary damages for breach of their fiduciary duties as directors, except liability for any of the following acts:

- breach of their duty of loyalty to us or our stockholders;
- acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;
- unlawful payments of dividends or unlawful stock repurchases or redemptions; and
- any transaction from which the director derived an improper personal benefit.

Our amended and restated bylaws provide that we will indemnify our directors, officers, employees and other agents to the fullest extent permitted by the Delaware General Corporation Law. Our amended and restated bylaws also permit us to secure insurance on behalf of any officer, director, employee or other agent of ours for any liability arising out of his or her actions in such capacity, regardless of whether the Delaware General Corporation Law would permit a corporation to indemnify for such liability.

We have obtained directors' and officers' insurance providing indemnification for all of our directors, officers and employees for certain liabilities. In addition to the indemnification provided for in our amended and restated bylaws, we have entered into agreements to indemnify our directors and executive officers. These agreements, among other things, indemnify our directors and executive officers for expenses, including attorneys' fees, judgments, fines and settlement amounts incurred by any of them in any action or proceeding arising out of his or her services as a director, officer, employee, agent or fiduciary of ours, any subsidiary of ours or any other company or enterprise to which he or she provides services at our request. We believe that these provisions and agreements are necessary to attract and retain qualified persons as directors and executive officers. At present, there is no litigation or proceeding involving any of our directors or officers in which indemnification is required or permitted, and we are not aware of any threatened litigation or proceeding that may result in a claim for indemnification.

Executive Compensation

The following table summarizes the compensation paid to, awarded to or earned during the years ended December 31, 2002 and 2003 by our Chief Executive Officer and each of our four other most highly compensated executive officers whose total salary and bonus exceeded $100,000 for services rendered to us in all capacities during the years ended December 31, 2002 and 2003. The executive officers listed in the table below are referred to in this prospectus as our named executive officers.

Summary Compensation Table

Name and principal position(s)	Year	Annual compensation		Long-term compensation Securities underlying options	All other compensation
		Salary	Bonus		
Ronald J. Berenson, M.D.	2003	$249,714	$35,000	$ —	$ 286[1]
President and Chief Executive Officer	2002	239,276	25,051		595[1]
Stewart Craig, Ph.D.	2003	215,176	—	—	284[2]
Chief Operating Officer and Vice President	2002	205,714	51		527[2]
Kathi L. Cordova, C.P.A.	2003	150,547	—	—	286[3]
Senior Vice President of Finance and Treasurer	2002	139,588			391[3]
Mark Frohlich, M.D	2003	181,759	17,447	—	513[4]
Medical Director and Vice President	2002	172,183	16,043		534[4]
Lewis Chapman	2003	201,488	35,000	—	380[5]
Chief Business Officer	2002	100,403	40,051		312[5]
Joanna S. Black, J.D.	2003	154,882	—	—	264[6]
General Counsel and Vice President	2002[7]	128,656	51		377[6]

Footnotes appear on following page

(1) Dr. Berenson received other compensation consisting of the payment of insurance premiums for group term life benefits in the amount of $286 in 2003 and $595 in 2002.
(2) Dr. Craig received other compensation consisting of the payment of insurance premiums for group term life benefits in the amount of $284 in 2003 and $527 in 2002.
(3) Ms. Cordova received other compensation consisting of the payment of insurance premiums for group term life benefits in the amount of $286 in 2003 and $391 in 2002.
(4) Dr. Frohlich received other compensation consisting of the payment of insurance premiums for group term life benefits in the amount of $513 in 2003 and $534 in 2002.
(5) Mr. Chapman received other compensation consisting of the payment of insurance premiums for group term life insurance in the amount of $380 in 2003 and $312 in 2002. Mr. Chapman's employment with us ended in August 2003.
(6) Ms. Black received other compensation consisting of the payment of insurance premiums for group term life benefits in the amount of $264 in 2003 and $377 in 2002.
(7) Ms. Black joined Xcyte Therapies, Inc. in January 2002.

The following table provides summary information concerning the individual grants of stock options to each of our named executive officers for the fiscal year ended December 31, 2003. The exercise price per share was valued by our board of directors on the date of grant, and each option was issued at the estimated fair market value on the date of grant based upon the purchase price paid by investors for shares of our preferred stock, taking into account the liquidation preferences and other rights, privileges and preferences associated with such preferred stock.

Each option represents the right to purchase one share of our common stock. The options generally vest over four years. See "Management—Equity Compensation Plan Information" for more details regarding these options. In 2003, we granted options to purchase an aggregate of 225,470 shares of our common stock to various officers, employees, directors and others.

The potential realizable value at assumed annual rates of stock price appreciation for the option term represents hypothetical gains that could be achieved for the respective options if exercised at the end of the option term. SEC rules specify the 0%, 5% and 10% assumed annual rates of compounded stock price appreciation, which do not represent our estimate or projection of our future common stock prices. These amounts represent assumed rates of appreciation in the value of our common stock from the initial public offering price, based on the initial public offering price of $8 per share. Actual gains, if any, on stock option exercises depend on the future performance of our common stock and overall stock market conditions. The amounts reflected in the table may not necessarily be achieved.

Option Grants in Fiscal Year 2003[(1)]

Named executive officer	Number of securities underlying options granted	Percentage of total options granted to employees	Exercise price per share	Expiration date	Potential realizable value at assumed annual rates of stock appreciation for option term		
					0%	5%	10%
Ronald J. Berenson, M.D.	45,453	21.18%	$ 5.50	09/22/13	$ 113,633	$ 342,314	$ 693,156
Stewart Craig, Ph.D.	18,181	8.47%	5.50	09/22/13	45,453	136,924	277,259
Mark Frohlich, M.D.	36,363	16.94%	5.50	09/22/13	90,908	273,855	554,534
Kathi L. Cordova, C.P.A.	18,181	8.47%	5.50	09/22/13	45,453	136,924	277,259
Joanna S. Black, J.D.	13,636	6.35%	5.50	09/22/13	34,090	102,695	207,948
Lewis Chapman	—	—	—	—	—	—	—

(1) These options were granted under our 1996 Stock Option Plan and vest over a four-year period.

The following table shows information as of December 31, 2003 concerning the number and value of exercised options and unexercised options held by each of our named executive officers. There was no public trading market for our common stock as of December 31, 2003. Accordingly, the value of the unexercised in-the-money options listed below has been calculated on the basis of our initial public offering price of $8 per share, less the applicable exercise price per share multiplied by the number of shares underlying the options.

Aggregated Option Exercises During 2003 and Fiscal Year-End Option Values

Named executive officer	Shares acquired upon exercise	Value realized	Number of securities underlying unexercised options at December 31, 2003		Value of unexercised in-the-money options at December 31, 2003	
			Exercisable	Unexercisable	Exercisable	Unexercisable
Ronald J. Berenson, M.D.	—	$ —	40,150	78,029	$ 225,322	$ 195,073
Stewart Craig, Ph.D.	—	—	60,301	39,696	347,347	99,240
Mark Frohlich, M.D.	—	—	16,907	55,818	42,268	139,545
Kathi L. Cordova, C.P.A.	—	—	11,029	26,242	48,395	65,605
Joanna S. Black, J.D.	—	—	8,521	23,295	21,303	58,238
Lewis Chapman	—	—	—	—	—	—

Employment Agreements

Ms. Black's employment agreement, dated December 31, 2001, provides for at-will employment for an unspecified term. Under this agreement, Ms. Black is entitled to an annual base salary of $150,000 per year and an initial stock option grant for 9,090 shares of our common stock. This employment agreement also provides that Ms. Black will receive severance payments equal to three months of her then current base salary, paid ratably over a three-month period, and three months of continued health coverage if her employment is terminated other than for cause and she signs a standard release of any claims against us.

Mr. Chapman's employment agreement, dated May 29, 2002, provided for at-will employment for an unspecified term. Under this agreement, Mr. Chapman was entitled to an annual base salary of $200,000 per year, an initial stock option grant for 72,727 shares of our common stock, a one-time signing bonus of $40,000 and a one-time home purchase bonus of $35,000. This employment agreement also provided that Mr. Chapman would receive severance payments equal to six months of his then current base salary, paid ratably over a six-month period, and six months of continued health coverage if his employment was terminated other than for cause and he signed a standard release of any claims against us. Mr. Chapman's employment with us ended in August 2003, and we have completed making all severance payments owed to him under this agreement.

Dr. Frohlich's employment agreement, dated August 27, 2001, provides for at-will employment for an unspecified term. Under this agreement, Dr. Frohlich is entitled to an annual base salary of $170,000, an initial stock option grant for 7,272 shares of our common stock, a one-time signing bonus of $40,000 and a loan of $50,000 for a down payment of a principal residence forgiven over four years. This employment agreement also provides that Dr. Frohlich will receive severance payments equal to three months of his then current base salary, paid ratably over a three-month period, and three months of continued health coverage if his employment is terminated other than for cause and he signs a standard release of any claims against us. In this event, Dr. Frohlich's employment agreement provides that we will forgive the outstanding principal of the amount loaned to him for a down payment on a principal residence.

Dr. Kirkman's employment agreement, dated January 15, 2004, provides for at-will employment for an unspecified term. Under this agreement, Dr. Kirkman will receive an annual base salary of $240,000, a stock option grant for 72,727 shares of our common stock, a one-time signing bonus of $85,000 and relocation assistance reimbursement up to an aggregate of $15,000. This employment agreement also provides that Dr. Kirkman will receive severance payments equal to six months of his then current base salary, paid ratably over a six-month period, and six months of continued health coverage if his employment is terminated other than for cause during the first year of his employment, provided that he signs a standard release of any claims against us at such time.

Mr. Romel's offer letter dated June 14, 2004, provides for at-will employment for an unspecified term. Under this agreement, Mr. Romel will receive an annual base salary of $198,000, a stock option grant for 30,000 shares of our common stock, a lump-sum relocation bonus of $8,250 and relocation assistance reimbursement. This offer letter also provides that Mr. Romel will receive severance payments equal to three months of his then current base salary, paid ratably over a three-month period, and three months of continued health coverage if his employment is terminated other than for cause, provided that he signs a standard release of any claims against us at such time.

Equity Compensation Plan Information

2003 Stock Plan

Our 2003 Stock Plan was adopted by our board of directors in September 2003 and was approved by our stockholders in March 2004. This plan provides for the grant of incentive stock options to employees (including employee directors) and nonstatutory stock options and stock purchase rights to employees, directors (excluding non-employee directors) and consultants. The purposes of this plan are to attract and retain the best available personnel, to provide additional incentives to our employees and consultants and to promote the success of our business. A total of 636,363 shares of common stock are reserved for issuance under this plan.

As of September 27, 2004:

- 44,880 shares of common stock were issuable upon exercise of outstanding options granted under this option plan at a weighted average exercise price of $4.27;
- no shares of common stock were issued upon exercise of options; and
- 591,483 shares of common stock remained available for future grants under this plan.

The number of shares reserved for issuance under this plan will automatically increase on the first day of each fiscal year beginning in 2005 and ending in 2010 by the lesser of:

- 109,090 shares;
- 4% of the number of shares of our common stock outstanding on the last day of the immediately preceding fiscal year; or
- any lesser number of shares that our board of directors determines.

All share numbers reflected in this plan summary, as well as the exercise price or purchase price applicable to outstanding options or purchase rights, will be automatically proportionately adjusted in the event we undertake certain changes in our capital structure, such as a stock split, stock dividend or other similar transaction.

The administrator of the plan is our board of directors or a committee of our board. In the case of options and stock purchase rights intended to qualify as "performance-based compensation" within the meaning of Section 162(m) of the Internal Revenue Code of 1986, as amended, the committee will consist of two or more "outside directors" within the meaning of Section 162(m). In addition, in administering the plan, we intend to comply with other applicable legal and regulatory requirements as may apply from time to time, including any Nasdaq listing requirements. The administrator determines the terms of options and stock purchase rights granted under this plan, including the number of shares subject to the award, the exercise or purchase price and the vesting and/or exercisability of the award and any other conditions to which the award is subject. No employee, however, may receive awards for more than 181,818 shares under this plan in any fiscal year. Incentive stock options granted under this plan must have an exercise price of at least 100% of the fair market value of the common stock on the date of grant. Incentive stock options granted to an employee who holds more than 10% of the total voting power of all classes of our stock or any parent or subsidiary's stock cannot be less than 110% of the fair market value of the common stock on the date of grant. The exercise price of nonstatutory stock options and the purchase price of stock purchase rights will be the price determined by the administrator, although nonstatutory stock options and stock purchase rights granted to our Chief Executive Officer and our four other most highly compensated officers will generally equal at least 100% of the grant date fair market value if we

intend that the awards to those individuals will qualify as “performance-based compensation” within the meaning of Section 162(m) of the Internal Revenue Code. Payment of the exercise or purchase price may be made in cash or any other consideration determined by the administrator, subject to applicable legal requirements.

The administrator will determine the term of options granted under this plan, which may not exceed 10 years, or 5 years in the case of an incentive stock option granted to a holder of more than 10% of the total voting power of all classes of our stock or a parent or subsidiary’s stock. Generally, an option granted under this plan is non-transferable, other than by will or the laws of descent or distribution, and may be exercised during the lifetime of the optionee only by the optionee. However, the administrator may, in its discretion, provide for the limited transferability of non-statutory stock options granted under this plan. We generally have the right to repurchase any stock issued pursuant to stock purchase rights granted under this plan upon the termination of the holder’s employment or consulting relationship with us for any reason, including death or disability. The repurchase price is the original purchase price paid by the purchaser or the fair market value of the shares at the date of the repurchase, whichever is less. This repurchase right will lapse at a rate that the administrator may determine.

If we sell all or substantially all of our assets or if we are acquired by another corporation, each outstanding option and stock purchase right may be assumed or an equivalent award may be substituted by the successor corporation, with appropriate adjustments made to both the price and number of shares subject to the option or purchase right. If the successor does assume the outstanding options and purchase rights, the lesser of 25% of the shares subject to an option or initially subject to repurchase or the remaining unvested shares will vest immediately prior to the closing of the transaction, and, if the holder is “involuntarily terminated” within one year after the closing, the lesser of another 25% of the shares subject to the option or initially subject to repurchase or the remaining unvested shares will vest on termination. “Involuntary termination” includes termination by us without “cause,” or voluntary resignation within 30 days following: a reduction in the optionholder’s base salary of more than 20% (except where there is a similar reduction in the base salaries of similarly situated employees) or relocation of the optionholder’s principal work site by more than 50 miles. If the successor corporation does not assume options and purchase rights or substitute equivalent options or purchase rights, then vesting of all shares subject to options will accelerate fully, all repurchase rights will lapse immediately prior to the closing of the transaction and options and purchase rights will terminate as of the closing of the transaction.

The board of directors has authority to amend or terminate this plan, but no action may be taken that impairs the rights of any holder of an outstanding option or stock purchase right without the holder’s consent. In addition, we must obtain stockholder approval of amendments to the plan as required by applicable law. Unless terminated earlier by the board of directors, this plan will terminate in 2013.

1996 Stock Option Plan

Our 1996 Stock Option Plan was adopted by our board of directors in September 1996. As of September 27, 2004:

- 949,232 shares of common stock were issuable upon exercise of outstanding options granted under this option plan at a weighted average exercise price of $5.09;
- 212,269 shares of common stock were issued upon exercise of options at purchase prices ranging between $0.55 and $5.50; and
- 4,559 shares of common stock remained available for future grants under this plan.

The board of directors amended this plan in September 2003 to increase the number of shares reserved for issuance under the plan by an additional 363,636 to 1,163,636 and the amended plan was approved by our stockholders in March 2004. All share numbers reflected in this plan summary, as well as the exercise price applicable to outstanding options, will be automatically proportionately adjusted in the event we make certain changes in our capital structure, such as a stock split, stock dividend or other similar transaction.

The terms of the awards under this plan are generally the same as the terms of the awards that may be issued under the 2003 Stock Plan, except for the following features:

- only options can be granted under this plan;
- stock options granted under this plan are non-transferable except by will or the laws of descent and distribution; and
- options granted to residents of California prior to the closing of our initial public offering had to meet certain specific requirements with respect to a minimum 20% vesting per year, a minimum post-termination exercise period of 30 days in circumstances other than death or disability (and 6 months in the case of death or disability) and a minimum exercise price of 85% of fair market value for non-statutory options.

If we sell all or substantially all of our assets, or if we are acquired by another corporation, each outstanding option may be assumed or an equivalent award substituted by the successor corporation, with appropriate adjustments made to both the price and number of shares subject to the option. If the successor assumes the outstanding options or substitutes equivalent options, 25% of the shares subject to each option that are unvested immediately prior to the consummation of the transaction will vest immediately prior to the closing of the transaction. If the successor corporation does not assume options or substitute equivalent options or a comparable cash incentive program based on the value of the options at the closing, then vesting of all shares subject to options will accelerate fully immediately prior to the closing of the transaction unless otherwise provided under an individual grant.

2003 Employee Stock Purchase Plan

Our 2003 Employee Stock Purchase Plan was adopted by our board of directors in September 2003 and was approved by our stockholders in March 2004. A total of 109,090 shares of common stock are reserved for issuance under this plan, none of which have been issued as of September 27, 2004. The number of shares reserved for issuance under this plan will automatically increase on the first day of each of our fiscal years beginning in 2005 and ending in 2010 by the lesser of:

- 54,545 shares;
- 1% of the number of shares of common stock outstanding on the last day of the immediately preceding fiscal year; or
- any lesser number of shares that our board of directors determines.

All share numbers reflected in this plan summary, as well as the purchase price applicable to outstanding purchase rights, will be automatically proportionately adjusted in the event we make certain changes in our capital structure, such as a stock split, stock dividend or other similar transaction. This plan became effective upon the date of our initial public offering. Unless terminated earlier by our board of directors, this plan terminates in 2023.

This plan, which is intended to qualify under Section 423 of the Internal Revenue Code, allows employees to purchase our common stock at a discount from the market price through payroll deductions. The plan will be implemented by a series of offering periods, each of which has a duration of approximately six months, commencing generally on May 1 and November 1 of each year. The first offering commenced on March 16, 2004 and will end on October 31, 2004. Each eligible employee will automatically be granted an option to participate in the plan and will be automatically enrolled in the first offering period. An automatic purchase will be made for participants on the last trading day of each offering period.

Our board of directors, or a committee appointed by the board, will administer this plan. In addition, in administering the plan, we intend to comply with other applicable legal and regulatory requirements as may apply from time to time, including any Nasdaq listing requirements. Our employees, including officers and

employee directors or employees of any majority-owned subsidiary designated by the board, are eligible to participate in this plan if they are customarily employed by us or any such subsidiary for at least 20 hours per week and more than five months per year. The plan prohibits granting purchase rights to an employee in the following circumstances:

- where, immediately after the grant, the employee would own stock and/or hold outstanding options to purchase stock equaling 5% or more of the total voting power or value of all classes of our stock or the stock of our subsidiaries; or
- where the option would permit the employee to purchase stock under this plan at a rate that exceeds $25,000 per calendar year in which the option is outstanding.

This plan permits eligible employees to purchase common stock through payroll deductions of up to 15% of an employee's eligible cash compensation, which includes salary, bonuses and other wage payments made by us to the participants. A participant may purchase a maximum of 454 shares of our common stock under this plan in any one offering period.

Amounts deducted and accumulated by plan participants are used to purchase shares of our common stock at the end of each six-month offering period. The purchase price is equal to 85% of the fair market value of the common stock at the first trading day of the offering period or at the last trading day of the offering period, whichever is less. Employees may end their participation in this plan at any time prior to the last trading day of an offering period, and participation ends automatically on termination of employment.

If we merge or consolidate with or into another corporation or sell all or substantially all of our assets, each right to purchase stock under this plan may be assumed, or an equivalent right substituted, by the successor corporation. However, if the successor corporation refuses to assume each purchase right or to substitute an equivalent right, the board of directors will shorten any ongoing offering period so that employees' rights to purchase stock under this plan are exercised prior to the transaction. Our board of directors may extend future offering periods to up to 27 months and may increase or decrease the maximum contribution rate of an employee's eligible cash compensation. Our board of directors has the power to amend or terminate this plan as long as the action does not adversely affect any outstanding rights to purchase stock under the plan. However, our board of directors may amend or terminate this plan or an offering period even if it would adversely affect outstanding purchase rights in order to avoid our incurring adverse accounting charges or if the board of directors determines that termination of the plan or offering period is in our best interests and the best interests of our stockholders. We will obtain stockholder approval for any amendment to the purchase plan to the extent required by law.

2003 Directors' Stock Option Plan

Our 2003 Directors' Stock Option Plan was adopted by our board of directors in September 2003 and was approved by our stockholders in March 2004. In June 2004, our board of directors amended this plan which amendments will be submitted for approval by our stockholders at our next annual meeting of our stockholders in 2005. This plan is currently effective but prior to receiving stockholders' approval, options granted under the amended plan will not be exercisable and will be contingent on such approval. A total of 90,909 shares of common stock are reserved for issuance under the this plan. All share numbers reflected in this plan summary, as well as the exercise price applicable to outstanding options, will be automatically proportionately adjusted in the event we make certain changes in our capital structure, such as a stock split, stock dividend or other similar transaction.

As of September 27, 2004:

- 10,000 shares of common stock were issuable upon exercise of outstanding options granted under this option plan at an exercise price of $4.53;
- no shares of common stock were issued upon exercise of options; and
- 80,909 shares of common stock remained available for future grants under this plan.

This plan is designed to work automatically, without administration. However, to the extent administration is necessary, it will be performed by our board of directors. It is expected that any conflicts of interest that may arise will be addressed by abstention of any interested director from both deliberations and voting regarding matters in which the director has a personal interest. Unless terminated earlier by the board of directors, this plan will terminate in 2013.

This plan provides that each person who first becomes a non-employee director after June 2, 2004 will be granted a non-statutory stock option to purchase 10,000 shares of our common stock on the date when the person first becomes a member of our board of directors. On the date of each annual meeting of our stockholders, each of our non-employee directors (including non-employee directors who did not receive the 10,000 share grant described above) will be granted an option to purchase 10,000 shares of common stock if, on that date, the director has served on our board of directors for at least six months. In addition, directors serving as the chairperson of a committee of the board, or as members of the audit committee of the board, will be granted an option to purchase 2,500 shares of common stock on the date of each annual meeting of our stockholders. The exercise price of all stock options granted under this plan will be equal to the fair market value of the common stock on the date of grant of the option. This plan provides that the total number of shares subject to each option granted under this plan will vest in equal monthly installments over two years so that the option will be fully vested after two years.

All options granted under this plan will have a term of 10 years and an exercise price equal to the fair market value on the date of grant. If a non-employee director ceases to serve as a director for any reason other than death or disability, he or she may, within the 90 days after the date he or she ceases to be a director, exercise options that were vested as of the date of termination. If the former director does not exercise the option within this 90-day period, the option will terminate. If a director's service terminates as a result of his or her disability or death, or if a director dies within three months following termination, the director or his or her estate may exercise options that were vested as of the date of termination or death at any time during the 12 months after the date of termination or death. Options granted under this plan are generally non-transferable by the option holder other than by will or the laws of descent or distribution, pursuant to a qualified domestic relations order or to family members or family trusts or foundations. Generally, only the option holder or a permitted transferee may exercise the option during the lifetime of the option holder.

If we are acquired by another corporation, each option outstanding under this plan will be assumed or equivalent options will be substituted by our acquiror, unless our acquiror does not agree to this assumption or substitution. If our acquiror does not agree to assume the options or substitute them, the options will terminate upon consummation of the transaction. In connection with an acquisition that qualifies as a change of control as defined in the option plan, the vesting of each outstanding option will accelerate in full, and each director holding options under this plan will have the right to exercise his or her options immediately before the consummation of the acquisition as to all shares underlying the options. Our board of directors may amend or terminate this plan as long as we obtain stockholder approval for any amendment to the extent required by applicable law and the procedure for option grants are not amended more than once every 6 months, other than to the extent required by applicable law. Any such amendment or termination shall not adversely affect outstanding options granted under the plan.

401(k) Plan

Effective February 1, 1997, we established a tax-qualified employee savings and retirement plan, or 401(k) plan, which covers all of our employees. This plan is intended to qualify under Section 401 of the Internal Revenue Code so that contributions by us to the plan, if any, will be deductible by us when made. Under this plan, eligible employees may elect to reduce their current compensation and defer their pre-tax earnings, subject to the Internal Revenue Service's annual contribution limits. Deferral contributions are fully vested at all times. This plan permits, but does not require, discretionary matching contributions by a percentage amount that our board of directors may annually determine. The plan also permits additional discretionary contributions by us on behalf of all participants in the plan. These additional company contributions vest 25% per year of service and will be fully vested after four years of service. The trustee under the plan invests an employee's account balance under the plan in accordance with the employee's written direction. To the extent an employee directs the investment of his or her account balance under the plan, the Employment Retirement Income Security Act relieves the trustee from liability for any loss resulting from the employee's direction of the investment.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

During the last three fiscal years, there has not been any transaction or series of similar transactions to which we were or are a party in which the amount involved exceeded or exceeds $60,000 and in which any of our directors or executive officers, any holder of more than 5% of any class of our voting securities or any member of the immediate family of any of these persons had or will have a direct or indirect material interest, other than the compensation arrangements described in “Management” above and the transactions described below.

We believe that we have executed all of the transactions described below on terms no less favorable to us than we could have obtained from unaffiliated third parties. It is our intention to ensure that all future transactions between us and our officers, directors and principal stockholders and their affiliates are approved by a majority of our board of directors, including a majority of the independent and disinterested members of our board of directors, and are on terms no less favorable to us than those that we could obtain from unaffiliated third parties.

From our inception through September 27, 2004, we issued the following securities to various investors in private placement transactions:

- 1,151,664 shares of Series A preferred stock to investors including, but not limited to, entities affiliated with Alta Partners, ARCH Venture Partners, CV Sofinnova Venture Partners and Sprout Group at a purchase price of $5.23 per share in August 1996;
- 683,125 shares of Series B preferred stock to investors including, but not limited to, entities affiliated with Alta Partners, ARCH Venture Partners, CV Sofinnova Venture Partners and Sprout Group at a purchase price of $6.05 per share in August 1997;
- 1,306,470 shares of Series C preferred stock to investors including, but not limited to, entities affiliated with Alta Partners, ARCH Venture Partners, CV Sofinnova Venture Partners, Falcon Technology Partners, Fluke Capital Management, TGI Fund (W Capital Partners acquired these shares from TGI Fund), Sprout Group and Vulcan Ventures at a purchase price of $9.19 per share in July 1998;
- 1,838,139 shares of Series D preferred stock to investors including, but not limited to, entities affiliated with Alta Partners, ARCH Venture Partners, MPM Capital, Sprout Group, Vector Fund, Vulcan Ventures and TGI Fund (W Capital Partners acquired these shares from TGI Fund) at a purchase price of $15.29 per share in May 2000 and August 2000;
- 863,648 shares of Series E preferred stock to investors including, but not limited to, entities affiliated with Alta Partners, ARCH Venture Partners, China Development Industrial Bank Inc., MPM Capital, Sprout Group, Vulcan Ventures and TGI Fund (W Capital Partners acquired these shares from TGI Fund) at a purchase price of $15.29 per share in November 2001; and
- 808,040 shares of Series F preferred stock to investors including, but not limited to, entities affiliated with Alta Partners, ARCH Venture Partners, RiverVest Venture Fund, Sprout Group, Vector Fund and V-Sciences Investments Pte Ltd at a purchase price of $15.29 per share in February and March 2002.

In addition, we issued:

- 545,434 shares of common stock and 95,690 shares of Series A preferred stock in exchange for all of the outstanding capital stock of CellGenEx, Inc. in August 1997 and April 1998; and
- 26,522 shares of Series B preferred stock in July 1998 and 3,636 shares of common stock in June 1999 in connection with license agreements.

In addition, as of September 27, 2004, warrants to purchase an aggregate of 46,607 shares of common stock issued since our inception remained outstanding.

Since our inception, we have engaged in transactions with our executive officers, directors and holders of more than 5% of our voting securities and their respective affiliates. The following table summarizes the number of shares of our stock purchased by our executive officers, directors and 5% stockholders and persons and entities associated with them in private placement transactions. Each share of each series of preferred stock converted automatically into one share of common stock upon the closing of our initial public offering in March 2004.

Investor[1]	Common stock	Series A preferred stock	Series B preferred stock	Series C preferred stock	Series D preferred stock	Series E preferred stock	Series F preferred stock
Directors and executive officers							
Ronald J. Berenson, M.D.[2]	431,499	10,526	—	—	—	—	—
Robert M. Williams, Ph.D.	36,363	—	—	—	—	—	—
Entities affiliated with directors							
Alta Partners[3]	—	344,497	146,414	176,604	106,280	63,941	1,460
ARCH Venture Partners[4]	—	143,539	371,900	203,502	240,352	170,045	163,473
MPM Capital[5]	87,899	—	—	—	784,825	130,802	—
5% stockholders							
Ronald J. Berenson, M.D.[2]	431,499	10,526	—	—	—	—	—
Alta Partners[3]	—	344,497	146,414	176,604	106,280	63,941	1,460
ARCH Venture Partners[4]	—	143,539	371,900	203,502	240,352	170,045	163,473
Sprout Group	—	478,466	99,172	207,805	58,861	64,741	660
MPM Capital[5]	87,899	—	—		784,825	130,802	—
W Capital Partners Ironworks, L.P.[6]	—	—	—	326,620	52,004	54,836	—
Vector Fund	—	—	—	—	130,804	—	202,706
Vulcan Ventures	14,650	—	—	108,873	130,804	130,804	—

[1] See “Principal stockholders” for more details on shares held by these purchasers.
[2] Includes shares held in trust.
[3] Dr. Deleage is managing director of Alta Partners.
[4] Mr. Nelsen is a managing director of entities affiliated with ARCH Venture Partners.
[5] Dr. Henner is a general partner of MPM Capital.
[6] Mr. Wertheimer is a managing director of W Capital Partners.

In connection with our acquisition of all the outstanding capital stock of CellGenEx, we issued warrants to purchase 66,983 shares of Series A preferred stock at $5.23 per share in August 1997. In addition, in connection with our Series D preferred stock private placement, we issued warrants to purchase 205,858 shares of common stock at $1.65 per share in August 2000. In connection with our Series E preferred stock private placement, we issued warrants to purchase 470,205 shares of common stock at $0.055 per share in November 2001. In connection with our Series F preferred stock private placement, we issued warrants to purchase 439,932 shares of common stock at $0.055 per share in February and March 2002.

The following table summarizes the number of shares of common stock issued upon exercise of warrants granted to 5% stockholders, directors, executive officers and entities affiliated with our executive officers and directors in private placement transactions:

Investor[1]	Shares of common stock issued upon exercise of warrants
Alta Partners[2]	43,808
ARCH Venture Partners[3]	219,123
Sprout Group	40,589
MPM Asset Management LLC[4]	70,722
W Capital Partners Ironworks, L.P.[5]	34,271
Vector Fund	117,693
Vulcan Ventures	70,725

Footnotes on following page

(1)See “Principal stockholders” for more details on shares held by these purchasers.
(2)Dr. Deleage is managing director of Alta Partners.
(3)Mr. Nelsen is a managing director of entities affiliated with ARCH Venture Partners.
(4)Dr. Henner is a general partner of MPM Capital.
(5)Mr. Wertheimer is a managing director of W Capital Partners.

In July 1999, we entered into a License Agreement with Genecraft LLC, or Genecraft, of which Dr. Jeffrey Ledbetter, our former Chief Scientific Officer and one of our scientific founders, is a principal founder. Under this agreement, in return for royalties we granted an exclusive sublicense to Genecraft for the rights to one pending patent application that we are not using in the field of *in vivo* activation of T cells.

We have entered into indemnification agreements with our officers and directors containing provisions which require us, among other things, to indemnify our officers and directors against liabilities that may arise by reason of their status or service as officers or directors (other than liabilities arising from willful and other misconduct) and to advance their expenses incurred as a result of any proceeding against them as to which they could be indemnified. See “Management—Limitations on Liability and Indemnification of Officers and Directors.”

We maintain key person life insurance, under which we are the beneficiary, on Dr. Berenson in the amount of $2 million.

In connection with our acquisition of all of the outstanding capital stock of CellGenEx, Inc., we reserved an aggregate of 287,698 shares of our common stock in a milestone pool for issuance to our scientific founders, Drs. Jeffrey Bluestone, Carl June, Jeffrey Ledbetter and Craig Thompson, upon the achievement of scientific milestones determined by a milestone committee. In February 2001, we entered into a settlement agreement with each of Drs. Bluestone, June and Thompson to terminate the milestone pool, and no option grants were made pursuant to the Milestone Pool. In addition, we entered into a consulting agreement with each of Drs. Bluestone, June and Thompson under which each agreed to consult with us and to continue to serve on our Scientific Advisory Board. In exchange for these services, each consultant was awarded non-statutory stock options for an aggregate of 22,727 shares of our common stock, consisting of one option to purchase 9,090 shares of our common stock at an exercise price of $2.75 per share and a second option to purchase 13,636 shares of our common stock at an exercise price of $5.50 per share. The 13,636 shares vest in equal monthly installments (284 shares per month) over the 48 month term of the agreement. Dr. Ledbetter, our former Chief Scientific Officer, waived his rights to the milestone pool in connection with his resignation in March 1999.

Dr. Frohlich’s employment agreement, dated August 27, 2001, provides that we will forgive over four years from the date of the agreement a $50,000 home loan we made to him in connection with commencement of his employment.

Pursuant to a clinical trial agreement dated November 25, 2003, James R. Berenson, M.D., a brother of our President and Chief Executive Officer, has acted as and will continue to act as a principal investigator for some of our clinical trials run by a site management organization called Oncotherapeutics.

In October 2003, we issued and sold convertible promissory notes in an aggregate amount of approximately $12.7 million to investors, including, but not limited to, Alta Partners, ARCH Venture Partners, MPM Capital, The Sprout Group, Vector Partners, Vulcan Ventures and W Capital Partners Ironworks. These convertible promissory notes were converted into approximately 1,357,357 shares of our common stock upon completion of our initial public offering.

PRINCIPAL STOCKHOLDERS

The following table shows information known to us with respect to the beneficial ownership of our common stock as of September 27, 2004 by each of our directors, each named executive officer, each person or group of affiliated persons known by us to beneficially own more than 5% of our common stock, and all of our directors and executive officers as a group.

Beneficial ownership and percentage ownership are determined in accordance with the rules of the SEC. In computing the number of shares beneficially owned by a person and the percentage ownership of that person, shares of common stock underlying options and warrants that are exercisable within 60 days of September 27, 2004 are considered to be outstanding. To our knowledge, except as indicated in the footnotes to the following table and subject to community property laws where applicable, the persons named in this table have sole voting and investment power with respect to all shares of our common stock shown as beneficially owned by them.

This table is based on 14,826,970 shares of our common stock outstanding as of September 27, 2004, excluding the shares of our common stock issuable upon conversion of the convertible preferred stock offered by this prospectus. The address for those individuals for which an address is not otherwise indicated is: c/o Xcyte Therapies, Inc., 1124 Columbia Street, Suite 130, Seattle, Washington 98104.

Name and address of beneficial owner	Number of shares owned	Number of shares underlying options or warrants	Percent of shares beneficially owned
Directors and named executive officers			
Ronald J. Berenson, M.D.[1]	442,025	20,408	3.1%
Stewart Craig, Ph.D.	—	72,025	*
Mark Frohlich, M.D.	—	31,838	*
Kathi L. Cordova, C.P.A	13,635	19,119	*
Joanna S. Black, J.D.	—	16,179	*
Jean Deleage, Ph.D.[2] c/o Alta Partners One Embarcadero Center Suite 4050 San Francisco, CA 94111	1,142,400	5,454	7.7
Peter Langecker, M.D., Ph.D.	—	5,454	*
Robert T. Nelsen[3] c/o ARCH Venture Partners 8725 W. Higgins Road, Suite 290 Chicago, IL 60631	2,054,271	—	13.9
Dennis Henner, Ph.D.[4] c/o MPM Asset Management LLC 111 Huntington Avenue 31st Floor Boston, MA 02199	—	—	—
Stephen N. Wertheimer[5] c/o W Capital Partners 245 Park Avenue 39th Floor New York, NY 10167	574,363	—	3.9
Robert M. Williams, Ph.D.	44,544	—	*
Daniel Spiegelman [6]	—	833	*
All executive officers and directors as a group (14 persons)	5,452,203	194,071	37.6%
5% stockholders			
Alta Partners[2] One Embarcadero Center Suite 4050 San Francisco, CA 94111	1,142,400	5,454	7.7
Arch Venture Partners[3] 8725 W. Higgins Road, Suite 290 Chicago, IL 60631	2,054,271	—	13.9
MPM Capital[7] c/o MPM Asset Management LLC 111 Huntington Avenue 31st Floor Boston, MA 02199	1,180,965	—	8.0
The Sprout Group[8] 3000 Sand Hill Road Building 1, Suite 170 Menlo Park, CA 94025	960,964	—	6.5

Footnotes on following page

* Represents beneficial ownership of less than 1%.
(1) Includes 403,667 shares of common stock, 14,835 of which are subject to repurchase, and 38,358 shares of common stock held by the Irrevocable Intervivos Trust Agreement of Ronald J. Berenson and Cheryl L. Berenson.
(2) Includes 1,117,439 shares of common stock held by Alta California Partners, L.P.; 24,961 shares of common stock held by Alta Embarcadero Partners, LLC; and 5,454 shares of common stock issuable upon the exercise of immediately exercisable options held by Dr. Deleage, none of which are subject to a repurchase right. Dr. Deleage is a general partner of Alta California Management Partners, LP (which is the general partner of Alta California Partners, L.P.), and a member of Alta Embarcadero Partners, LLC, shares voting and dispositive power with respect to the shares held by each of these entities and disclaims beneficial ownership of the shares in which he has no pecuniary interest.
(3) Includes 193,447 shares of common stock held by ARCH Venture Fund II, L.P.; 1,140,487 shares of common stock held by ARCH Venture Fund III, L.P.; 1,428 shares of common stock held by ARCH V Entrepreneurs Fund, L.P., 349,508 shares of common stock held by ARCH Venture Fund V, L.P. and 369,401 shares of common stock held by Healthcare Focus Fund, L.P. Mr. Nelsen is a managing director of ARCH Venture Partners VI, LLC, which is the general partner of ARCH Venture Partners VI, LLC, which is the general partner of ARCH Venture Fund V, L.P., ARCH V Entrepreneurs Fund, L.P. and Healthcare Focus Fund, L.P. Mr. Nelsen is a managing director of ARCH Venture Partners, LLC, which is the general partner of ARCH Venture Fund III, L.P. Mr. Nelsen is a managing director of ARCH Venture Corporation, which is the general partner of ARCH Venture Partners, L.P., which is the general partner of ARCH Management Partners II, L.P., the general partner of ARCH Venture Fund II, L.P. Mr. Nelsen shares voting and dispositive power with respect to the shares held by each of these entities and disclaims beneficial ownership of the shares in which he has no pecuniary interest.
(4) While Dr. Henner is an employee of MPM Capital, he does not have any voting and dispositive power with respect to the shares held by any of the entities listed in this footnote.
(5) Mr. Wertheimer is the managing director of W Capital Partners Ironworks, L.P., shares voting and dispositive power with respect to this partnership and disclaims beneficial ownership of the shares in which he has no pecuniary interest.
(6) Mr. Spiegelman's option is still subject to stockholder approval and is not exercisable until such approval.
(7) With respect to MPM Capital, the amounts shown include 18,302 shares of common stock held by MPM Asset Management Investors 2000 B, LLC; 279,889 shares of common stock held by MPM Bioventures GMBH & Co. Parallel-Beteiligungs KG; 87,744 shares of common stock held by MPM Bioventures II, L.P.; and 795,030 shares of common stock held by MPM Bioventures II-QP, L.P.
(8) Includes 19,216 shares of common stock held by DLJ Capital Corporation; 95,027 shares of common stock held by DLJ First ESC, L.P.; 835,950 shares of common stock held by Sprout Capital VII, L.P.; and 9,704 shares of common stock held by the Sprout CEO Fund, L.P.

DESCRIPTION OF CONVERTIBLE PREFERRED STOCK

The following is a summary of the material terms of the convertible preferred stock. You should refer to the actual terms of the convertible preferred stock and the certificate of designations filed with the Secretary of State of the State of Delaware, a form of which is filed as an exhibit to this registration statement. As used in this description, the words “we,” “us” or “our” do not include any current or future subsidiary of Xcyte.

General

Our board of directors has the authority, without stockholder approval, to issue up to 5,000,000 shares of preferred stock in one or more series and to determine the rights, privileges and limitations of the preferred stock. The rights, preferences, powers and limitations on different series of preferred stock may differ with respect to dividend rates, amounts payable on liquidation, voting rights, conversion rights, redemption provisions, sinking fund provisions, and purchase funds and other matters.

Pursuant to its authority, our board of directors has designated 1,725,000 shares of the preferred stock that we now have authority to issue as the convertible preferred stock. The shares of convertible preferred stock, when issued and sold in the manner contemplated by this prospectus, will be duly and validly issued, fully paid and nonassessable. You will not have any preemptive rights if we issue other series of preferred stock. The convertible preferred stock is not subject to any sinking fund. We have no obligation to retire the convertible preferred stock. The convertible preferred stock has a perpetual maturity and may remain outstanding indefinitely, subject to your right to convert the convertible preferred stock and our right to cause the conversion of the convertible preferred stock and exchange or redeem the convertible preferred stock at our option. Any convertible preferred stock converted, exchanged or redeemed or acquired by us will, upon cancellation, have the status of authorized but unissued shares of convertible preferred stock. We will be able to reissue these cancelled shares of convertible preferred stock.

Dividends

When and if declared by our board of directors out of the legally available funds, you will be entitled to receive cash dividends at an annual rate of % of the liquidation preference of the convertible preferred stock. Dividends will be payable quarterly on , , and beginning , 2005. If any dividends are not declared, they will accrue and be paid at such later date, if any, as determined by our board of directors. Dividends on the convertible preferred stock will be cumulative from the issue date. Dividends will be payable to holders of record as they appear on our stock books not more than 60 days nor less than 10 days preceding the payment dates, as fixed by our board of directors. If the convertible preferred stock is called for redemption on a redemption date between the dividend record date and the dividend payment date and you do not convert the convertible preferred stock (as described below), you shall receive the dividend payment together with all other accrued and unpaid dividends on the redemption date instead of receiving the dividend on the dividend date. Dividends payable on the convertible preferred stock for any period greater or less than a full dividend period will be computed on the basis of a 360-day year consisting of twelve 30-day months. Accrued but unpaid dividends will not bear interest.

If we do not pay or set aside cumulative dividends in full on the convertible preferred stock and any other preferred stock ranking on the same basis as to dividends, all dividends declared upon shares of the convertible preferred stock and any other preferred stock ranking on the same basis as to dividends will be declared on a pro rata basis until all accrued dividends are paid in full. For these purposes, “pro rata” means that the amount of dividends declared per share on the convertible preferred stock and any other preferred stock ranking on the same basis as to dividends bear to each other will be the same ratio that accrued and unpaid dividends per share on the shares of the convertible preferred stock and such other preferred stock bear to each other. We will not be able to redeem, purchase or otherwise acquire any of our stock ranking on the same basis as the convertible preferred stock as to dividends or liquidation preferences unless we have paid or set aside full cumulative dividends, if any, accrued on all outstanding shares of convertible preferred stock.

Unless we have paid or set aside cumulative dividends in full on the convertible preferred stock and any other of the convertible preferred stock ranking on the same basis as to dividends:

- we may not declare or pay or set aside dividends on common stock or any other stock ranking junior to the convertible preferred stock as to dividends or liquidation preferences, excluding dividends or distributions of shares, options, warrants or rights to purchase common stock or other stock ranking junior to the convertible preferred stock as to dividends; or
- we will not be able to redeem, purchase or otherwise acquire any of our other stock ranking junior to the convertible preferred stock as to dividends or liquidation preferences, except in very limited circumstances.

Under Delaware law, we may only make dividends or distributions to our stockholders from:

- our surplus; or
- the net profits for the current fiscal year or the fiscal year before which the dividend or distribution is declared under certain circumstances.

Our ability to pay dividends and make any other distributions in the future will depend upon our financial results, liquidity and financial condition.

Conversion

Conversion Rights

You may convert the convertible preferred stock at any time into a number of shares of common stock determined by dividing the $10 liquidation preference by the conversion price of $, subject to adjustment as described below. This conversion price is equivalent to a conversion rate of approximately shares of common stock for each share of convertible preferred stock. We will not make any adjustment to the conversion price for accrued or unpaid dividends upon conversion. We will not issue fractional shares of common stock upon conversion. However, we will instead pay cash for each fractional share based upon the market price of the common stock on the last business day prior to the conversion date. If we call the convertible preferred stock for redemption, your right to convert the convertible preferred stock will expire at the close of business on the business day immediately preceding the date fixed for redemption, unless we fail to pay the redemption price.

In order to convert your shares of convertible preferred stock, you must either:

- deliver your convertible preferred stock certificate at the transfer agent office and a duly signed and completed notice of conversion, or
- if the convertible preferred stock is held in global form, according to the procedures established by the depositary as described below under the subsection entitled “Form and Denomination.”

The conversion date will be the date you deliver your convertible preferred stock certificate and the duly signed and completed notice of conversion to the transfer agent. You will not be required to pay any U.S. federal, state or local issuance taxes or duties or costs incurred by us on conversion, but will be required to pay any tax or duty payable as a result of the common stock upon conversion being issued other than in your name. We will not issue common stock certificates unless all taxes and duties, if any, have been paid by the holder. If you convert your convertible preferred stock after a dividend record date and prior to the next dividend payment date, you will have to pay us an amount equal to the dividend payable on such dividend payment date unless the convertible preferred stock has been called for redemption or we have issued a notice of automatic conversion.

Automatic Conversion

Unless we redeem or exchange the convertible preferred stock, we may elect to convert some or all of the convertible preferred stock into shares of our common stock if the closing price of our common stock has exceeded 150% of the conversion price for at least 20 out of 30 consecutive trading days ending within five

trading days prior to the notice of automatic conversion. If we elect to convert less than all of the shares of convertible preferred stock, we shall select the shares to be converted by lot or pro rata or in some other equitable manner in our discretion. If we elect to automatically convert shares of our convertible preferred stock prior to , 2007, we are required to make the payment discussed under the heading, "—Dividend Make-Whole Payment" below. After , 2007, we may not elect to automatically convert the convertible preferred stock if full cumulative dividends on the convertible preferred stock for all past dividend periods have not been paid or set aside for payment.

Conversion Price Adjustment—General

The conversion price of $ will be adjusted if:

(1) we dividend or distribute common stock on shares of our common stock;

(2) we subdivide or combine our common stock;

(3) we issue to all holders of common stock certain rights or warrants to purchase our common stock at less than the current market price;

(4) we dividend or distribute to all holders of our common stock shares of our capital stock or evidences of indebtedness or assets, excluding:

- those rights, warrants, dividends or distributions referred to in (1) or (3), or
- dividends and distributions paid in cash;

(5) we make a dividend or distribution consisting of cash to all holders of common stock;

(6) we purchase common stock pursuant to a tender offer made by us or any of our subsidiaries; and

(7) a person other than us or any of our subsidiaries makes any payment on a tender offer or exchange offer and, as of the closing of the offer, the board of directors is not recommending rejection of the offer. We will only make this adjustment if the tender or exchange offer increases a person's ownership to more than 25% of our outstanding common stock, and only if the payment per share of common stock exceeds the current market price of our common stock. We will not make this adjustment if the offering documents disclose our plan to engage in any consolidation, merger, or transfer of all or substantially all of our properties and if specified conditions are met.

If we implement a stockholder rights plan, this new rights plan must provide that upon conversion of the existing convertible preferred stock the holders will receive, in addition to the common stock issuable upon such conversion, the rights under such rights plan regardless of whether the rights have separated from the common stock before the time of conversion. The distribution of rights or warrants pursuant to a stockholder rights plan will not result in an adjustment to the conversion price of the convertible preferred stock until a specified triggering event occurs.

The occurrence and magnitude of certain of the adjustments described above is dependent upon the current market price of our common stock. For these purposes, "current market price" generally means the lesser of:

- the closing sale price on certain specified dates, or
- the average of the closing prices of the common stock for the ten trading day period immediately prior to certain specified dates.

We may make a temporary reduction in the conversion price of the convertible preferred stock if our board of directors determines that this decrease would be in the best interests of Xcyte. We may, at our option, reduce the conversion price if our board of directors deems it advisable to avoid or diminish any income tax to holders of common stock resulting from any dividend or distribution of stock or rights to acquire stock or from any event treated as such for income tax purposes. See the section entitled "Material Federal Income Tax Consequences" below for more information.

Conversion Price Adjustment—Merger, Consolidation or Sale of Assets

If we are involved in a transaction in which shares of our common stock are converted into the right to receive other securities, cash or other property, or a sale or transfer of all or substantially all of our assets under which the holders of our common stock shall be entitled to receive other securities, cash or other property, then appropriate provision shall be made so that your convertible preferred stock will convert into:

(1) if the transaction is a common stock fundamental change, as defined below, common stock of the kind received by holders of common stock as a result of common stock fundamental change in accordance with paragraph (1) below under the subsection entitled "—Fundamental Change Conversion Price Adjustments," and

(2) if the transaction is not a common stock fundamental change, and subject to funds being legally available at conversion, the kind and amount of the securities, cash or other property that would have been receivable upon the recapitalization, reclassification, consolidation, merger, sale, transfer or share exchange by a holder of the number of shares of common stock issuable upon conversion of the convertible preferred stock immediately prior to the recapitalization, reclassification, consolidation, merger, sale, transfer or share exchange, after giving effect to any adjustment in the conversion price in accordance with paragraph (2) below under the subsection entitled "—Fundamental Change Conversion Price Adjustments."

The company formed by the consolidation, merger, asset acquisition or share acquisition shall provide for this right in its organizational document. This organizational document shall also provide for adjustments so that the organizational document shall be as nearly practicably equivalent to adjustments in this section for events occurring after the effective date of the organizational document.

The following types of transactions, among others, would be covered by this adjustment:

(1) we recapitalize or reclassify our common stock, except for:

- a change in par value,
- a change from par value to no par value,
- a change from no par value to par value, or
- a subdivision or combination of our common stock,

(2) we consolidate or merge into any other person, or any merger of another person into us, except for a merger that does not result in a reclassification, conversion, exchange or cancellation of common stock,

(3) we sell, transfer or lease all or substantially all of our assets and holders of our common stock become entitled to receive other securities, cash or other property, or

(4) we undertake any compulsory share exchange.

Fundamental Change Conversion Price Adjustments

If a fundamental change occurs, the conversion price will be adjusted as follows:

(1) in the case of a common stock fundamental change, the conversion price shall be the conversion price after giving effect to any other prior adjustments effected pursuant to the preceding paragraphs, multiplied by a fraction, the numerator of which is the purchaser stock price, as defined below, and the denominator of which is the applicable price, as defined below. However, in the event of a common stock fundamental change in which:

- 100% of the value of the consideration received by a holder of our common stock is common stock of the successor, acquiror or other third party, and cash, if any, paid with respect to any

fractional interests in such common stock resulting from such common stock fundamental change, and

- all of our common stock shall have been exchanged for, converted into or acquired for, common stock of the successor, acquiror or other third party, and any cash with respect to fractional interests,

the conversion price shall be the conversion price in effect immediately prior to such common stock fundamental change multiplied by a fraction, the numerator of which is one (1) and the denominator of which is the number of shares of common stock of the successor, acquiror or other third party received by a holder of one share of our common stock as a result of the common stock fundamental change; and

(2) in the case of a non-stock fundamental change, the conversion price shall be the lower of:

- the conversion price after giving effect to any other prior adjustments effected pursuant to the preceding paragraphs, and
- the product of:

(A) the applicable price, and

(B) a fraction, the numerator of which is $10 and the denominator of which is (x) the amount of the redemption price for one share of convertible preferred stock if the redemption date were the date of the non-stock fundamental change (or if the date of such non-stock fundamental change falls within the period beginning on the first issue date of the convertible preferred stock through , 2005, or the twelve-month period commencing , 2005, the product of % or %, respectively, and $10) plus (y) any then-accrued and unpaid distributions on one share of convertible preferred stock.

You may receive significantly different consideration upon conversion depending upon whether a fundamental change is a non-stock fundamental change or a common stock fundamental change. In the event of a non-stock fundamental change, your convertible preferred stock will convert into stock and other securities or property or assets, including cash, determined by the number of shares of common stock receivable upon conversion at the conversion price as adjusted in accordance with (2) above. In the event of a common stock fundamental change, under certain circumstances you will receive different consideration depending on whether you convert your convertible preferred stock on or after the common stock fundamental change. For example, you will only receive common stock of the successor, acquiror or other third party if you convert your convertible preferred stock following a common stock fundamental change in which less than 100% of the value of the consideration received by a holder of common stock is common stock of the successor, acquiror or other third party. However, if you had converted your convertible preferred stock prior to the common stock fundamental change, you would have received consideration in the form of such common stock as well as any other securities or assets, including cash, issuable to the holders of our common stock in connection with the common stock fundamental change.

Definitions for the Fundamental Change Adjustment Provision

"applicable price" means:

- in a non-stock fundamental change in which the holders of common stock receive only cash, the amount of cash received by a holder of one share of common stock, and
- in the event of any other fundamental change, the average of the daily closing price for one share of common stock during the 10 trading days immediately prior to the record date for the determination of the holders of common stock entitled to receive cash, securities, property or other assets in connection with the fundamental change or, if there is no such record date, prior to the date upon which the holders of common stock shall have the right to receive such cash, securities, property or other assets.

"common stock fundamental change" means any fundamental change in which more than 50% of the value, as determined in good faith by our board of directors, of the consideration received by holders of our common stock consists of common stock that, for the 10 trading days immediately prior to such fundamental change, has been admitted for listing or admitted for listing subject to notice of issuance on a national securities exchange or quoted on the Nasdaq National Market, except that a fundamental change shall not be a common stock fundamental change unless either:

- we continue to exist after the occurrence of the fundamental change and the outstanding convertible preferred stock continues to exist as outstanding convertible preferred stock, or
- not later than the occurrence of the fundamental change, the outstanding convertible preferred stock is converted into or exchanged for shares of preferred stock, which preferred stock has rights, preferences and limitations substantially similar, but no less favorable, to those of the convertible preferred stock.

"fundamental change" means the occurrence of any transaction or event or series of transactions or events pursuant to which all or substantially all of our common stock shall be exchanged for, converted into, acquired for or shall constitute solely the right to receive cash, securities, property or other assets, whether by means of an exchange offer, liquidation, tender offer, consolidation, merger, combination, reclassification, recapitalization or otherwise. However, for purposes of adjustment of the conversion price, in the case of any series of transactions or events, the fundamental change shall be deemed to have occurred when substantially all of the common stock shall have been exchanged for, converted into or acquired for, or shall constitute solely the right to receive, such cash, securities, property or other assets, but the adjustment shall be based upon the consideration that the holders of our common stock received in the transaction or event as a result of which more than 50% of our common stock shall have been exchanged for, converted into or acquired for, or shall constitute solely the right to receive, such cash, securities, property or other assets.

"non-stock fundamental change" means any fundamental change other than a common stock fundamental change.

"purchaser stock price" means the average of the daily closing price for one share of the common stock received by holders of the common stock in the common stock fundamental change during the 10 trading days immediately prior to the date fixed for the determination of the holders of the common stock entitled to receive such common stock or, if there is no such date, prior to the date upon which the holders of the common stock shall have the right to receive such common stock.

Dividend Make-Whole Payment

If we elect to automatically convert, or you voluntarily convert, some or all of the convertible preferred stock into shares of our common stock prior to , 2007, we will make an additional payment equal to the total value of the aggregate amount of cumulative dividends that would have accrued and become payable on the convertible preferred stock from the date of original issue through and including , 2007, less any dividends already paid on the convertible preferred stock. This additional payment is payable by us, in cash, or, at our option, in shares of our common stock or a combination of cash and shares of our common stock. In the event of an automatic conversion or any voluntary conversion undertaken after we provide notice of an automatic conversion, the shares of common stock issued in payment of the dividend make-whole payment will be valued at 150% of the conversion price on the effective date of the conversion. In all other circumstances, any shares of our common stock issued in payment of the dividend make-whole payment will be valued at the greater of (i) 95% of the average closing price of our common stock for the two trading days prior to the effective date of conversion or (ii) $, which is the closing price of our common stock on the date of this prospectus. In the event of an automatic conversion, the notice of automatic conversion will specify whether we will make the dividend make-whole payment in cash, shares of our common stock or a combination of cash and shares of our common stock. We will not issue fractional shares for any additional payment upon conversion but will instead make a cash adjustment for any fractional share payment.

Liquidation Rights

In the event of our voluntary or involuntary dissolution, liquidation, or winding up, you shall receive a liquidation preference of $10 per share and all accrued and unpaid dividends through the distribution date. Holders of any class or series of preferred stock ranking on the same basis as your convertible preferred stock as to liquidation shall also be entitled to receive the full respective liquidation preferences and any accrued and unpaid dividends through the distribution date. Only after the preferred stock holders have received their liquidation preference and any accrued and unpaid dividends will we distribute assets to common stock holders or any of our other stock ranking junior to the shares of convertible preferred stock upon liquidation. If upon such dissolution, liquidation or winding up, we do not have enough assets to pay in full the amounts due on the convertible preferred stock and any other preferred stock ranking on the same basis with your convertible preferred stock as to liquidation, you and the holders of such other preferred stock will share ratably in any such distributions of our assets:

- first in proportion to the liquidation preferences until the preferences are paid in full, and
- then in proportion to the amounts of accrued but unpaid dividends.

After we pay any liquidation preference and accrued dividends, you will not be entitled to participate any further in the distribution of our assets. The following events will not be deemed to be a dissolution, liquidation or winding up of Xcyte:

- the sale of all or substantially all of the assets;
- our merger or consolidation into or with any other corporation; or
- our liquidation, dissolution, winding up or reorganization immediately followed by a reincorporation as another corporation.

Optional Redemption

On or after , 2007 we may redeem the convertible preferred stock, out of legally available funds, in whole or in part, at our option, at the redemption prices listed below. The redemption price is as follows for the 12-month period beginning of the following years, beginning , 2007 and ending on , 2008 in the case of the first period:

YEAR	REDEMPTION PRICE
2007	$
2008	
2009	
2010	
2011	
2012	
2013	

and $10.00 at , 2014 and thereafter. In each case we will pay accrued and unpaid dividends to, but excluding, the redemption date. We are required to give notice of redemption not more than 60 and not less than 20 days before the redemption date.

If we redeem less than all of the shares of convertible preferred stock, we shall select the shares to be redeemed by lot or pro rata or in some other equitable manner in our sole discretion.

Exchange Provisions

We may exchange the convertible preferred stock in whole, but not in part, for debentures on any dividend payment date on or after , 2005 at the rate of $10 principal amount of debentures for each outstanding share of convertible preferred stock. Debentures will be issuable in denominations of $1,000 and integral multiples of $1,000. See the section entitled “Description of Debentures” below. If the exchange results in an amount of debentures that is not an integral multiple of $1,000, we will pay in cash an amount in excess of the closest integral multiple of $1,000. We will mail written notice of our intention to exchange the convertible preferred stock to each record holder not less than 30 nor more than 60 days prior to the exchange date.

We refer to the date fixed for exchange of the convertible preferred stock for debentures as the “exchange date.” On the exchange date, your rights as a stockholder of Xcyte shall cease. Your shares of convertible preferred stock will no longer be outstanding, and will only represent the right to receive the debentures and any accrued and unpaid dividends, without interest. We may not exercise our option to exchange the convertible preferred stock for the debentures if:

- full cumulative dividends on the convertible preferred stock to the exchange date have not been paid or set aside for payment, or
- an event of default under the indenture would occur on conversion, or has occurred and is continuing.

The exchange of convertible preferred stock for debentures will be a taxable event, since holders will be exchanging their convertible preferred stock for debt and we will not make any related cash payment to the holder. See the section entitled “Material Federal Income Tax Consequences” below.

Voting Rights

You will have no voting rights except as described below or as required by law. Shares held by us or any entity controlled by us will not have any voting rights.

If we have not paid dividends on the convertible preferred stock or on any outstanding shares of preferred stock ranking on the same basis as to dividends with the convertible preferred stock in an aggregate amount equal to at least six quarterly dividends whether or not consecutive, we will increase the size of our board of directors by two additional directors. So long as dividends remain due and unpaid, holders of the convertible preferred stock, voting separately as a class with holders of preferred stock ranking on the same basis as to dividends having like voting rights, will be entitled to elect two additional directors at any meeting of stockholders at which directors are to be elected. These directors will be appointed to classes on the board as determined by our board of directors. These voting rights will terminate when we have declared and either paid or set aside for payment all accrued and unpaid dividends. The terms of office of all directors so elected will terminate immediately upon the termination of these voting rights.

Without the vote or consent of the holders of at least a majority of the shares of convertible preferred stock, we may not:

- adversely change the rights, preferences and limitations of the convertible preferred stock by modifying our certificate of incorporation or bylaws, or
- authorize, issue, reclassify any of our authorized stock into, increase the authorized amount of, or authorize or issue any convertible obligation or security or right to purchase, any class of stock that ranks senior to the convertible preferred stock as to dividends or distributions of assets upon liquidation, dissolution or winding up of the stock.

No class vote on the part of convertible preferred stock shall be required (except as otherwise required by law or resolution of our board of directors) in connection with the authorization, issuance or increase in the authorized

amount of any shares of capital stock ranking junior to or on parity with the convertible preferred stock both as to the payment of dividends and as to distribution of assets upon our liquidation, dissolution or winding up, whether voluntary or involuntary, including our common stock and the convertible preferred stock.

In addition, without the vote or consent of the holders of at least a majority of the shares of convertible preferred stock we may not:

- enter into a share exchange that affects the convertible preferred stock,
- consolidate with or merge into another entity, or
- permit another entity to consolidate with or merge into us,

unless the convertible preferred stock remains outstanding and its rights, privileges and preferences are unaffected or it is converted into or exchanged for convertible preferred stock of the surviving entity having rights, preferences and limitations substantially similar, but no less favorable, to the convertible preferred stock.

In determining a majority under these voting provisions, holders of convertible preferred stock will vote together with holders of any other preferred stock that rank on parity as to dividends and that have like voting rights.

Form and Denomination

Except in very limited circumstances, the shares of convertible preferred stock will be evidenced by a global certificate which will be deposited with, or on behalf of, the Depository Trust Company, or DTC, and registered in the name of Cede & Co. as DTC's nominee. Except as set forth below, the global certificate may be transferred, in whole or in part, only to another nominee of DTC or to a successor of DTC or its nominee.

Purchasers may hold their interests in the global certificate directly through DTC or indirectly through organizations which are participants in DTC. Transfers between participants will be effected in the ordinary way in accordance with DTC rules and will be settled in clearing house funds. The laws of some states require that certain persons take physical delivery of securities in definitive form. Consequently, the ability to transfer beneficial interests in the global certificate to such persons may be limited.

Purchasers may beneficially own interests in the global certificate held by DTC only through participants, or certain banks, brokers, dealers, trust companies and other parties that clear through or maintain a custodial relationship, with a participant, either directly or indirectly through indirect participants. So long as Cede & Co., as the nominee of DTC, is the registered owner of the global certificate, Cede & Co. for all purposes will be considered the sole holder of the global certificate. Except as provided below, owners of beneficial interests in the global certificate will not be entitled to have certificates registered in their names, will not receive or be entitled to receive physical delivery of certificates in definitive form, and will not be considered the holders.

Payment of dividends on and the redemption price of the global certificate will be made to Cede & Co. by wire transfer of immediately available funds. Neither we, the trustee nor any paying agent will have any responsibility or liability for any aspect of the records relating to or payments made on account of beneficial ownership interests in the global certificate or for maintaining, supervising or reviewing any records relating to such beneficial ownership interests.

We have been informed by DTC that, with respect to any payment of dividends on or the redemption price of the global certificate, DTC's practice is to credit participants' accounts on the payment date with payments in amounts proportionate to their respective beneficial interests in the convertible preferred stock represented by the global certificate as shown on the records of DTC, unless DTC has reason to believe that it will not receive payment on such payment date. Payments by participants to owners of beneficial interests in convertible preferred stock represented by the global certificate held through such participants will be the responsibility of such participants, as is now the case with securities held for the accounts of customers registered in "street name."

If you would like to convert your convertible preferred stock into common stock pursuant to the terms of the convertible preferred stock, you should contact your broker or other direct or indirect DTC participant to obtain information on procedures, including proper forms and cut-off times, for submitting those requests.

Because DTC can only act on behalf of participants, who in turn act on behalf of indirect participants and certain banks, the ability of a person having a beneficial interest in convertible preferred stock represented by the global certificate to pledge such interest to persons or entities that do not participate in the DTC system, or otherwise take actions in respect of such interest, may be affected by the lack of a physical certificate evidencing such interest.

Neither we, the transfer agent, registrar, paying agent nor conversion agent will have any responsibility for the performance by DTC or its participants or indirect participants under the rules and procedures governing their operations. DTC has advised us that it will take any action permitted to be taken by a holder of convertible preferred stock only at the direction of one or more participants to whose account with DTC interests in the global certificate are credited and only in respect of the amount of shares of the convertible preferred stock represented by the global certificate as to which the participant has given this direction.

DTC is a limited purpose trust company organized under the laws of the State of New York, a member of the Federal Reserve System, a “clearing corporation” within the meaning of the Uniform Commercial Code and a “clearing agency” registered pursuant to the provisions of Section 17A of the Exchange Act. DTC was created to hold securities for its participants and to facilitate the clearance and settlement of securities transactions between participants through electronic book-entry changes to accounts of its participants, thereby eliminating the need for physical movement of certificates. Participants include securities brokers and dealers, banks, trust
companies and clearing corporations and may include certain other organizations such as the initial purchaser. Certain participants, together with other entities, own DTC. Indirect access to the DTC system is available to others such as banks, brokers, dealers and trust companies that clear through, or maintain a custodial relationship with, a participant, either directly or indirectly.

If DTC is at any time unwilling or unable to continue as depositary and a successor depositary is not appointed by us within 90 days, we will cause convertible preferred stock to be issued in definitive form in exchange for the global certificate.

Nasdaq National Market Listing

We will make an application to list the convertible preferred stock on the Nasdaq National Market under the symbol “XCYTP.”

Transfer Agent and Registrar

American Stock Transfer and Trust Company will act as transfer agent and registrar for the convertible preferred stock. Its address is 59 Maiden Lane, New York, NY 10038, and its telephone number is (212) 936-5100.

DESCRIPTION OF DEBENTURES

If we elect to issue debentures in exchange for the convertible preferred stock, we will issue the debentures under an indenture between us and U.S. Bank National Association, as trustee. The following summarizes the material provisions of the indenture and the debentures. You should refer to the actual terms of the indenture and the debentures for the definitive terms and conditions that have been filed as an exhibit to this registration statement. As used in this description, the words “we,” “us” or “our” do not include any current or future subsidiary of Xcyte.

If we elect to issue debentures for convertible preferred stock, we will issue the debentures at a rate of $10 principal amount of debentures for each share of convertible preferred stock that we exchange. The debentures will be general, unsecured, subordinated obligations of Xcyte. The debentures will initially be limited to an aggregate principal amount equal to the aggregate liquidation value of the outstanding convertible preferred stock, excluding accrued and unpaid dividends payable upon liquidation. The debentures will mature 25 years after the exchange date, unless earlier converted by a holder or redeemed at our option.

The debentures will be issued only in fully registered form, without coupons, in denominations of $1,000 and any integral multiple of $1,000. You will not be required to pay a service charge for registration of transfer or exchange of the debentures. We may, however, require you to pay any tax or other governmental charge payable as a result of the common stock issued upon conversion being issued other than in your name.

We will maintain an office in New York, New York where payments will be made on the debentures and where transfer of debentures will be registrable. Initially, this office will be an office or agency of the trustee in New York, New York.

The debentures will be issued in the same form as the convertible preferred stock for which debentures were exchanged. Any global certificates will be replaced with one or more global debentures as described above under the section entitled “Description of Preferred Stock—Form, Denomination and Registration.” Debentures may be issued in certificated form in exchange for a global debenture under limited specified circumstances.

We are not restricted from paying dividends or repurchasing securities under the indenture. We are not subject to any financial covenants under the indenture.

Interest

The debentures will bear interest at the rate of % per year. Interest will be paid on and of each year to the record holder on the preceding and . Interest will be computed on the basis of a 360-day year consisting of twelve 30-day months. We may, at our option, pay interest in the debentures by check mailed to the holders. However, holders of more than $2,000,000 in principal amount of debentures will be paid by wire transfer in immediately available funds at the holder’s election.

Conversion Rights

Holders may convert their debentures at any time prior to maturity, subject to prior redemption, at a conversion price of $, subject to adjustment as described under the section entitled “Description of Preferred Stock—Conversion Rights” above. Holders may convert debentures in denominations of $1,000 and multiples of $1,000. If you convert your debentures after a record date and prior to the next interest payment date, you will have to pay us interest unless the debentures have been called for redemption or we have issued a notice of an automatic conversion. We are not required to issue fractional shares of common stock upon conversion of debentures.

Instead, we will pay a cash adjustment based upon the market price of the common stock on the first trading day prior to the date of conversion.

If the debentures are called for redemption, your conversion rights will expire at the close of business of the business day preceding the redemption date, unless we default in the payment of the redemption price. Except as described in this section, the conversion provisions of the debentures will be identical to the conversion provisions of the convertible preferred stock. See the section entitled “Description of Convertible Preferred Stock—Conversion—Conversion Rights” above for more information.

In order to convert your debentures, you must deliver the debenture at the specified office of a conversion agent, along with a duly signed and completed notice of conversion and any interest that may be required as described in the preceding paragraph. The conversion date shall be the date on which you deliver the debenture, the duly signed and completed notice of conversion and any required interest payments as described in the preceding paragraph.

You will not be required to pay any taxes or duties payable for the issue or delivery of common stock on conversion. You will, however, be required to pay any tax or duty payable as a result of the issuance of common stock upon conversion in a name other than your name. We will not issue or deliver common stock unless all taxes and duties, if any, have been paid by the holder.

Automatic Conversion

Unless we redeem or exchange the debentures, we may elect to automatically convert some or all of the debentures into shares of our common stock if the closing price of our common stock has exceeded 150% of the conversion price for at least 20 out of 30 consecutive trading days ending within five days prior to the notice of automatic conversion. If we elect to convert less than all of the debentures, the trustee shall select the debentures to be converted by lot or pro rata or in some other equitable manner in our discretion.

Interest Make-Whole Payment

If we elect to automatically convert, or you voluntarily convert, some or all of the debentures into shares of our common stock prior to , 2007, we will make an additional payment equal to the total value of the aggregate amount of interest that would have accrued and become payable on the debentures from the date of issuance upon the exchange through and including , 2007, less any interest already paid on the debentures. This additional payment is payable by us, in cash, or, at our option, in shares of our common stock or a combination of cash and shares of our common stock. In the event of an automatic conversion or any voluntary conversion undertaken after we provide notice of an automatic conversion, the shares of common stock issued in payment of the interest make-whole payment will be valued at 150% of the conversion price on the effective date of the conversion. In all other circumstances, any shares of our common stock issued in payment of the interest make-whole payment will be valued at the greater of (i) 95% of the average closing price of our common stock for the two trading days prior to the effective date of conversion or (ii) $, which is the closing price of our common stock on the date of this prospectus. In the event of an automatic conversion, the notice of automatic conversion will specify whether we will make the interest make-whole payment in cash, shares of our common stock or a combination of cash and shares of our common stock. We will not issue fractional shares for any additional payment upon conversion but will instead make a cash adjustment for any fractional share payment.

Subordination

The debentures are subordinated to the prior payment in full of all senior indebtedness as provided in the indenture. Upon any distribution of our assets upon our dissolution, winding up, liquidation or reorganization, the payments on the debentures will be subordinated to the prior payment in full of all senior indebtedness. However, holders of debentures may receive securities that are subordinated at least to the same extent as the debentures are subordinated to senior indebtedness and any securities issued in exchange for senior indebtedness under the indenture.

If the debentures are accelerated as a result of an event of default, holders of all senior indebtedness will be entitled to payment in full in cash before the holders of the debentures will be entitled to receive any payment on the debentures. We are required to promptly notify holders of senior indebtedness if payment of the debentures is accelerated because of an event of default.

We may not make any payment on the debentures if:

- a default in the payment of senior indebtedness occurs and is continuing beyond any period of grace, or
- any other default occurs and is continuing under any designated senior indebtedness that permits holders of designated senior indebtedness to accelerate its maturity, and the trustee receives a notice known as a payment blockage notice from us or any other person permitted to give such notice under the indenture.

We may resume making payments on the debentures:

- in the case of a payment default, upon the date on which such default is cured or waived or ceases to exist, and
- in case of any other default, the earlier of the date on which such other default is cured or waived or ceases to exist or 179 days after receipt of the payment blockage notice, unless the maturity of any senior indebtedness is accelerated.

No new period of payment blockage arising due to a default other than a payment default may be commenced unless:

- 365 days have elapsed since the effectiveness of the immediately prior payment blockage notice, and
- all scheduled payments on the debentures have been paid in full in cash.

No default other than a payment default that existed or was continuing on the date of delivery of any payment blockage notice to the trustee shall be the basis for a subsequent payment blockage notice.

By reason of the subordination provisions, in the event of our bankruptcy, dissolution or reorganization, holders of senior indebtedness may receive more, and holders of the debentures may receive less, than our other creditors. These subordination provisions will not prevent the occurrence of any event of default under the indenture.

“senior indebtedness” means the principal, premium, if any, and interest on any indebtedness of Xcyte, including bankruptcy interest or any other payment on indebtedness, whether outstanding on the date of the indenture or thereafter created, incurred, assumed, guaranteed or in effect guaranteed by us including all deferrals or renewals or amendments or modifications. However, senior indebtedness does not include:

- indebtedness evidenced by the debentures,
- any liability for federal, state, local or other taxes owed or owing by us,
- our indebtedness to any of our subsidiaries,

- any of our trade payables incurred in the ordinary course of business, and
- any indebtedness that expressly provides that the indebtedness shall not be senior in right of payment to, or is on the same basis with, or is subordinated or junior to, the debentures.

"indebtedness" means:

(1) all obligations:

- for borrowed money,
- evidenced by a note, debenture, bond or other written instrument,
- under a lease required to be capitalized on the balance sheet of the lessee under generally accepted accounting principles,
- under any lease or related document, including a purchase agreement, that provides that we are contractually obligated to purchase or cause a third party to purchase and thereby guarantee a minimum residual value of the lease property to the lessor and our obligations under this lease or related document to purchase or to cause a third party to purchase such leased property,
- letters of credit, bank guarantees or bankers' acceptances, including reimbursement obligations,
- indebtedness secured by a mortgage, pledge, lien, encumbrance, charge or adverse claim affecting title in an encumbrance to which the property or assets of the person are subject,
- the balance of deferred and unpaid purchase price of any property or assets,
- under interest rate or currency swap agreements, cap, floor and collar agreements, spot and forward contracts and similar agreements and arrangements;

(2) any obligation of others of the type described in the preceding section (1) or under section (3) below assumed by or guaranteed or in effect guaranteed through an agreement to purchase; and

(3) any deferrals, renewals or amendments or modifications of section (1) and section (2) above.

"designated senior indebtedness" means any particular senior indebtedness that expressly provides that such senior indebtedness shall be designated senior indebtedness for purposes of the indenture.

If the trustee or any holder of debentures receives any payment or distribution of our assets of any kind in contravention of the indenture, then this payment or distribution will be held by the recipient in trust for the benefit of the holders of senior indebtedness and will be immediately paid over or delivered to the holders of senior indebtedness or their representatives.

The debentures are our exclusive obligations. The payment of dividends and the making of loans and advances to us by any subsidiaries we may have may be subject to statutory or contractual restrictions, will depend upon the earnings of those subsidiaries and are subject to various business considerations.

Our right to receive assets of any of our subsidiaries upon their liquidation or reorganization (and the consequent right of the holders of the debentures to participate in those assets) is effectively subordinated to the claims of that subsidiary's creditors (including trade creditors), except to the extent that we are recognized as a creditor of that subsidiary, in which case our claims would still be subordinate to any security interests in the assets of that subsidiary and any indebtedness of that subsidiary senior to that held by us.

As of June 30, 2004, we had approximately $2.2 million of indebtedness outstanding that would have constituted senior indebtedness, and approximately $4.6 million of indebtedness and other liabilities outstanding to which the notes would have been effectively subordinated (including trade and other payables, but excluding intercompany liabilities). The indenture will not limit the amount of additional indebtedness, including senior

indebtedness, which we can create, incur, assume or guarantee, nor will the indenture limit the amount of indebtedness or other liabilities that any subsidiary can create, incur, assume or guarantee.

Optional Redemption

On or after , 2007, we may redeem the debentures, in whole or in part, at our option, at the redemption prices listed below. The redemption prices, expressed as a percentage of the principal amount, are as follows for the 12-month periods beginning of the following years, beginning , 2007 and ending on , 2008 in the case of the first period.

YEAR	REDEMPTION PRICE
2007	$
2008	
2009	
2010	
2011	
2012	
2013	

and 100% at , 2014 and thereafter. In each case we will pay accrued interest to, but excluding, the redemption date. If the redemption date is an interest payment date, we will pay interest to the record holders as of the relevant record date. We are required to give notice not more than 60 and not less than 20 days before the redemption date.

If fewer than all the debentures are to be redeemed, the trustee will select the debentures to be redeemed in principal amounts of $1,000 or multiples of 1,000 by lot or, in its discretion, on a pro rata basis.

No sinking fund is provided for the debentures, which means that we are not required under the indenture to redeem or retire the debentures periodically.

Events of Default and Remedies

The following events are “events of default” under the indenture:

- we fail to pay the principal or premium, if any, on the debentures when due, whether or not prohibited by the subordination provisions of the indenture;
- we fail to pay interest on the debentures when due and this failure continues for 30 days, whether or not prohibited by the subordination provisions of the indenture;
- we fail to perform any covenant in the indenture and this failure continues for 45 days after notice is given in accordance with the indenture;
- we fail to pay at maturity, including any applicable grace period, an amount of indebtedness in excess of $5.0 million and this failure continues for 30 days after notice given in accordance with the indenture;
- a default by us on any indebtedness that results in the acceleration of indebtedness in an amount in excess of $5.0 million, without the indebtedness being discharged or the acceleration being rescinded or annulled for 30 days after notice given in accordance with the indenture; or
- events involving our bankruptcy, insolvency or reorganization, as described in the indenture.

The trustee is required to give notice to holders of all uncured defaults known to the trustee within 90 days after the occurrence of the default. However, the trustee may withhold this notice if it determines in good faith that it is in the best interest of the holders, except notice of:

- a default in the payment of the principal or premium, if any, or interest on the debentures, or
- a default in the payment of any redemption obligation.

If an event of default has occurred and is continuing, the trustee or the holders of not less than 25% in aggregate principal amount of outstanding debentures may declare the principal and premium, if any, on the debentures and accrued interest on the debentures to be immediately due and payable. However, if we cure all defaults, except payment defaults on the debentures as a result of the acceleration, and we meet certain conditions, this acceleration declaration may be canceled and past defaults may be waived by the holders of a majority in principal amount of outstanding debentures. If an event of default resulting from events of bankruptcy, insolvency or reorganization were to occur, all unpaid principal and accrued interest on outstanding debentures will become due and payable immediately without any declaration or other act on the part of the trustee or any holders of debentures, subject to certain limitations.

Holders of a majority in principal amount of the outstanding debentures may, subject to certain limitations, direct the time, method and place of conducting any proceeding for any remedy available to the trustee or exercising any trust or power conferred on the trustee. The trustee shall be entitled to receive from holders reasonable security or indemnity against any costs, expenses and liabilities incurred by the trustee. Before you may institute a proceeding which respect to the indenture, each of the following must occur:

- you must have given the trustee written notice of a continuing event of default;
- the holders of at least 25% of the aggregate principal amount of all outstanding debentures must make a written request of the trustee to take action because of the default;
- holders must have offered reasonable indemnification to the trustee against the cost, expenses and liabilities of taking action;
- the trustee must not have received from the holders of a majority in aggregate principal amount of the outstanding debentures a direction inconsistent with the written request; and
- the trustee must not have taken action for 60 days after the receipt of such notice and offer of indemnification.

These limitations do not apply to a suit for the enforcement of payment of the principal of or any premium or interest on a debenture or the right to convert the debenture in accordance with the indenture.

Generally, the holders of not less than a majority of the aggregate principal amount of outstanding debentures may waive any default or event of default, except if:

- we fail to pay principal, premium or interest on any debenture when due;
- we fail to convert any debenture into common stock; or
- we fail to comply with any of the provisions of the indenture that would require the consent of the holder of each outstanding debenture affected.

We will send the trustee annually a statement as to whether we are in default and the nature of any default under the indenture.

Limitation on Merger, Sale or Consolidation

We may not consolidate with or merge with or into another person or sell, lease, convey or transfer all or substantially all of our assets on a consolidated basis, whether in a single or series of related transactions, to another person or group of affiliated persons, unless:

- either (A) we are the surviving entity or (B) the resulting entity is a U.S. corporation, and expressly assumes in writing all of our obligations under the debentures and the indenture;
- no default or event of default exists or shall occur immediately after giving effect to the transaction; and
- other conditions specified in the indenture are satisfied.

Modifications of the Indenture

The consent of the holders of a majority in principal amount of outstanding debentures at the time is required to modify or amend the indenture or any supplemental indenture. However, a modification or amendment would require the consent of the holder of each outstanding debenture affected if it would:

- extend the fixed maturity of any debenture;
- reduce the rate or extend the time for payment of interest on any debenture;
- reduce the principal amount or any premium of any debenture;
- reduce any amount payable upon redemption of any debenture;
- impair or adversely affect a holder's right to institute suit for the payment on any debenture;
- change the currency in which the debentures are payable;
- impair or adversely change the right to convert the debentures;
- adversely modify the subordination provisions of the debentures; or
- reduce the percentage required to consent to modifications and amendments.

Taxation of Debentures

You should read the section entitled "Material Federal Income Tax Consequences" below for a discussion of the U.S. federal income tax consequences that may apply to you as a debenture holder.

Governing Law

The indenture and the debentures will be governed by the laws of the State of New York.

Listing of Debentures

It is a condition to our ability to exchange the convertible preferred stock for debentures that the debentures be listed on one of the following markets: the Nasdaq National Market, Nasdaq SmallCap Market, American Stock Exchange, New York Stock Exchange or another national securities exchange.

Concerning the Trustee

We have accepted U.S. Bank National Association as the trustee, initial paying agent, conversion agent, registrar and custodian for the debentures. We may maintain deposit accounts and conduct other banking transactions with the trustee or its affiliates in the ordinary course of business. In addition, the trustee and its affiliates may in the future provide banking and other services to us in the ordinary course of their business. If there is an event of default under the indenture, the trustee will:

- exercise the rights and powers given to the trustee under the indenture and
- use the same degree and care and skill in its exercise as a prudent person would exercise under the circumstances in the conduct of the person's own affairs.

If the trustee becomes one of our creditors, the indenture and the Trust Indenture Act of 1939 may limit the trustee from obtaining payment of claims in certain cases or realizing on certain property received by the trustee.

DESCRIPTION OF OUR OTHER CAPITAL STOCK

General

Upon the closing of this offering our authorized capital stock will consist of 100,000,000 shares of common stock, par value $0.001 per share, and 5,000,000 shares of preferred stock, par value $0.001 per share. The rights and preferences of the preferred stock other than the convertible preferred stock offered by this prospectus, may thereafter be established from time to time by our board of directors. As of September 27, 2004, 14,826,970 shares of common stock were issued and outstanding and no shares of preferred stock were outstanding. As of September 27, 2004, we had 124 common stockholders of record.

The description below gives effect to the filing of the certificate of designations amending our certificate of incorporation to create the convertible preferred stock, a copy of which is filed as an exhibit to the registration statement of which this prospectus is a part.

Common Stock

Each holder of common stock is entitled to one vote for each share on all matters to be voted upon by the stockholders, and there are no cumulative voting rights. Subject to preferences to which holders of preferred stock issued after the sale of the common stock being offered may be entitled, holders of common stock are entitled to receive ratably those dividends, if any, that may be declared from time to time by our board of directors out of funds legally available for the payment of dividends. In the event of a liquidation, dissolution or winding up of us, holders of our common stock would be entitled to share in our assets remaining after the payment of liabilities and the satisfaction of any liquidation preference that may be granted to holders of any outstanding shares of preferred stock. Holders of our common stock have no preemptive or conversion rights or other subscription rights, and there are no redemption or sinking fund provisions applicable to our common stock. All outstanding shares of common stock are, and the shares of common stock offered by us in this offering, when issued and paid for, will be, fully paid and nonassessable. The rights, preferences and privileges of the holders of common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock which we may designate in the future.

Preferred Stock

The convertible preferred stock is described under the heading “Description of Convertible Exchangeable Preferred Stock.”

Upon the closing of this offering, our board of directors will be authorized, subject to any limitations prescribed by law, without stockholder approval, to issue from time to time up to an aggregate of 3,275,000 shares of preferred stock in one or more series. Each series of preferred stock will have the rights and preferences, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences, as our board of directors determines. The issuance of preferred stock could adversely affect the voting power of holders of our common stock and the likelihood that holders of our common stock will receive dividend payments and payments upon liquidation. In addition, the issuance of preferred stock could have the effect of making it more difficult for a third party to acquire, or of discouraging a third party from attempting to acquire, a majority of our outstanding voting stock. We have no present plans to issue any shares of preferred stock.

Warrants

As of September 27, 2004 we had outstanding warrants that expire between July 2006 and February 2009 to purchase at a weighted average exercise price of $7.94 per share an aggregate of 46,607 shares of common stock.

Registration Rights

We and certain of our existing stockholders and warrantholders entered into an investor rights agreement, dated May 25, 2000, as amended on August 8, 2000, October 18, 2000, November 13, 2001, February 5, 2002, May 22,

2002 and October 9, 2003. This investors rights agreement provides these holders with customary demand and piggyback registration rights with respect to the shares of common stock held by them and common stock to issuable pursuant to warrants held by them.

Demand Registration

According to the terms of the investor rights agreement, the holders of 8,992,108 shares of our common stock or warrants to purchase shares of our common stock have the right to require us to register their shares with the SEC for resale to the public. To demand such a registration, holders who hold together an aggregate of at least 50% of the shares having registration rights must request a registration statement to register shares for an aggregate offering price of at least $10 million, net of underwriting discounts and commissions. We are not required to effect more than two demand registrations. We have currently not effected, or received a request for, any demand registrations. We may defer the filing of a demand registration statement for a period of up to 90 days once in any 12-month period.

Piggyback Registration

If we file a registration statement for a public offering of any of our securities solely for cash, other than a registration statement relating solely to our stock plans, the holders of demand registration rights will have the right to include their shares in the registration statement.

Form S-3 Registration

At any time after we become eligible to file a registration statement on Form S-3, holders of shares of common stock having demand and piggyback registration rights may require us to file a Form S-3 registration statement. We are obligated to file only one Form S-3 registration statement in any six-month period. Furthermore, the aggregate offering proceeds of the requested Form S-3 registration, before deducting underwriting discounts and expenses, must be at least $500,000. We may defer one registration request for 120 days in any 12-month period.

These registration rights are subject to certain conditions and limitations, including the right of the underwriters of an offering to limit the number of shares of common stock to be included in the registration. We are generally required to bear the expenses of all registrations, except underwriting discounts and commissions. However, we will not pay for any expenses of any demand registration if the request is subsequently withdrawn by the holders of a majority of the securities to be registered unless such holders forfeit their right to one demand registration. The investors rights agreement also contains our commitment to indemnify the holders of registration rights for losses attributable to statements or omissions by us incurred with registrations under the agreement. The registration rights terminate on March 19, 2009, which is five years after the closing of our initial public offering.

Anti-Takeover Effects of Provisions of Our Amended and Restated Certificate of Incorporation and Bylaws and Delaware and Washington Law

Provisions of our amended and restated certificate of incorporation and bylaws may have the effect of making it more difficult for a third party to acquire, or of discouraging a third party from attempting to acquire, control of us. These provisions could limit the price that investors might be willing to pay in the future for shares of our common stock. Our amended and restated bylaws and certificate of incorporation eliminate the right of stockholders to call special meetings of stockholders or to act by written consent without a meeting and require advance notice for stockholder proposals and director nominations, which may preclude stockholders from bringing matters before an annual meeting of stockholders or from making nominations for directors at an annual meeting of stockholders. The authorization of undesignated preferred stock makes it possible for our board of directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to change control of us. These and other provisions may have the effect of deterring hostile takeovers or delaying changes in control of us or our management. In addition, we are subject to Section 203 of the Delaware General Corporation Law, which, subject to certain exceptions, generally prohibits a Delaware corporation from

engaging in any business combination with any interested stockholder for a period of three years following the time that such stockholder became an interested stockholder, unless:

- prior to the business combination, our board of directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of our voting stock outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding (but not the shares owned by the interested stockholder):
  - shares owned by persons who are directors and also officers; and
  - shares owned by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- at or after the time of the business combination, the business combination is:
  - approved by our board of directors; and
  - authorized at an annual or special meeting of our stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of our outstanding voting stock which is not owned by the interested stockholder.

In general, the Delaware General Corporation Law defines an interested stockholder to be an entity or person that beneficially owns 15% or more of the outstanding voting stock of the corporation or any entity or person that is an affiliate or associate of such entity or person.

The Delaware General Corporation Law generally defines business combination to include the following:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, lease, exchange, mortgage, pledge, transfer or other disposition of 10% or more of the assets of the corporation or its majority-owned subsidiary that involves interested stockholder;
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- subject to certain exceptions, any transaction involving the corporation that has the effect of increasing the interested stockholder's proportionate share of the stock of any class or series of the corporation; and
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

The laws of the State of Washington, where our principal executive offices are located, impose restrictions on certain transactions between certain foreign corporations and significant stockholders. Chapter 23B.19 of the Washington Business Corporation Act, or the WBCA, generally prohibits a target corporation, with certain exceptions, from engaging in certain significant business transactions with an acquiring person for a period of five years after the acquiring person first became an acquiring person, unless the transaction or the purchase of shares by the acquiring person is approved by a majority of the members of the target corporation's board of directors prior to the time the acquiring person first became an acquiring person. An acquiring person is generally a person or group of persons who beneficially owns 10% or more of the voting securities of the target corporation. Prohibited transactions include, among other things:

- a merger or consolidation with, disposition of assets to, or issuance or redemption of stock to or from, the acquiring person;

- termination of 5% or more of the employees of the target corporation as a result of the acquiring person's acquisition of 10% or more of the shares of the target corporation; and
- allowing the acquiring person to receive a disproportionate benefit as a stockholder.

After the five-year period, a significant business transaction may take place as long as it complies with certain fair price provisions of the statute. A target corporation includes a foreign corporation if:

- the corporation has a class of voting shares registered pursuant to Sections 12 or 15 of the Securities Exchange Act of 1934, as amended;
- the corporation's principal executive office is located in Washington;
- the corporation has either:
  - more than 10% of its stockholders of record resident in Washington;
  - more than 10% of its shares owned of record by Washington residents; or
  - 1,000 or more stockholders of record resident in Washington;
- a majority of the corporation's employees are Washington residents or more than 1,000 Washington residents are employees of the corporation; and
- a majority of the corporation's tangible assets are located in Washington or the corporation has more than $50 million of tangible assets located in Washington.

Because a corporation may not opt out of this statute, we anticipate this statute will apply to us. Depending on whether we meet the definition of a target corporation, Chapter 23B.19 of the WBCA may have the effect of delaying, deterring or preventing a change in control of us.

Nasdaq National Market Listing

Our common stock has been approved for quotation on the Nasdaq National Market under the symbol "XCYT."

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is American Stock Transfer and Trust Company. Its address is 59 Maiden Lane, New York, NY 10038, and its telephone number is (212) 936-5100.

MATERIAL FEDERAL INCOME TAX CONSEQUENCES

The following summary of the material federal income tax consequences of acquiring, owning and disposing of the convertible preferred stock, the debentures and the common stock is based on the Internal Revenue Code of 1986, as amended (the "Code"), Treasury regulations, court decisions, and Internal Revenue Service ("IRS") rulings and pronouncements now in effect, all of which are subject to differing interpretations and which are subject to change, possibly on a retroactive basis.

This summary assumes that the convertible preferred stock is acquired at its original offering at its original issue price and that the convertible preferred stock, the debentures and the common stock are held as capital assets, within the meaning of section 1221 of the Code. This summary does not address all of the tax consequences that may be relevant to particular holders in light of their personal circumstances, or to certain types of holders (such as banks, financial institutions, dealers in securities or commodities, traders in securities that elect to use a mark to market method of accounting for their holdings, insurance companies, regulated investment companies, personal holding companies, corporations subject to the alternative minimum tax, tax-exempt organizations, pension funds, certain U.S. expatriates, partnerships or other entities classified as partnerships for U.S. federal income tax purposes, certain hybrid entities and their owners, U.S. holders who have a "functional currency" other than the U.S. dollar, persons who own 10% or more of our voting stock, or persons who hold the convertible preferred stock, debentures or common stock as positions in a "straddle" or as part of a "hedging," "conversion" or "constructive sale" transaction for United States federal income tax purposes). Also not addressed are the consequences under estate, state, local and foreign tax laws or the tax consequences to subsequent holders of the convertible preferred stock, debentures or common stock.

We have not sought and will not seek any rulings from the IRS concerning the tax consequences of the acquisition, ownership or disposition of the convertible preferred stock, the debentures or the common stock. Accordingly, the IRS may successfully challenge the tax consequences described below. Prospective purchasers are advised to consult their own tax advisors regarding the tax consequences of acquiring, holding, or disposing of the convertible preferred stock, debentures or common stock in light of their own investment circumstances.

Characterization of Convertible Preferred Stock and Debentures

Under section 385(c) of the Code, our characterization of the convertible preferred stock as "stock" and the debentures as "debt" is binding upon us and all holders of the convertible preferred stock and the debentures, other than holders who disclose on their tax returns that they are treating the convertible preferred stock and/or the debentures in a manner inconsistent with such characterization. Although our characterization of the convertible preferred stock and the debentures is not binding upon the IRS or any court, this summary assumes that the convertible preferred stock and the debentures will be treated in a manner consistent with our characterization. Holders should be aware that if the convertible preferred stock is treated as "debt" for federal income tax purposes, the tax consequences of acquiring, holding and disposing of the convertible preferred stock will differ materially from the tax consequences described in this prospectus. Similarly, if the debentures are treated as "stock" for federal income tax purposes, the tax consequences of acquiring, holding and disposing of the debentures will differ materially from the tax consequences described in this prospectus.

Distributions on Convertible Preferred Stock and Common Stock

Distributions with respect to the convertible preferred stock and common stock will constitute dividends, to the extent that we have current or accumulated earnings and profits for federal income tax purposes as of the end of the tax year of the distribution. Dividends paid to non-corporate U.S. holders in taxable years beginning prior to January 1, 2009, will be subject to tax as net capital gain at the maximum rate of 15% if the holder has held the shares of stock for more than 60 days during the 120-day period beginning 60 days before the ex-dividend date and other requirements applicable to "qualified dividend income" are satisfied. Dividends paid to corporations will generally be eligible for the 70% dividends-received deduction under section 243 of the Code, subject to the limitations contained in sections 246 and 246A of the Code.

In general, the dividends-received deduction is available only if the stock in respect of which a dividend is paid has been held for at least 46 days during the 90-day period beginning on the date which is 45 days before the ex-dividend date, or at least 91 days during the 180-day period beginning on the date which is 90 days before the ex-dividend date in the case of a dividend paid with respect to preferred stock and which is attributable to a period or periods aggregating more than 366 days. A taxpayer's holding period for these purposes is reduced by periods during which the taxpayer's risk of loss with respect to the stock is considered diminished by reason of the existence of options, contracts to sell or other similar transactions. The dividends-received deduction will not be available to the extent that the taxpayer is under an obligation to make related payments with respect to positions in substantially similar or related property. The dividends-received deduction is limited to specified percentages of the holder's taxable income and may be reduced or eliminated if the holder has indebtedness "directly attributable to [its] investment" in the stock. Prospective corporate purchasers of convertible preferred stock should consult their own tax advisors to determine whether these limitations might apply to them. No assurance can be given that we will have sufficient earnings and profits for federal income tax purposes to cause all or even any distributions from Xcyte to be taxable as dividends. As a result, no assurance can be given that any distribution on the convertible preferred stock or common stock will be treated as a dividend for which the dividends-received deduction will be available.

If distributions with respect to the convertible preferred stock or common stock exceed our current and accumulated earnings and profits, the excess will be applied against and reduce the holder's basis in the convertible preferred stock or common stock, as applicable. Any amount in excess of the amount of the dividend and the amount applied against basis will be treated as capital gain.

Extraordinary Dividends

If a corporate holder of convertible preferred or common stock receives an "extraordinary dividend" from Xcyte with respect to stock which it has not held for more than two years before the dividend announcement date, the basis of the stock will be reduced (but not below zero) by the portion of the dividend which is not taxable because of the dividends-received deduction. If, because of the limitation on reducing basis below zero, any amount of the non-taxable portion of an extraordinary dividend has not been applied to reduce basis, such amount will be treated as gain from the sale or exchange of stock in the taxable year in which the extraordinary dividend is received. An "extraordinary dividend" on the convertible preferred or common stock would include a dividend that (i) equals or exceeds 5%, in the case of the convertible preferred stock, or 10%, in the case of the common stock, of the holder's adjusted basis in the stock, treating all dividends having ex-dividend dates within an 85-day period as one dividend, or (ii) exceeds 20% of the holder's adjusted basis in the stock, treating all dividends having ex-dividend dates within a 365-day period as one dividend. A holder may elect to use the fair market value of the stock rather than its adjusted basis for purposes of applying the 5%, 10% or 20% limitation if the holder is able to establish such fair market value to the satisfaction of the IRS. An "extraordinary dividend" also includes any amount treated as a dividend in the case of a redemption of the convertible preferred stock or common stock that is not pro rata to all shareholders, irrespective of the holder's holding period of the stock.

Special rules apply with respect to "qualified preferred dividends." A qualified preferred dividend is any fixed dividend payable with respect to stock which (i) provides for fixed preferred dividends payable no less often than annually and (ii) is not in arrears as to dividends when acquired, provided the actual rate of return on such stock does not exceed 15%. For this purpose, the actual rate of return is determined solely by taking into account dividends during such holding period and by using the lesser of the adjusted basis or the liquidation preference in respect of such preferred stock. Where a qualified preferred dividend exceeds the 5% or 20% limitation described above, the extraordinary dividend rules will not apply if the taxpayer holds the stock for more than five years. If the taxpayer disposes of the stock before it has been held for more than five years, the aggregate reduction in basis will not exceed the excess of the qualified preferred dividends paid on such stock during the period held by the taxpayer over the qualified preferred dividends that would have been paid during such period on the basis of the stated rate of return as determined under section 1059(e)(3) of the Code. The length of time that a taxpayer is deemed to have held stock for this purpose is determined under principles similar to those applicable for purposes of the dividends-received deduction discussed above.

Any loss on the sale or exchange of stock with respect to which an individual holder receives an extraordinary dividend that is also qualified dividend income (see "Distributions on Convertible Preferred Stock and Common Stock" above) will be treated as long-term capital loss to the extent of the dividend. The deductibility of capital losses is limited.

Redemption Premium

If (i) preferred stock is, like the convertible preferred stock, redeemable only at the issuer's option, (ii) the facts and circumstances on the issue date indicate that redemption is more likely than not to occur, and (iii) the redemption price of the preferred stock as of the most likely redemption date exceeds the issue price (so that there is a "redemption premium"), then the redemption premium may be taxable as a constructive dividend to the extent of the issuing corporation's current or accumulated earnings and profits over the period from issuance to the most likely redemption date. If a redemption premium is subject to the foregoing treatment, a holder of the convertible preferred stock would take the amount of the premium into income under an economic accrual method similar to the method described under "Original Issue Discount and Premiums on Debentures," below. Under applicable Treasury regulations, a redemption premium is not subject to the foregoing treatment if it will be paid "as a result of changes in economic or market conditions over which neither the issuer nor the holder has legal or practical control" and is "solely in the nature of a penalty for premature redemption." The Treasury regulations also provide a "safe harbor," pursuant to which a redemption will not be treated as more likely than not to occur, as to a given holder, if: (x) the issuer and the holder are not "related" under certain tests prescribed by the Code, (y) the issuer is not effectively required or compelled by any plan, arrangement, or agreement to redeem the stock, and (z) redemption would not reduce the yield of the stock. Because the foregoing tests are based upon an evaluation of all facts and circumstances surrounding the issuance and redemption of preferred stock, the conclusion cannot be entirely certain; however, it is Xcyte's belief that no part of the premium payable upon redemption of the convertible preferred stock will be treated as a constructive dividend to the holders of the convertible preferred stock. It is also possible that upon an actual redemption, the redemption premium would, together with the other redemption proceeds, be treated as a dividend for federal income tax purposes. See "Redemption of Convertible Preferred Stock for Cash," below.

Redemption of Convertible Preferred Stock For Cash

A redemption of shares of convertible preferred stock by Xcyte for cash will be treated as a distribution taxable as a dividend (and, possibly, an "extraordinary dividend") (see "Distributions on Convertible Preferred Stock and Common Stock" and "Extraordinary Dividends," above) to redeeming shareholders to the extent of Xcyte's current or accumulated earnings and profits unless the redemption:

- results in a complete termination of the shareholder's interest in Xcyte (within the meaning of section 302(b)(3) of the Code);
- is "substantially disproportionate" (within the meaning of section 302(b)(2) of the Code) with respect to the holder; or
- is "not essentially equivalent to a dividend" (within the meaning of section 302(b)(1) of the Code).

In determining whether any of these tests has been met, shares considered to be owned by the holder by reason of the constructive ownership rules set forth in section 318 of the Code, as well as shares actually owned, will be taken into account. If any of the foregoing tests is met, the redemption of shares of convertible preferred stock for cash will result in taxable gain or loss equal to the difference between the amount of cash received (except cash attributable to accrued, unpaid, declared dividends, which will be taxable as a dividend described above), and the holder's basis in the redeemed shares. Any such gain or loss will be capital gain or loss and will be long-term capital gain or loss if the holding period exceeds one year. Long-term capital gains are taxable at a maximum rate of 15% in the case of individuals and 35% in the case of corporations. The deductibility of capital losses is subject to limitations.

Exchange For Debentures

An exchange of shares of convertible preferred stock for debentures will also be subject to the rules of section 302 of the Code described in "Redemption of Convertible Preferred Stock For Cash" above. Since a holder of debentures will be treated under the constructive ownership rules as owning the common stock into which the debentures are convertible, the exchange would not by itself satisfy the "complete termination" test or the "substantially disproportionate" test described above. The "not essentially equivalent to a dividend" test could be met only if the exchange were regarded as resulting in a meaningful reduction in the holder's proportionate interest in Xcyte. If none of these tests is met, the fair market value of the debentures received upon the exchange will be taxable as a dividend (and, in the case of a corporate holder, as an "extraordinary dividend"—see above) to the extent of Xcyte's current or accumulated earnings and profits and then would be treated as a return of capital to the extent of the holder's basis in the convertible preferred stock. If the fair market value of the debentures exceeds the amounts treated as a dividend and as a return of capital, any such excess would be treated as capital gain.

In the event that receipt of the debentures is taxable as a dividend, the basis of the debentures will be equal to their fair market value as of the date of the exchange. If the holder retains any stock in Xcyte, the remaining basis in the convertible preferred stock will be transferred to such retained stock. If the holder retains no stock in Xcyte, it is unclear whether the remaining basis in the convertible preferred stock would be transferred to the debentures or would be lost. Under Proposed Treasury regulations, the remaining basis would be treated as a loss recognized on a disposition of the redeemed stock on the date of the redemption, which loss might be taken into account at a later date. These proposed Treasury regulations would only apply to transactions occurring after the date these regulations are finalized and published. For purposes of determining the recognition of gain under the extraordinary dividend basis reduction rules described above, only the basis of the shares of convertible preferred stock exchanged for the debentures would be taken into account.

Prospective purchasers should consult their own tax advisors regarding satisfaction of the section 302 tests in their particular circumstances, including the possibility that a sale of a part of the holder's convertible preferred stock or the debentures received might be regarded as reducing the holder's interest in Xcyte, thereby satisfying one of the tests of section 302(b); in such a case, the shareholder would recognize capital gain or loss on the exchange. For purposes of determining gain or loss, the amount realized by a shareholder would be the issue price of the debentures received (see "Original Issue Discount and Premium on Debentures"). Any such gain or loss will be capital gain or loss and will be long-term capital gain or loss if the holding period exceeds one year. Long-term capital gains are taxable at a maximum rate of 15% in the case of individuals and 35% in the case of corporations. The deductibility of capital losses is subject to limitations. The installment method will not be available for reporting such gain in the event that the convertible preferred stock, the debentures, or the common stock into which the debentures are convertible are traded or readily tradable on an established securities market.

Original Issue Discount and Premium On Debentures

Stated interest on the debentures will be includable in income in accordance with the holder's method of accounting. There is also a risk that the debentures will be treated as having original issue discount taxable as interest income as discussed below.

If the convertible preferred stock is exchanged for debentures at a time when the stated redemption price at maturity of the debentures exceeds their issue price by an amount equal to or greater than one-fourth of one percent of the stated redemption price at maturity multiplied by the number of complete years to maturity, the debentures will be treated as having original issue discount equal to the entire amount of such excess.

Whether or not the exchange of the convertible preferred stock for debentures is treated as a dividend under the section 302 tests, the issue price of the debentures will depend upon whether the convertible preferred stock or the debentures are or will be traded on an established securities market. If the debentures are listed on an exchange or are otherwise considered, under Treasury regulations issued under section 1273 of the Code, to be

traded on an established securities market at any time during the 60-day period ending 30 days after the date of the exchange, the issue price of the debentures will be their fair market value as determined as of the date of the exchange. If the debentures are not listed on an exchange or otherwise considered to be traded on an established securities market within such time period, but the convertible preferred stock is so listed or traded, the issue price of the debentures will be the fair market value of the convertible preferred stock as of the date of the exchange. If neither the convertible preferred stock nor the debentures are listed on an exchange or otherwise considered to be traded on an established securities market within the requisite time period, the issue price of the debentures will be their stated principal amount, assuming that the debentures bear "adequate stated interest" within the meaning of section 1274 of the Code. If the debentures do not bear adequate stated interest, the issue price will be equal to their "imputed principal amount" as determined under section 1274 of the Code.

A holder of a debenture would generally be required to include in gross income (irrespective of the holder's method of accounting) a portion of the original issue discount for each year during which it holds the debenture even though the cash to which such income is attributable would not be received until maturity or redemption of the debenture. The amount of any original issue discount included in income for each year would be calculated under a constant yield to maturity formula that would result in the allocation of less original issue discount to the early years of the term of the debenture and more original issue discount to later years.

If the convertible preferred stock is exchanged for debentures whose issue price exceeds the amount payable at maturity (or earlier call date, if appropriate), such excess (excluding the amount thereof attributable to the conversion feature) will be deductible by the holder of the debentures as amortizable bond premium over the term of the debentures (taking into account earlier call dates, as appropriate), under a yield to maturity formula, if an election by the taxpayer under section 171 of the Code is in effect or is made. Such election would apply to all obligations owned or subsequently acquired by the taxpayer during or after the taxable year in which the election is made. The amortizable bond premium will be treated as an offset to stated interest on the debentures to the extent thereof and any excess will be allowable as a deduction subject to the following limitation. The amount of any amortized bond premium deduction will be limited to the excess of the holder's interest income inclusions on the debenture in prior accrual periods over bond premium deductions allowed the holder in such prior periods, and any amount in excess of such limitation will be carried forward as additional bond premium in the next accrual period.

If the exchange of the convertible preferred stock for debentures is treated as a dividend under the section 302 tests, the basis of the debentures will equal their fair market value as of the date of the exchange. If this basis is less than its stated redemption price at maturity, it would appear that a holder will recognize capital gain upon satisfaction of the debenture at maturity. If the basis of a debenture exceeds the amounts payable at maturity, a holder should be able to elect to amortize bond premium under the rules discussed above.

Redemption or Sale of Debentures

Generally a redemption or sale of the debentures will result in taxable gain or loss equal to the difference between the amount of cash and fair market value of other property received and the holder's basis in the debentures. To the extent that the amount received is attributable to accrued interest, however, that amount will be taxed as ordinary income. The basis of a holder who received the debentures in exchange for shares of convertible preferred stock will generally be equal to the fair market value of the debentures at the time of exchange plus any original issue discount included in the holder's income or minus any premium previously allowed as an offset to interest income on the debentures. Such gain or loss will be capital gain or loss and will be long-term gain or loss if the holding period for the debentures exceeds one year. Long-term capital gains are taxable at a maximum rate of 15% in the case of individuals and 35% in the case of corporations. The deductibility of capital losses is subject to limitations.

If the debentures are issued with original issue discount and Xcyte were found to have had an intention at the time the debentures were issued to call them before maturity, any gain realized on a sale, exchange or redemption of debentures prior to the maturity would be considered ordinary income to the extent of any unamortized

original issue discount for the period remaining to the stated maturity of the debentures. Xcyte cannot predict whether it would have an intention, when and if the debentures are issued, to call the debentures before their maturity.

Conversion of Convertible Preferred Stock or Debentures Into Common Stock

No gain or loss will generally be recognized upon conversion of shares of convertible preferred stock or debentures into shares of common stock, except that (i) gain or loss will be recognized to the extent of the difference between the cash paid in lieu of fractional shares of common stock and the basis of the convertible preferred stock or debentures allocable to such fractional shares, (ii) ordinary income will be recognized on the conversion of debentures to the extent of the shares of common stock attributable to accrued interest, (iii) additional payments made as dividend make-whole payments on conversion of convertible preferred stock prior to , 2007, will be treated as distributions taxable as dividends, return of capital or capital gain in the amount of the cash and/or the fair market value of the common stock (measured on the date of distribution) constituting such additional payments (see "Distributions on Convertible Preferred Stock and Common Stock" and "Extraordinary Dividends," above), (iv) additional payments made as interest make-whole payments on conversion of debentures prior to , 2007, will be treated as payments of additional interest taxable as ordinary income when received and (v), if the conversion of convertible preferred stock takes place when there is a dividend arrearage on the convertible preferred stock and the fair market value of the common stock exceeds the issue price of the convertible preferred stock, a portion of the common stock received might be taxable as a dividend, return of capital or capital gain (see "Distributions on Convertible Preferred Stock and Common Stock" and "Extraordinary Dividends," above). Assuming the conversion is not treated as resulting in the payment of a dividend, the basis of the common stock received upon conversion will be equal to the basis of the shares of convertible preferred stock or the debentures converted (less the amount of basis allocable to any fractional share of common stock for which cash is received), and the holding period of the common stock will include the holding period of the shares of convertible preferred stock or the debentures converted. The basis of any common stock treated as a dividend will be equal to its fair market value on the date of the distribution and its holding period will begin on the day after the conversion.

Adjustment of Conversion Price

Holders of convertible preferred stock, debentures or common stock may be deemed to have received constructive distributions where the conversion ratio or conversion price is adjusted to reflect property distributions with respect to common stock into which such convertible preferred stock or debentures are convertible. Adjustments to the conversion ratio or conversion price made pursuant to a bona fide reasonable adjustment formula which has the effect of preventing the dilution of the interest of the holders of the convertible preferred stock or debentures, however, will generally not be considered to result in a constructive distribution of stock. Certain of the possible adjustments provided in the convertible preferred stock and the debentures may not qualify as being pursuant to a bona fide reasonable adjustment formula. If such adjustments were made, the holders of convertible preferred stock or debentures might be deemed to have received constructive distributions taxable as a dividend, return of capital or capital gain in accordance with the general rules for the income tax treatment of distributions discussed above in "Distributions on Convertible Preferred Stock and Common Stock" and "Extraordinary Dividends."

Backup Withholding

Under the backup withholding provisions of the Code and applicable Treasury regulations, a holder of convertible preferred stock, debentures or common stock may be subject to backup withholding at the rate of 28% with respect to dividends or interest (including original issue discount) paid on, or the proceeds of a sale, exchange or redemption of convertible preferred stock, debentures or common stock, unless (i) such holder is a corporation or comes within certain other exempt categories and when required demonstrates this fact or (ii) provides a taxpayer identification number, certifies as to no loss of exemption from backup withholding for interest and dividends and otherwise complies with applicable requirements of the backup withholding rules. The

amount of any backup withholding from a payment to a holder will be allowed as a credit against the holder's federal income tax liability and may entitle such holder to a refund, provided that the required information is timely furnished to the IRS.

Special Tax Rules Applicable to Foreign Holders

For purposes of the following discussion, a "Foreign Holder" is any holder who is not (i) a citizen or resident of the United States, (ii) a corporation or partnership (including any entity treated as a corporation or partnership for U.S. federal income tax purposes) created or organized in or under the laws of the United States, any State or any political subdivision thereof, (iii) an estate the income of which is subject to United States federal income taxation regardless of source, or (iv) a trust if such trust elects to be treated as a U.S. person for U.S. federal income tax purposes, or a trust (A) over the administration of which a court within the United States is able to exercise primary supervision and (B) all substantial decisions of which one or more United States persons have the authority to control.

Income received by a Foreign Holder in the form of dividends on convertible preferred stock or common stock or interest and original issue discount on the debentures will be subject to a United States federal withholding tax at a 30% rate upon the actual payment of the dividends, interest or principal representing original issue discount except as described below and except where an applicable tax treaty provides for the reduction or elimination of such withholding tax. Dividends paid to Foreign Holders outside the United States that are subject to the withholding tax described above will generally be exempt from United States backup withholding tax but will be subject to United States information reporting requirements. Pursuant to a tax treaty or other agreement, this information may also be made available to the tax authorities in the country in which the Foreign Holder resides. A Foreign Holder generally will be taxable in the same manner as a United States person with respect to dividend, interest and original issue discount income if such income is effectively connected with the conduct of a trade or business in the United States, and if provided in a tax treaty, attributable to a permanent establishment in the United States. Such effectively connected income received by a Foreign Holder that is a corporation may in certain circumstances be subject to an additional "branch profits tax" at a 30% rate, or if applicable, a lower treaty rate. In order to claim the benefit of a tax treaty or to claim exemption from withholding because the income is effectively connected with the conduct of a trade or business in the U.S., a Foreign Holder must provide a properly executed IRS Form W-8BEN for treaty benefits or W-8ECI for effectively connected income (or such successor form as the IRS designates), prior to the payment of dividends. These forms must be periodically updated. Foreign Holders may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund. If a Foreign Holder holds preferred or common stock through a foreign partnership or a foreign intermediary, the foreign partnership or foreign intermediary will also be required to comply with certain certification requirements. The rules regarding withholding are complex, are subject to change, and vary depending on your particular situation. We suggest that you consult with your tax advisor regarding the application of such rules to your situation.

Payments of interest and principal representing original issue discount on the debentures received by a Foreign Holder will not be subject to United States federal withholding tax provided that (i) the Foreign Holder does not actually or constructively own 10% or more of the total combined voting power of all classes of stock of Xcyte entitled to vote, and (ii) the holder is not a controlled foreign corporation that is related to Xcyte through stock ownership, and in general, either (a) Xcyte or its paying agent can reliably associate the payment with documentation upon which it can rely to treat the payment as made to a foreign beneficial owner under Treasury regulations issued under section 1441 of the Code; (b) Xcyte or its paying agent can reliably associate the payment with a withholding certificate from a person claiming to be a withholding foreign partnership and the foreign partnership can reliably associate the payment with documentation upon which it can rely to treat the payment as made to a foreign beneficial owner in accordance with such Treasury regulations; (c) Xcyte or its paying agent can reliably associate the payment with a withholding certificate from a person representing to be a "qualified intermediary" that has assumed primary withholding responsibility under such Treasury regulations and the qualified intermediary can reliably associate the payment with documentation upon which it can rely to

treat the payment as made to a foreign beneficial owner in accordance with its agreement with the IRS; or (d) Xcyte or its paying agent receives a statement, under penalties of perjury from an authorized representative of a financial institution stating that the financial institution has received from the beneficial owner a withholding certificate described in such Treasury regulations or that it has received from another financial institution a similar statement that it, or another financial institution acting on behalf of the beneficial owner, has received such a withholding certificate from the beneficial owner. In general, it will not be necessary for a Foreign Holder to obtain or furnish a United States taxpayer identification number to Xcyte or its paying agent in order to claim the foregoing exemption from United States withholding tax on payments of interest and original issue discount.

Provided that Xcyte is not, and has not been, a "United States real property holding corporation" within the meaning of section 897(c) of the Code, a Foreign Holder generally will not be subject to United States federal income or withholding tax on gain realized on the sale or exchange of convertible preferred stock, common stock, or debentures unless (i) the holder is an individual who is present in the United States for 183 days or more during the taxable year and as to whom such gain is from United States sources or (ii) the gain is effectively connected with a United States trade or business of the holder, and if required by a tax treaty, attributable to a permanent establishment in the United States. Upon a redemption of the convertible preferred stock for cash or an exchange of convertible preferred stock for debentures, Xcyte may be required to withhold tax on the entire amount of the proceeds at a 30% rate or lower treaty rate applicable to dividends unless a Foreign Holder is able to demonstrate to the satisfaction of Xcyte that such redemption or exchange satisfies the section 302 tests discussed above with respect to such Foreign Holder (see "Redemption of Convertible Preferred Stock for Cash" and "Exchange for Debentures," above). In the case of an exchange of convertible preferred stock for debentures, this would result in a Foreign Holder receiving a reduced principal amount of debentures.

The payment of the proceeds of the sale of convertible preferred stock, common stock or debentures to or through the United States office of a broker will be subject to information reporting and possible backup withholding at a rate of 28% unless the owner certifies its non-United States status under penalties of perjury or otherwise establishes an exemption in accordance with applicable Treasury regulations. The payment of the proceeds of the sale of convertible preferred stock, common stock or debentures to or through the foreign office of a foreign broker generally will not be subject to information reporting or backup withholding. In the case of the payment of proceeds from the disposition of convertible preferred stock, common stock or debentures through a foreign office of a broker that is a United States person or a "United States related person," the applicable Treasury regulations require information reporting, but not backup withholding, on the payment unless the broker has documentary evidence in its files that the owner is a non-United States person and the broker has no actual knowledge to the contrary. For this purpose, a "United States related person" is (i) a
"controlled foreign corporation" for United States federal income tax purposes, (ii) a foreign person 50% or more of whose gross income from all sources for a specified period is derived from activities that are effectively connected with the conduct of a United States trade or business or (iii) a foreign partnership that, at any time during its taxable year, is more than 50% owned by United States persons or is engaged in the conduct of a United States trade or business. Any amounts withheld under the backup withholding rules from a payment to a Foreign Holder will be allowed as a refund or a credit against such Foreign Holder's United States federal income tax, provided that the required information is timely furnished to the IRS.

SHARES ELIGIBLE FOR FUTURE SALE

Based on the number of shares outstanding as of September 27, 2004, we will have approximately 14,826,970 shares of our common stock outstanding and 1,500,000 shares of convertible preferred stock outstanding after the completion of this offering (1,725,000 shares of convertible preferred stock if the underwriters exercise their overallotment option in full). These shares of convertible preferred stock are convertible into shares of our common stock (shares of our common stock if the underwriters exercise their overallotment option in full). Of those shares, the 1,500,000 shares of convertible preferred stock sold in this offering (1,725,000 shares if the underwriters exercise their overallotment option in full) will be freely transferable without restriction, unless purchased by our affiliates. The shares of common stock to be outstanding immediately following the completion of this offering, which are "restricted securities" under Rule 144 of the Securities Act of 1933, or Rule 144, as well as any other shares held by our affiliates, may not be resold except pursuant to an effective registration statement or an applicable exemption from registration, including an exemption under Rule 144.

All of our officers and directors, and certain of our significant stockholders, who in the aggregate hold 5,452,203 shares of our common stock have entered into lock-up agreements pursuant to which they have generally agreed, subject to certain exceptions, not to offer or sell any shares of common stock or securities convertible into or exchangeable or exercisable for shares of common stock for a period of 90 days from the date of this prospectus without the prior written consent of Piper Jaffray & Co. See "Underwriting."

After the offering, the holders of 8,992,108 shares of our common stock and warrants will be entitled to registration rights. For more information on these registration rights, see "Description of Our Other Capital Stock—Registration Rights."

In general, under Rule 144, as currently in effect, an affiliate of ours who beneficially owns shares of our common stock that are not restricted securities, or a person who beneficially owns for more than one year shares of our common stock that are restricted securities, may generally sell, within any three-month period, a number of shares that does not exceed the greater of:

- 1% of the number of shares of our common stock then outstanding, which will equal approximately 148,270 shares immediately after this offering; and
- the average weekly trading volume of our common stock on the Nasdaq National Market during the four preceding weeks.

Sales under Rule 144 are also subject to requirements with respect to manner of sale, notice and the availability of current public information about us. Generally, a person who was not our affiliate at any time during the three months before the sale, and who has beneficially owned shares of our common stock that are restricted securities for at least two years, may sell those shares without regard to the volume limitations, manner of sale restrictions, notice requirements or the requirements with respect to availability of current public information about us.

Generally, an employee, officer, director or consultant who purchased shares of our common stock before March 16, 2004, the effective date of our initial public offering, or who holds options as of that date, pursuant to a written compensatory plan or contract may rely on the resale provisions of Rule 701 under the Securities Act. Under Rule 701, these persons who are not our affiliates may now generally sell their eligible securities without having to comply with the public information, holding period, volume limitation or notice provisions of Rule 144. These persons who are our affiliates may generally sell their eligible securities under Rule 701, without having to comply with Rule 144's one-year holding period restriction but subject to other restrictions of Rule 144.

Neither Rule 144 nor Rule 701 supersedes the contractual obligations of certain of our security holders set forth in the lock-up agreements described above.

The 14,826,970 shares of our common stock that were outstanding on September 27, 2004 are or will become eligible for sale, pursuant to Rule 144 or Rule 701, without registration approximately as follows:

- 9,708,329 shares of common stock are currently eligible for sale in the public market without restriction;
- 3,753,960 shares of common stock are eligible for sale in the public market under Rule 144 or Rule 701, subject to the volume, manner of sale and other limitations under those rules; and
- the remaining 1,364,681 shares of common stock will become eligible under Rule 144 for sale in the public market from time to time upon expiration of their respective holding periods.

The above does not take into consideration the effect of the lock-up agreements described above.

Stock Options

As of September 27, 2004, we have reserved an aggregate of 1,163,636 shares of our common stock for issuance under our 1996 Stock Option Plan, 636,363 shares of our common stock for issuance under our 2003 Stock Plan, 90,909 shares of our common stock for issuance under our 2003 Directors' Stock Option Plan and 109,090 shares of our common stock for issuance under our 2003 Employee Stock Purchase Plan. As of September 27, 2004, we had outstanding options under our 1996 Stock Option Plan to purchase 949,232 shares of our common stock, outstanding options under our 2003 Stock Plan to purchase 44,880 shares of our common stock and outstanding options under our 2003 Directors' Stock Option Plan to purchase 10,000 shares of our common stock. All of these shares are registered on a registration statement under the Securities Act of 1933 on Form S-8. Subject to the lock-up agreements, the restrictions imposed under the 1996 Stock Option Plan, the 2003 Stock Plan, the 2003 Directors' Stock Option Plan, the 2003 Employee Stock Purchase Plan and related option agreements, shares of common stock issued under these plans or agreements will be available for sale in the public market without restriction to the extent that they are held by persons who are not our affiliates.

UNDERWRITING

We are offering the shares of the convertible preferred stock described in this prospectus through the underwriters named below. Piper Jaffray & Co. and JMP Securities LLC are the representatives of the underwriters. We have entered into an underwriting agreement with the representatives. Subject to the terms and conditions of the underwriting agreement, each of the underwriters has severally agreed to purchase the number of shares of convertible preferred stock listed next to its name in the following table:

Underwriters	Number of shares
Piper Jaffray & Co.	
JMP Securities LLC	
Total	

The underwriting agreement provides that the underwriters must buy all of the shares if they buy any of them. However, the underwriters are not required to take or pay for the shares covered by the underwriters' over-allotment option described below.

The convertible preferred stock is offered subject to a number of conditions, including:

- receipt and acceptance of the convertible preferred stock by the underwriters; and
- the underwriters' right to reject orders in whole or in part.

In connection with this offering, certain of the underwriters or securities dealers may distribute prospectuses electronically.

Over-Allotment Option

We have granted the underwriters an option to buy up to an aggregate of 225,000 additional shares of the convertible preferred stock. The underwriters may exercise this option solely for the purpose of covering over-allotments, if any, made in connection with this offering. The underwriters have 30 days from the date of this prospectus to exercise this option. If the underwriters exercise this option, they will each purchase additional shares approximately in proportion to the amounts specified in the table above.

Commissions and Discounts

Shares sold by the underwriters to the public will initially be offered at the offering price set forth on the cover of this prospectus. Any shares sold by the underwriters to securities dealers may be sold at a discount of up to $ per share from the public offering price. Any of these securities dealers may resell any shares purchased from the underwriters to other brokers or dealers at a discount of up to $ per share from the public offering price. If all the shares are not sold at the public offering price, the representatives may change the offering price and the other selling terms. Sales of shares made outside of the United States may be made by affiliates of the underwriters.

The following table shows the per share and total underwriting discounts and commissions we will pay to the underwriters assuming both no exercise and full exercise of the underwriters' option to purchase up to an additional 225,000 shares.

	No exercise	Full exercise
Per share	$	$
Total	$	$

We estimate that the total expenses of this offering payable by us, not including the underwriting discounts and commissions, will be approximately $440,000.

No Sales of Similar Securities

We, our executive officers and directors and certain of our significant stockholders have entered into lock-up agreements with the underwriters. Under these agreements, we and each of these persons generally may not, without the prior written approval of Piper Jaffray & Co., offer, sell, contract to sell or otherwise dispose of directly or indirectly or hedge our common stock or securities convertible into or exchangeable for or exercisable for our common stock, subject to certain exceptions. These restrictions will be in effect for a period of 90 days after the date of this prospectus. At any time and without public notice, Piper Jaffray & Co. may, in its sole discretion, release some or all of the securities from these lock-up agreements.

Indemnification and Contribution

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act. If we are unable to provide this indemnification, we will contribute to payments the underwriters may be required to make in respect of those liabilities.

Nasdaq National Market Quotation

We have applied to have the convertible preferred stock approved for quotation on the Nasdaq National Market under the trading symbol “XCYTP.”

Price Stabilization, Short Positions

In order to facilitate the offering of the preferred stock, the underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of our convertible preferred stock or common stock. Specifically, the underwriters may over-allot in connection with this offering, creating a short position in our preferred stock for their own account. In addition, to cover over-allotments or to stabilize the price of the preferred stock, the underwriters may bid for, and purchase, our convertible preferred stock or common stock in the open market.

The underwriters may close out any short position in our convertible preferred stock or common stock either by exercising their over-allotment option, in whole or in part, or by purchasing our convertible preferred stock or common stock in the open market.

The underwriters may also impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the representatives have repurchased shares of our preferred stock sold by or for the account of that underwriter in stabilizing or short covering transactions.

As a result of these activities, the price of our common and convertible preferred stock may be higher that the price that otherwise might exist in the open market. If these activities are commenced, they may be discontinued by the underwriters at any time. The underwriters may carry out these transactions on the Nasdaq National Market, in the over-the-counter market or otherwise.

Determination of Convertible Preferred Stock Terms

Prior to this offering, there was no public market for the convertible preferred stock. The terms and conditions of the convertible preferred stock, including the dividend rate and the conversion price will be determined by negotiation by us and the representatives of the underwriters. The principal factors to be considered in determining these terms and conditions include:

- the market price of our common stock;
- the information set forth in this prospectus and otherwise available to representatives;
- our history and prospects and the history of, and prospects for, the industry in which we compete;
- our past and present financial performance and an assessment of our management;
- our prospects for future earnings and the present state of our development;
- the general condition of the securities markets at the time of this offering;
- the recent market prices of, and demand for, publicly traded common stock of generally comparable companies; and
- other factors deemed relevant by the underwriters and us.

Affiliations

Certain of the underwriters and their affiliates have in the past provided and may from time to time provide certain commercial banking, financial advisory, investment banking and other services for us for which they were and will be entitled to receive separate fees.

The underwriters and their affiliates may from time to time in the future engage in transactions with us and perform services for us in the ordinary course of their business.

LEGAL MATTERS

The validity of the convertible preferred stock we are offering will be passed upon for us by Heller Ehrman White & McAuliffe LLP, Seattle, Washington. Cooley Godward LLP, Palo Alto, California, is counsel for the underwriters in connection with this offering. As of the date of this prospectus, an investment partnership affiliated with Cooley Godward LLP beneficially owns an aggregate of 4,784 shares of our common stock. Both an investment entity affiliated with Heller Ehrman White & McAuliffe LLP and individual attorneys of Heller Ehrman White & McAuliffe LLP beneficially own an aggregate of 3,209 shares of our common stock.

EXPERTS

The financial statements of Xcyte Therapies, Inc. at December 31, 2002 and 2003, and for each of the three years in the period ended December 31, 2003 and for the period from inception (January 5, 1996) to December 31, 2003, appearing in this prospectus and registration statement have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report thereon (which contains an explanatory paragraph describing conditions that raise substantial doubt about the Company's ability to continue as a going concern as described in Note 1 to the financial statements) appearing elsewhere herein, and are included in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act of 1933 with respect to the shares of convertible preferred stock we are offering. This prospectus does not contain all of the information in the registration statement and the exhibits to the registration statement. For further information with respect to us, our common stock and the convertible preferred stock, we refer you to the registration statement and to the exhibits to the registration statement. Statements contained in this prospectus about the contents of any contract or any other document are not necessarily complete, and, in each instance, we refer you to the copy of the contract or other document filed as an exhibit to the registration statement. Each of these statements is qualified in all respects by this reference.

We file annual, quarterly and special reports, proxy statements and other information with the SEC. You may read and copy any document we file at the SEC's Public Reference Room at 450 Fifth Street, N.W., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the public reference room. The SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC, including Xcyte Therapies, Inc. The SEC's Internet site can be found at *http://www.sec.gov*.

The information and reporting requirements of the Securities Exchange Act of 1934 currently apply to us and will continue to apply to us following this offering. We intend to furnish holders of our common and convertible preferred stock with annual reports containing, among other information, audited financial statements certified by an independent public accounting firm. We intend to furnish other reports as we may determine or as may be required by law.

We maintain an Internet website at www.xcytetherapies.com. We have not incorporated by reference into this prospectus the information on our website, and you should not consider it to be a part of this prospectus.

This prospectus includes statistical data that were obtained from industry publications. These industry publications generally indicate that the authors of these publications have obtained information from sources believed to be reliable but do not guarantee the accuracy and completeness of their information. While we believe these industry publications to be reliable, we have not independently verified their data.

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REPORT OF ERNST & YOUNG LLP, INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors
Xcyte Therapies, Inc.

We have audited the accompanying balance sheets of Xcyte Therapies, Inc. (a development stage company) (the Company) as of December 31, 2002 and 2003, and the related statements of operations, stockholders' deficit and cash flows for each of the three years in the period ended December 31, 2003 and for the period from inception (January 5, 1996) to December 31, 2003. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

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

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Xcyte Therapies, Inc. (a development stage company) at December 31, 2002 and 2003, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2003 and for the period from inception (January 5, 1996) to December 31, 2003, in conformity with U.S. generally accepted accounting principles.

As discussed in Note 1 to the financial statements, the Company's recurring losses from operations and net capital deficiency raise substantial doubt about its ability to continue as a going concern. Management's plans as to these matters are also described in Note 1. The 2003 financial statements do not include any adjustments that might result from the outcome of this uncertainty.

/s/ Ernst & Young LLP

Seattle, Washington
January 23, 2004,
except for the first paragraph of Note 8,
as to which the date is March 4, 2004

XCYTE THERAPIES, INC.
(a development stage company)
BALANCE SHEETS

(in thousands, except share and per share data)	December 31, 2002	December 31, 2003	June 30, 2004 (unaudited)
Assets			
Current assets:			
Cash and cash equivalents	$ 3,728	$ 2,241	$ 8,802
Short-term investments	13,616	11,299	24,928
Prepaid expenses and other current assets	598	519	1,277
Total current assets	17,942	14,059	35,007
Property and equipment, net	2,613	2,767	3,905
Deposits and other assets	879	1,672	948
Total assets	$ 21,434	$ 18,498	$ 39,860
Liabilities and stockholders' equity (deficit)			
Current liabilities:			
Accounts payable	$ 595	$ 954	$ 2,045
Accrued compensation and related benefits	339	405	463
Other accrued liabilities	721	856	640
Current portion of deferred revenue	—	—	47
Convertible promissory notes	—	11,652	—
Current portion of equipment financings	717	845	974
Total current liabilities	2,372	14,712	4,169
Deferred revenue, less current portion	—	—	786
Equipment financings, less current portion	1,052	993	1,220
Other liabilities	462	562	588
Commitments and contingencies			
Redeemable convertible preferred stock, Issued and outstanding—6,773,298 and 6,781,814 shares as of December 31, 2002 and December 31, 2003, respectively; none as of June 30, 2004			
Aggregate preference in liquidation—$76,475 and $76,520 at December 31, 2002 and December 31, 2003, respectively; none as of June 30, 2004	64,540	64,604	—
Redeemable convertible preferred stock warrants	1,133	2,467	—
Stockholders' equity (deficit):			
Preferred stock, $0.001 par value per share			
Authorized—42,000,000 shares (5,000,000 shares as of June 30, 2004)			
Designated redeemable and convertible—41,909,976 shares as of December 31, 2002 and 2003 (none as of June 30, 2004)	—	—	—
Common stock, par value $0.001 per share			
Authorized—70,000,000 shares (100,000,000 shares as of June 30, 2004)			
Issued and outstanding—1,523,867 and 1,546,624 shares as of December 31, 2002 and December 31, 2003, respectively (14,826,573 as of June 30, 2004)	2	2	15
Additional paid-in capital	21,887	24,532	146,511
Deferred stock compensation	(1,880)	(2,774)	(2,404)
Accumulated other comprehensive income (loss)	4	(5)	(60)
Deficit accumulated during the development stage	(68,138)	(86,595)	(110,965)
Total stockholders' equity (deficit)	$(48,125)	$(64,840)	$ 33,097
Total liabilities and stockholders' equity (deficit)	$ 21,434	$ 18,498	$ 39,860

The accompanying notes are an integral part of these financial statements.

XCYTE THERAPIES, INC.
(a development stage company)
STATEMENTS OF OPERATIONS

	Year Ended December 31,			Period from inception (January 5, 1996) to December 31, 2003	Six Months Ended June 30,		Period from inception (January 5, 1996) to June 30, 2004
	2001	2002	2003		2003	2004	
	(in thousands, except share and per share data)				(Unaudited)		(Unaudited)
Revenue:							
License fee	$ —	$ —	$ —	$ 100	$ —	$ 12	$ 112
Collaborative agreement	—	—	170	170	72	24	194
Government grant	30	—	—	144	—	—	144
Total revenue	30	—	170	414	72	36	450
Operating expense:							
Research and development	14,701	14,663	13,685	66,825	7,029	8,601	75,426
General and administrative	5,204	4,979	4,322	21,451	2,194	3,297	24,748
Total operating expense	19,905	19,642	18,007	88,276	9,223	11,898	100,174
Loss from operations	(19,875)	(19,642)	(17,837)	(87,862)	(9,151)	(11,862)	(99,724)
Other income (expense):							
Interest income	698	467	149	3,472	94	148	3,620
Interest expense	(260)	(267)	(768)	(2,010)	(131)	(12,656)	(14,666)
Loss on sale of equipment	(75)	(11)	(1)	(195)	(1)	—	(195)
Other income (expense), net	363	189	(620)	1,267	(38)	(12,508)	(11,241)
Net loss	(19,512)	(19,453)	(18,457)	(86,595)	(9,189)	(24,370)	(110,965)
Accretion of preferred stock	(8,411)	(8,001)	—	(16,412)	—	(8,973)	(25,385)
Net loss attributable to common stockholders	$ (27,923)	$ (27,454)	$ (18,457)	$ (103,007)	$ (9,189)	$ (33,343)	$(136,350)
Basic and diluted net loss per common share	$ (22.14)	$ (19.34)	$ (12.40)		$ (6.21)	$ (3.66)	
Shares used in computation of basic and diluted net loss per common share	1,261,089	1,419,755	1,488,218		1,480,603	9,107,401	

The accompanying notes are an integral part of these financial statements.

XCYTE THERAPIES, INC.
(a development stage company)
STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIT)

	Common stock		Additional paid-in capital	Deferred stock compensation	Accumulated other comprehensive income (loss)	Deficit accumulated during the development stage	Total
	Shares	Amount					
	(in thousands, except share and per share data)						
Common stock issued upon incorporation	613,564	$ 1	$ 2	$ —	$ —	$ —	$ 3
Deferred stock-based compensation	—	—	7	(7)	—	—	—
Amortization of deferred compensation	—	—	—	2	—	—	2
Common stock issued August 1996 for technology license, valued at $0.0055 per share	36,110	—	—	—	—	—	—
Net loss		—	—	—	—	(551)	(551)
Balance at December 31, 1996	649,674	1	9	(5)	—	(551)	(546)
Common stock repurchases	(115,454)	—	(1)	—	—	—	(1)
Common stock issued August 1997 in acquisition, valued at $0.61 per share	545,434	—	330	—	—	—	330
Deferred stock-based compensation	—	—	9	(9)	—	—	—
Amortization of deferred compensation	—	—	—	4	—	—	4
Common stock issued January 1997 for technology license, valued at $0.0055 per share	74,033	—	1	—	—	—	1
Stock options exercised	2,317	—	1	—	—	—	1
Net loss	—	—	—	—	—	(3,288)	(3,288)
Balance at December 31, 1997	1,156,004	1	349	(10)	—	(3,839)	(3,499)
Repurchase of founder's stock	(16,098)	—	—	—	—	—	—
Stock options exercised	45	—	—	—	—	—	—
Deferred stock-based compensation	—	—	8	(8)	—	—	—
Amortization of deferred compensation	—	—	—	6	—	—	6
Net loss	—	—	—	—	—	(5,446)	(5,446)
Balance at December 31, 1998	1,139,951	1	357	(12)	—	(9,285)	(8,939)
Common stock returned for technology license termination	(72,726)	—	—	—	—	—	—
Common stock issued June 1999 for technology license, valued at $0.55 per share	3,636	—	2	—	—	—	2
Deferred stock-based compensation	—	—	720	(720)	—	—	—
Amortization of deferred compensation	—	—	—	93	—	—	93
Stock options exercised	9,769	—	5	—	—	—	5
Change in unrealized loss on investments	—	—	—	—	(18)	—	(18)
Net loss	—	—	—	—	—	(6,947)	(6,947)
Comprehensive loss							(6,965)
Balance at December 31, 1999	1,080,630	1	1,084	(639)	(18)	(16,232)	(15,804)
Common stock issued December 2000 for technology license, valued at $27.28 per share	27,272	—	744	—	—	—	744
Issuance of common stock warrants	—	—	2,716	—	—	—	2,716
Deferred stock-based compensation	—	—	1,988	(1,988)	—	—	—
Amortization of deferred compensation	—	—	—	770	—	—	770
Remeasurement and issuance of stock options in exchange for consulting services	—	—	112	—	—	—	112
Stock options exercised	128,922	—	228	—	—	—	228
Change in unrealized loss on investments	—	—	—	—	18	—	18
Net loss	—	—	—	—	—	(12,941)	(12,941)
Comprehensive loss							(12,923)
Balance at December 31, 2000	1,236,824	1	6,872	(1,857)	—	(29,173)	(24,157)
Common stock repurchased	(2,424)	—	(2)	—	—	—	(2)
Warrants issued November 2001 and beneficial conversion in preferred stock	—	—	13,060	—	—	—	13,060
Deferred stock-based compensation	—	—	1,652	(1,652)	—	—	—
Amortization of deferred compensation	—	—	—	1,445	—	—	1,445
Remeasurement and issuance of stock options in exchange for consulting services	—	—	1,122	—	—	—	1,122
Stock options and warrants exercised	117,807	—	195	—	—	—	195
Accretion of redeemable convertible preferred stock	—	—	(8,411)	—	—	—	(8,411)
Net loss and comprehensive loss	—	—	—	—	—	(19,512)	(19,512)
Balance at December 31, 2001	1,352,207	$ 1	$ 14,488	$ (2,064)	$ —	$ (48,685)	$(36,260)

The accompanying notes are an integral part of these financial statements.

XCYTE THERAPIES, INC.
(a development stage company)
STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY (DEFICIT) (continued)

	Common stock		Additional paid-in capital	Deferred stock compensation	Accumulated other comprehensive income (loss)	Deficit accumulated during the development stage	Total
	Shares	Amount					
				(in thousands, except share data)			
Balance at December 31, 2001	1,352,207	$ 1	$ 14,488	$ (2,064)	$ —	$ (48,685)	$(36,260)
Common stock issued May 2002 for technology license, valued at $10.67 per share	63,636	—	679	—	—	—	679
Warrants issued February and March 2002 and beneficial conversion in preferred stock	—	—	12,325	—	—	—	12,325
Deferred stock-based compensation	—	—	3,188	(3,188)	—	—	—
Amortization of deferred compensation, net of reversal of $867 for terminated employees	—	—	(867)	3,372	—	—	2,505
Remeasurement and issuance of stock options in exchange for consulting services	—	—	65	—	—	—	65
Stock options and warrants exercised	108,024	1	10	—	—	—	11
Accretion of redeemable convertible preferred stock	—	—	(8,001)	—	—	—	(8,001)
Change in unrealized gain on investments	—	—	—	—	4	—	4
Net loss	—	—	—	—	—	(19,453)	(19,453)
Comprehensive loss							(19,449)
Balance at December 31, 2002	1,523,867	2	21,887	(1,880)	4	(68,138)	(48,125)
Deferred stock-based compensation	—	—	2,423	(2,423)	—	—	—
Amortization of deferred compensation, net of reversal of $222 for terminated employees	—	—	(222)	1,529	—	—	1,307
Remeasurement and issuance of stock options in exchange for consulting services	—	—	360	—	—	—	360
Stock options and warrants exercised	22,757	—	84	—	—	—	84
Change in unrealized gain on investments	—	—	—	—	(9)	—	(9)
Net loss	—	—	—	—	—	(18,457)	(18,457)
Comprehensive loss							(18,466)
Balance at December 31, 2003	1,546,624	2	24,532	(2,774)	(5)	(86,595)	(64,840)
Issuance of common stock at $8.00 per share, net of issuance costs (unaudited)	4,200,000	4	29,696	—	—	—	29,700
Conversion of preferred stock and warrants into common stock and warrants (unaudited)	6,781,814	7	76,037	—	—	—	76,044
Conversion of promissory notes and accrued interest into common stock (unaudited)	1,357,357	1	13,029	—	—	—	13,030
Recognition of beneficial conversion on convertible promissory notes (unaudited)	—	—	11,276	—	—	—	11,276
Deferred stock-based compensation (unaudited)	—	—	811	(811)	—	—	—
Amortization of deferred compensation, net of reversal of $3 for terminated employees (unaudited)	—	—	(3)	1,181	—	—	1,178
Remeasurement and issuance of stock options in exchange for consulting services (unaudited)	—	—	39	—	—	—	39
Accretion of redeemable convertible preferred stock (unaudited)	—	—	(8,973)	—	—	—	(8,973)
Stock options and warrants exercised (unaudited)	940,778	1	67	—	—	—	68
Change in unrealized gain on investments (unaudited)	—	—	—	—	(55)	—	(55)
Net loss (unaudited)	—	—	—	—	—	(24,370)	(24,370)
Comprehensive loss (unaudited)							(24,425)
Balance at June 30, 2004 (unaudited)	14,826,573	$ 15	$ 146,511	$ (2,404)	$ (60)	$ (110,965)	$ 33,097

The accompanying notes are an integral part of these financial statements.

XCYTE THERAPIES, INC.
(a development stage company)
STATEMENTS OF CASH FLOWS

	Years Ended December 31,			Period from Inception (January 5, 1996) to December 31, 2003	Six Months Ended June 30,		Period from inception (January 5, 1996) to June 30, 2004
	2001	2002	2003		2003	2004	
	(in thousands)				(Unaudited)		(Unaudited)
Cash flows from operating activities:							
Net loss	$(19,512)	$(19,453)	$(18,457)	$ (86,595)	$ (9,189)	$(24,370)	$ (110,965)
Adjustments to reconcile net loss to net cash used in operating activities:							
Noncash research and development expense	—	679	—	1,716	—	—	1,716
Amortization of investment premiums (discounts), net	—	217	89	306	47	251	557
Noncash stock compensation expense	2,567	2,570	1,667	7,791	725	1,217	9,008
Noncash interest expense	44	55	365	503	25	12,536	13,039
Noncash rent expense	34	34	34	102	17	17	119
Depreciation and amortization	766	823	840	4,691	430	455	5,146
Loss on sale of property and equipment	75	11	1	195	1	—	195
Changes in assets and liabilities:							
(Increase) decrease in prepaid expenses and other current assets	140	(298)	140	(671)	204	(793)	(1,464)
(Increase) decrease in deposits and other assets	766	63	(825)	(1,281)	23	707	(574)
Increase (decrease) in accounts payable	(312)	(428)	359	954	134	1,091	2,045
Increase (decrease) in accrued liabilities	333	568	301	1,823	(404)	876	2,699
Net cash used in operating activities	(15,099)	(15,159)	(15,486)	(70,466)	(7,987)	(8,013)	(78,479)
Cash flows from investing activities:							
Purchases of property and equipment	(888)	(1,144)	(995)	(6,917)	(287)	(1,593)	(8,510)
Proceeds from sale of property and equipment	31	—	—	64	—	—	64
Net cash acquired in acquisition	—	—	—	437	—	—	437
Purchases of investments available-for-sale	—	(26,975)	(30,543)	(63,334)	(16,642)	(43,497)	(106,831)
Purchases of investments held-to-maturity	—	—	—	(17,732)	—	—	(17,732)
Proceeds from sales and maturities of investments available-for-sale	—	13,146	32,761	64,311	23,236	29,563	93,874
Proceeds from sales and maturities of investments held-to-maturity held-to-maturity	—	—	—	5,145	—	—	5,145
Net cash provided by (used in) investing activities	(857)	(14,973)	1,223	(18,026)	6,307	(15,527)	(33,553)
Cash flows from financing activities:							
Net proceeds from issuances of preferred stock	13,111	12,313	—	75,554	—	—	75,554
Net proceeds from issuances of common stock	—	—	—	—	—	29,700	29,700
Net proceeds from issuances of convertible promissory notes	—	—	12,660	12,660	—	—	12,660
Common stock repurchased	(2)	—	—	(3)	—	—	(3)
Proceeds from stock options and warrants exercised	195	11	83	522	1	68	590
Proceeds from equipment financings	706	1,304	913	6,052	330	867	6,919
Principal payments on equipment financings	(882)	(866)	(880)	(4,052)	(461)	(534)	(4,586)
Net cash provided by (used in) financing activities	13,128	12,762	12,776	90,733	(130)	30,101	120,834
Net increase (decrease) in cash and cash equivalents	(2,828)	(17,370)	(1,487)	2,241	(1,810)	6,561	8,802
Cash and cash equivalents at beginning of period	23,926	21,098	3,728	—	3,728	2,241	—
Cash and cash equivalents at end of period	$ 21,098	$ 3,728	$ 2,241	$ 2,241	$ 1,918	$ 8,802	$ 8,802
Supplemental cash flow information:							
Interest paid	$ 216	$ 212	$ 212	$ 1,341	$ 106	$ 108	$ 1,449

The accompanying notes are an integral part of these financial statements.

XCYTE THERAPIES, INC.
(a development stage company)
NOTES TO FINANCIAL STATEMENTS
(Information as of June 30, 2004, for the six months ended June 30, 2003 and 2004 and for the period from inception (January 5, 1996) to June 30, 2004 is unaudited)

1. Organization and significant accounting policies

Organization

Xcyte Therapies, Inc. (the Company), a development stage enterprise, operates in one business segment, developing products based on T cell activation to treat cancer, infectious diseases and other medical conditions associated with compromised immune systems. As a development stage enterprise, substantially all efforts of the Company have been devoted to performing research and experimentation, conducting clinical trials, developing and acquiring intellectual properties, raising capital and recruiting and training personnel.

Liquidity

The Company has experienced losses since its inception, including a net loss for the year ended December 31, 2003. Net losses may continue for at least the next several years as the Company proceeds with the development of its technologies. The size of these losses will depend on the creation of revenue from the commercialization and development of its technologies, if any, and on the level of the Company's expenses. The Company's cash, cash equivalents and short-term investments have decreased from $17.3 million as of December 31, 2002 to $13.5 million as of December 31, 2003. In October 2003, the Company issued convertible notes for net proceeds of approximately $12.7 million. The notes convert to common stock upon the closing of an initial public offering. These convertible notes are due in October 2004, or on or after April 30, 2004 should a majority of the noteholders so elect. If the notes do not convert, the Company will require additional funding to continue its business activities through December 31, 2004. The Company believes that sufficient additional funding will be available to meet its projected operating and capital requirements through December 31, 2004, and the Company is considering various options, including securing additional equity financing and obtaining new collaborators. If the Company raises additional capital by issuing equity or convertible debt securities, existing stockholders may experience substantial dilution. If the Company requires additional financing, there can be no assurance that it will be available on satisfactory terms, or at all. If the Company is unable to secure additional financing on reasonable terms, or is unable to generate sufficient new sources of revenue through arrangements with customers, collaborators and licensees, the Company will be forced to take substantial restructuring actions, which may include significantly reducing the Company's anticipated level of expenditures, the sale of some or all of the Company's assets, or obtaining funds by entering into financing or collaborative agreements on unattractive terms, or the Company will not be able to fund operations.

On March 19, 2004, the Company completed an initial public offering which, after deducting underwriting discounts and offering-related expenses, resulted in net proceeds of approximately $29.7 million and issuance by the Company of 4,200,000 shares of common stock. In connection with the initial public offering, all of the outstanding shares of the Company's redeemable convertible preferred stock and all of its outstanding convertible promissory notes, including interest accrued thereon through the closing date of the offering, were converted into shares of common stock. Concurrent with the initial public offering, certain warrants were converted into common stock through payment of cash and cashless exercises.

The Company's cash, cash equivalents and short-term investments have increased from $13.5 million as of December 31, 2003 to $33.7 million as of June 30, 2004.

Unaudited interim financial information

The financial information as of June 30, 2004 and for the six months ended June 30, 2004 and 2003 and the period from inception (January 5, 1996) to June 30, 2004 is unaudited. In the opinion of management, all

XCYTE THERAPIES, INC.
(a development stage company)
NOTES TO FINANCIAL STATEMENTS—(Continued)
(Information as of June 30, 2004, for the six months ended June 30, 2003 and 2004 and for the period from inception (January 5, 1996) to June 30, 2004 is unaudited)

adjustments (consisting of normal recurring adjustments) considered necessary for a fair presentation have been included. Operating results for the six months ended June 30, 2004 are not necessarily indicative of results that may be expected for the entire year.

Cash, cash equivalents and investments

Cash equivalents include highly liquid investments with a maturity on the date of purchase of three months or less. The Company's cash equivalents consist of money market securities. While cash and cash equivalents held by financial institutions may at times exceed federally insured limits, management believes that no material credit or market risk exposure exists due to the high quality of the institutions. The Company has not experienced any losses on such accounts.

All investment securities are classified as available-for-sale and are carried at fair value. Unrealized gains and losses are reported in a separate component of stockholders' deficit. Amortization, accretion, interest and dividends, realized gains and losses and declines in value judged to be other-than-temporary on available-for-sale securities are included in interest income. The cost of securities sold is based on the specific-identification method. Investments in securities with maturities of less than one year or which management intends to use to fund current operations are classified as short-term investments.

The Company evaluates whether an investment is other-than-temporarily impaired. This evaluation is dependent on the specific facts and circumstances. Factors that are considered in determining whether an other-than-temporary decline in value has occurred include: the market value of the security in relation to its cost basis; the financial condition of the investee; and the intent and ability to retain the investment for a sufficient period of time to allow for recovery in the market value of the investment.

Property and equipment

Property and equipment is stated at cost and is depreciated using the straight-line method over the assets' useful lives, which are six years for equipment and furniture and fixtures and three years for computer equipment. Leasehold improvements are amortized over the lesser of their estimated useful lives or the term of the lease.

Impairment of long-lived assets

In accordance with the provisions of Statement of Financial Accounting Standards No. 144, *Accounting for the Impairment or Disposal of Long-Lived Assets* (SFAS 144), the Company reviews long-lived assets, including property and equipment, for impairment whenever events or changes in business circumstances indicate that the carrying amounts of the assets may not be fully recoverable. An impairment loss will be recognized when estimated undiscounted future cash flows expected to result from the use of an asset and its eventual disposition are less than its carrying amount. In that event, a loss is recognized based on the amount by which the carrying value exceeds the fair value of the long-lived asset.

Revenue recognition

To date, the Company has generated no revenues from sales of products. Revenues relate to fees received for licensed technology, cost reimbursement contracts and a Small Business Innovation Research (SBIR) grant awarded to the Company by the National Institutes of Health. Revenue associated with up-front license fees and

XCYTE THERAPIES, INC.
(a development stage company)
NOTES TO FINANCIAL STATEMENTS—(Continued)
(Information as of June 30, 2004, for the six months ended June 30, 2003 and 2004 and for the period from inception (January 5, 1996) to June 30, 2004 is unaudited)

research and development funding payments are recognized ratably over the relevant periods specified in the agreement, generally the period the Company is obligated to perform services. Revenue under research and development cost-reimbursement agreements is recognized as the related costs are incurred. Revenue related to grant agreements is recognized as related research and development expenses are incurred.

Other comprehensive income (loss)

Other comprehensive income (loss) includes certain changes in equity that are excluded from net income (loss). The Company's only other comprehensive income (loss) is unrealized gain (loss) on investments.

Research and development expenses

Research and development expenses are charged to expense as incurred and include, but are not limited to, personnel costs, lab supplies, depreciation, amortization and other indirect costs.

Segments

The Company has adopted Statement of Financial Accounting Standards No. 131, *Disclosure about Segments of an Enterprise and Related Information* (SFAS 131), and related disclosures about its products, services, geographic areas and major customers. The Company has determined that it operates in only one segment.

Stock-based compensation

The Company has adopted the disclosure-only provisions of Statement of Financial Accounting Standards No. 123, *Accounting for Stock-Based Compensation* (SFAS 123), as amended by SFAS No. 148, *Accounting for Stock-Based Compensation—Transition and Disclosure*, and applies Accounting Principles Board Opinion No. 25, *Accounting for Stock Issued to Employees* (APB 25), and related interpretations in accounting for stock options. Accordingly, employee stock-based compensation expense is recognized based on the intrinsic value of the option at the date of grant.

As required under SFAS No. 123, the pro forma effects of stock-based compensation on net loss are estimated at the date of grant using the Black-Scholes option-pricing model. The Black-Scholes option-pricing model was developed for use in estimating the fair value of traded options that have no vesting restrictions and are fully transferable. Because the Company's employee stock options have characteristics significantly different from those of traded options, and because changes in the subjective input assumptions can materially affect the fair value estimate, the existing models do not, in management's opinion, necessarily provide a reliable single measure of the fair value of the Company's employee stock options.

The fair value of these options was estimated at the date of grant using the Black-Scholes option-pricing model with the following weighted average assumptions for the years ended December 31, 2001, 2002 and 2003 and the six months ended June 30, 2003 and 2004: risk-free interest rates of 4.5%, 5.0%, 5.0%, 5.0% and 5.0%, respectively; a dividend yield of 0% for all periods; expected volatility of 75% to 80% for all periods; and weighted average expected lives of the options of 4 years for all periods. The estimated weighted average fair value of stock options granted during 2001, 2002 and 2003 and the six months ended June 30, 2003 and 2004 was $25.28, $12.55, $13.76, $6.33 and $6.56 per share of common stock, respectively.

XCYTE THERAPIES, INC.
(a development stage company)
NOTES TO FINANCIAL STATEMENTS—(Continued)
(Information as of June 30, 2004, for the six months ended June 30, 2003 and 2004 and for the period from inception (January 5, 1996) to June 30, 2004 is unaudited)

For purposes of pro forma disclosures, the estimated fair value of the options is amortized to expense over the vesting period of the related options. The Company's pro forma information follows (in thousands, other than per share information):

	Year ended December 31,			Six months ended June 30,	
	2001	2002	2003	2003	2004
Net loss applicable to common stockholders, as reported	$(27,923)	$(27,454)	$(18,457)	$(9,189)	$(33,343)
Add: Employee stock-based compensation, as reported	1,445	2,505	1,307	595	1,178
Deduct: Stock-based compensation determined under the fair value method	(1,591)	(2,879)	(1,612)	(805)	(1,520)
Pro forma net loss	$(28,069)	$(27,828)	$(18,762)	$(9,399)	$(33,685)
Basic and diluted pro forma net loss per share	$ (22.26)	$ (19.60)	$ (12.61)	$ (6.35)	$ (3.70)

Stock options granted to non-employees are recorded using the fair value approach in accordance with SFAS 123 and Emerging Issues Task Force Consensus (EITF) Issue No. 96-18, *Accounting for Equity Instruments That Are Issued to Other Than Employees for Acquiring, or in Conjunction with Selling, Goods or Services* (EITF 96-18). The options to non-employees are subject to periodic revaluation over their vesting terms.

Deferred stock compensation includes amounts recorded when the exercise price of an option is lower than the fair value of the underlying common stock on the date of grant. Deferred stock-based compensation is amortized over the vesting period of the underlying option using the graded-vesting method.

Income taxes

The Company accounts for income taxes utilizing the liability method in accordance with Statement of Financial Accounting Standards No. 109, *Accounting for Income Taxes* (SFAS 109). Deferred tax assets or liabilities are recorded for all temporary differences between financial and tax reporting. A valuation allowance is recorded when it is more likely than not that the deferred tax asset will not be recovered.

Net loss per share

Basic net loss per share is computed by dividing net loss applicable to common stockholders by the weighted average number of common shares outstanding for the period. Common stock equivalents, including redeemable convertible preferred stock, stock options and warrants are excluded from the computation of diluted loss per share as their effect is anti-dilutive. For the periods presented, there is no difference between the basic and diluted net loss per share.

Financial instruments

Financial instruments, including cash and cash equivalents and payables, are recorded at cost, which approximates fair value based on the short-term maturities of these instruments. The fair value of investments is determined based on quoted market prices. Refer to Note 2 for further information on the fair value of

XCYTE THERAPIES, INC.
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NOTES TO FINANCIAL STATEMENTS—(Continued)
(Information as of June 30, 2004, for the six months ended June 30, 2003 and 2004 and for the period from inception (January 5, 1996) to June 30, 2004 is unaudited)

investments. Based on the borrowing rates currently available to the Company for loans with similar terms, management believes that the carrying value of equipment financing arrangements approximates fair value.

Use of estimates

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

Recent accounting pronouncements

In June 2002, the FASB issued SFAS 146, *Accounting for Costs Associated with Exit or Disposal Activities*, which addresses accounting for restructuring, discontinued operations, plant closings or other exit or disposal activity. SFAS 146 requires companies to recognize costs associated with exit or disposal activities when they are incurred rather than at the date of a commitment to an exit or disposal plan. SFAS 146 is to be applied prospectively to exit or disposal activities initiated after December 31, 2002. The adoption of SFAS 146 had no initial impact on the Company's financial statements.

In November 2002, the FASB issued FIN 45, *Guarantor's Accounting and Disclosure Requirements for Guarantees, Including Indirect Guarantees of Indebtedness of Others, and Interpretation of FASB Statements No. 5, 57 and 107 and Rescission of FASB Interpretation No. 34*. FIN 45 clarifies the requirements of SFAS 5, *Accounting for Contingencies*, relating to the guarantor's accounting for, and disclosure of, the issuance of certain types of guarantees. The disclosure provisions of FIN 45 are effective for financial statements of periods ending after December 15, 2002. However, the provisions for initial recognition and measurement are effective on a prospective basis for guarantees that are issued or modified after December 31, 2002. The adoption of FIN 45 had no initial impact on the Company's financial statements.

In November 2002, the Emerging Issues Task Force reached a consensus on Issue No. 00-21, *Revenue Arrangements with Multiple Deliverables*. EITF Issue No. 00-21 provides guidance on how to account for arrangements that involve the delivery or performance of multiple products, services and/or rights to use assets.

The provisions of EITF Issue No. 00-21 will apply to revenue arrangements entered into in fiscal periods beginning after June 15, 2003. The adoption of EITF Issue No. 00-21 had no initial impact on the Company's financial statements.

In January 2003, the FASB issued FIN 46, *Consolidation of Variable Interest Entities*. FIN 46 clarifies the application of Accounting Research Bulletin No. 51, *Consolidated Financial Statements*, to certain entities in which the equity investors do not have the characteristics of a controlling financial interest or do not have sufficient equity at risk for the entity to finance its activities without additional subordinated financial support from other parties. FIN 46 applies immediately to variable interest entities created after January 31, 2003 and to variable interest entities in which an enterprise obtains an interest after that date. It applies in the first fiscal year or interim period beginning after December 15, 2003 to variable interest entities in which an enterprise holds a variable interest that it acquired before February 1, 2003. FIN 46 applies to public enterprises as of the beginning of the applicable interim or annual period. The Company does not believe there will be a material effect upon its financial condition or results of operations from the adoption of the provisions of FIN 46.

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In May 2003, the FASB issued SFAS 150, *Accounting for Certain Financial Instruments with Characteristics of Both Liabilities and Equity*. SFAS 150 establishes standards for how an issuer classifies and measures certain financial instruments with characteristics of both liabilities and equity. SFAS 150 requires that an issuer classify a financial instrument that is within its scope as a liability by reporting the cumulative effect of a change in accounting principle. The requirements of SFAS 150 are to be applied to the first fiscal period beginning after December 15, 2004. The Company is currently evaluating the impact of adopting SFAS 150 and does not expect there to be a significant impact upon adoption.

Reclassifications

Certain prior year amounts have been reclassified to conform to current year presentation.

2. Investments

A summary of investments follows (in thousands):

	December 31, 2002			
	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value
Federal agency obligations	$ 1,532	$ 1	$ —	$ 1,533
Corporate bonds	9,859	5	(2)	9,862
Municipal bonds	2,221	—	—	2,221
Total	$ 13,612	$ 6	$ (2)	$13,616

	December 31, 2003			
	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value
Federal agency obligations	$ 770	$ —	$ —	$ 770
Corporate bonds	9,680	1	(6)	9,675
Municipal bonds	854	—	—	854
Total	$ 11,304	$ 1	$ (6)	$11,299

	June 30, 2004			
	Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value
Federal agency obligations	$ 4,634	$ —	$ (15)	$ 4,619
Corporate bonds	18,027	—	(36)	17,991
Municipal bonds	2,327	—	(9)	2,318
Total	$ 24,988	$ —	$ (60)	$24,928

The Company has realized no gains or losses upon the sale of available-for-sale securities during the years ended December 31, 2001, 2002 and 2003 and the six months ended June 30, 2003 and 2004, as no investments were sold prior to maturity. The Company has evaluated the nature of the investments, the duration of the impairments

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(all less than 1 year) and concluded that the impairments are not other-than-temporary. All investments held at December 31, 2002 and 2003 and June 30, 2004 have contractual maturities within one year.

3. Property and equipment

Property and equipment consists of the following (in thousands):

	December 31,		June 30,
	2002	2003	2004
Equipment	$ 2,957	$ 3,794	$ 4,486
Furniture and fixtures	197	218	223
Leasehold improvements	916	989	1,807
Computer equipment	888	946	1,024
Property and equipment, gross	4,958	5,947	7,540
Less accumulated amortization and depreciation	(2,345)	(3,180)	(3,635)
Property and equipment, net	$ 2,613	$ 2,767	$ 3,905

Depreciation expense totaled $632,000, $823,000 and $840,000 during the years ended December 31, 2001, 2002 and 2003, respectively, and $430,000 and $455,000 during the six months ended June 30, 2003 and 2004, respectively.

4. Employee note receivable

During the year ended December 31, 2001, the Company made a $50,000 secured loan to an employee in connection with an individual employment agreement. The loan bears interest at an annual rate of 8.24% and is repayable in equal quarterly installments over four years. The note balance of $36,000, $24,000 and $17,000 at December 31, 2002 and 2003 and June 30, 2004, respectively, has been classified in deposits and other assets. Interest earned on the note has been immaterial to date.

5. Significant agreements

Technology licenses

In 1998, the Company entered into a license agreement with Genetics Institute, under which the Company was granted a license under Genetics Institute's rights to several patents and patent applications in exchange for the payment of upfront license fees totaling approximately $53,000, for the issuance of 26,522 shares of Series B preferred stock and warrants to purchase 35,363 shares of Series B preferred stock at $6.05 per share. The fees were charged to research and development expenses when paid. The Company, or sublicensee, is required to spend no less than $500,000 annually on research and development activities related to product development until the first commercial sale of a product.

In 1999, the Company entered into a license and supply agreement with Diaclone S.A., in which the Company was granted a license to make, use and sell certain products created with a specific antibody. In consideration for the license, the Company paid and charged to research and development expense a $75,000 nonrefundable fee.

In addition, the Company entered into a license agreement with the Fred Hutchinson Cancer Research Center in which the Company was granted a license to make, use and sell a specific antibody for certain therapeutic and

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research purposes. In consideration for the license, the Company paid nonrefundable license fees of $50,000. The Company also agreed to issue 27,272 shares of common stock, valued at $744,000, to the Fred Hutchinson Cancer Research Center. The Company charged research and development expense for all nonrefundable fees paid and the value of the common stock issued.

During the year ended December 31, 2002, the Company entered into a license agreement with the Trustees of the University of Pennsylvania, whereby the Company was granted the right to use certain intellectual property in exchange for payment of nonrefundable license fees of $150,000. The Company also agreed to issue 63,636 shares of common stock, valued at $679,000, to the Trustees of the University of Pennsylvania. The Company charged research and development expense for all nonrefundable fees paid and the value of common stock issued. In October 2003, the Company notified the University of Pennsylvania that it was terminating the license agreement. This termination was effective December 30, 2003, following the 60-day notice period as required pursuant to the terms of the license agreement.

All license agreements require the payment of royalties by the Company based on sales and services. No royalty payments have been required or paid through June 30, 2004.

Manufacturing and supply contracts

The Company entered into a development and supply agreement with Dynal S.A. during the year ended December 31, 1999. The Company has agreed to make nonrefundable payments totaling $3.0 million for certain development activities conducted by Dynal S.A. As of December 31, 2003, the Company had made payments totaling $2.5 million under the agreement ($3.0 million as of June 30, 2004), which were charged to research and development expense. Under the terms of the supply agreement, should the Company not buy a minimum $250,000 of beads in the first 12 months after the development phase ends and $500,000 of beads annually thereafter over the remaining term of the agreement, Dynal shall have the right to terminate the agreement. Either party may terminate the agreement as of August 2009 for any reason, or earlier on account of the material breach or insolvency of the other party. If the agreement is not terminated by August 2009, either party can elect to extend the terms of the agreement for an additional five years. Otherwise, it will automatically renew on a year to year basis. In March 2004, the Company amended the agreement to allow Dynal to sell a research-grade version of the Company's antibody-coated beads.

During the year ended December 31, 2000, the Company entered into development and supply agreements with Lonza Biologics PLC (Lonza). Under the terms of the agreements, the Company is obligated to make payments in British pounds. Exchange rate gains and losses have been insignificant to date. The Company paid approximately $1.7 million, $1.6 million and $1.3 million under the agreements during the years ended December 31, 2001, 2002 and 2003, respectively, and $47,000 during the six months ended June 30, 2004, all of which were charged to research and development expense. As of June 30, 2004, the Company had no significant remaining contractual obligations to Lonza. In August and October 2004, the Company amended its agreements with Lonza, resulting in additional obligations of approximately $1.6 million, which are scheduled to be paid in 2005.

Corporate collaborations

In November 2003, the Company licensed to Fresenius Biotechnology GmbH, a wholly-owned subsidiary of Fresenius AG, the Company's Xcellerate Technology on an exclusive basis in the field of HIV retroviral gene therapy, for development and commercialization in Europe with an option under certain circumstances to expand

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their rights to North America. The agreement with Fresenius requires the Company to transfer its Xcellerate Technology, including manufacturing capability, to Fresenius and supply all antibody-coated beads required by Fresenius to support its development and commercialization efforts. Fresenius had previously agreed to reimburse the Company for its expenses in transferring the technology and to pay the Company for the antibody-coated beads on a cost-plus basis. For the year ended December 31, 2003, the Company had recognized $170,000 as revenue related to the reimbursement of its actual costs ($24,000 for the six months ended June 30, 2004). The terms of the agreement include potential royalties on net sales as well as potential milestone payments to the Company less applicable sublicense fees payable by Xcyte to third parties for each product developed. For the six months ended June 30, 2004, the Company had recognized $12,000 as revenue related to payments received. Fresenius' obligation to pay the Company royalties under this agreement terminates on a country-by-country basis upon the later of the last to expire of the licensed patents or fifteen years after the first commercial sale of a product in the country. The agreement is also subject to earlier termination by Fresenius at any time if Fresenius determines it cannot develop a commercially viable product or complete a required manufacturing audit; by Xcyte if Fresenius does not meet development milestones; and by either party for the material breach or insolvency of the other party.

6. Redeemable convertible preferred stock and warrants

Preferred stock

A summary of redeemable convertible preferred stock follows (in thousands, except share data):

	December 31, 2002				December 31, 2003			
	Shares designated	Issued and outstanding shares	Aggregate redemption and liquidation preference	Carrying value	Shares designated	Issued and outstanding shares	Aggregate redemption and liquidation preference	Carrying value
Series A	7,300,080	1,247,354	$ 6,517	$ 6,596	7,300,080	1,255,870	$ 6,562	$ 6,660
Series B	4,097,580	709,647	4,293	4,293	4,097,580	709,647	4,293	4,293
Series C	7,212,316	1,306,470	12,000	11,976	7,212,316	1,306,470	12,000	11,976
Series D	10,300,000	1,838,139	28,105	25,263	10,300,000	1,838,139	28,105	25,263
Series E	6,500,000	863,648	13,205	8,411	6,500,000	863,648	13,205	8,411
Series F	6,500,000	808,040	12,355	8,001	6,500,000	808,040	12,355	8,001
	41,909,976	6,773,298	$ 76,475	$ 64,540	41,909,976	6,781,814	$ 76,520	$ 64,604

From inception through December 31, 1999, the Company issued 1,151,664 shares of Series A preferred stock at $5.23 per share for proceeds of $6.0 million; 683,125 shares of Series B preferred stock at $6.05 per share for proceeds of $4.1 million; and 1,306,470 shares of Series C preferred stock at $9.19 per share for proceeds of $12.0 million. The Company also issued an additional 95,690 shares of Series A preferred stock in conjunction with a business acquisition. The value of the Series A preferred stock of $579,000 was included in the determination of the purchase price of the acquired business. The Company also issued 26,522 shares of Series B preferred stock to acquire technology licenses. These shares were valued at $6.05 per share for an aggregate amount of $160,000. There were no significant costs associated with the Series A, B and C private placements.

During the year ended December 31, 2000, the Company completed a private placement of 1,838,139 shares at $15.29 per share of Series D redeemable preferred stock for $28.0 million, net of offering costs of $117,000. In connection with the offering, holders of the Series D preferred stock received warrants to purchase 205,858 shares of common stock at an exercise price of $1.65 per share. The warrants were valued at $2.7 million using

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the Black-Scholes option-pricing model. The warrants expire in August 2005 or upon the completion of an initial public offering of the Company's common stock. Of the total net proceeds of $28.0 million, $2.7 million has been recorded in paid-in capital and $25.3 million has been recorded as redeemable convertible preferred stock.

During the year ended December 31, 2001, the Company completed a private placement of 863,648 shares at $15.29 per share of Series E redeemable preferred stock for $13.1 million, net of offering costs of $145,000. In connection with the offering, holders of the Series E preferred stock received warrants to purchase 470,205 shares of common stock at an exercise price of $0.055 per share. The warrants expire in November 2006 or upon completion of an initial public offering. The net proceeds from the Series E preferred stock offering were allocated based on the relative fair values of the warrants, using the Black-Scholes option-pricing model, and the preferred stock. The Company assigned $4.6 million to the value of the warrants and $8.4 million to the value of the preferred stock. After allocating a portion of the proceeds to the common stock warrants, the effective conversion price of the preferred stock was at a discount to the price of the common stock into which the preferred stock is convertible. The discount associated with the beneficial conversion feature is limited to the proceeds allocated to the preferred stock, or $8.4 million. Accordingly, the preferred stock was initially recorded at zero. The Company has recognized the amortization of the discount associated with the beneficial conversion of $8.4 million as a charge to additional paid-in capital (also shown as a deduction to arrive at net loss applicable to common stockholders) and a credit to preferred stock immediately upon issuance since the preferred stock may be converted into common stock at any time, at the holder's option. The remaining discount of $4.6 million will be amortized at the time that redemption by the holders is considered probable or the preferred stock is converted into common stock. Management believes that it is unlikely that the investors would redeem the preferred stock due to the Company's plan for an initial public offering.

During the year ended December 31, 2002, the Company completed a private placement of 808,040 shares at $15.29 per share of Series F redeemable preferred stock for $12.3 million, net of offering costs of $30,000. In connection with the offering, holders of the Series F preferred stock received warrants to purchase 439,932 shares of common stock at an exercise price of $0.055 per share. The warrants expire in February 2007 or upon completion of an initial public offering of the Company's common stock. The net proceeds from the Series F preferred stock offering were allocated based on the relative fair values of the warrants, using the Black-Scholes option-pricing model, and the preferred stock. The Company assigned $4.3 million to the value of the warrants and $8.0 million to the value of the preferred stock. After allocating a portion of the proceeds to the common stock warrants, the effective conversion price of the preferred stock was at a discount to the price of the common stock into which the preferred stock is convertible. The discount associated with the beneficial conversion is limited to the proceeds allocated to the preferred stock, or $8.0 million. The Company has recognized the amortization of the discount associated with the beneficial conversion of $8.0 million as a charge to additional paid-in capital (also shown as a deduction to arrive at net loss applicable to common stockholders) and a credit to preferred stock immediately upon issuance since the preferred stock may be converted into common stock at any time, at the holder's option. The remaining discount of $4.3 million will be amortized at the time that redemption by the holders is considered probable or the preferred stock is converted into common stock. Management believes that it is unlikely that the investors would redeem the preferred stock due to the Company's plan for an initial public offering.

Holders of Series A, B, C, D, E and F preferred stock have preferential rights to noncumulative dividends at a rate of $0.418, $0.484, $0.7348, $1.2232, $1.2232 and $1.2232 per share, respectively, when and if declared by the Company's board of directors. The holders are entitled to the number of votes equal to the number of shares of common stock into which the preferred stock could be converted. In the event of liquidation, the holders of

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Series A, B, C, D, E and F preferred stock have preferential rights to liquidation payments of $5.23, $6.05, $9.19, $15.29, $15.29 and $15.29 per share, respectively, plus any accrued but unpaid dividends. After the distributions to the holders of preferred stock have been made, the remaining assets of the Company available for distribution to stockholders will be distributed pro rata among the holders of common stock and preferred stock.

The preferred stock can be converted, at the option of the holder, one-for-one into common stock subject to adjustment for antidilutive events. The conversion price for Series A, B, C, D, E and F preferred stock is $5.23, $6.05, $9.19, $15.29, $15.29 and $15.29, respectively. Each share of the preferred stock will automatically be converted into shares of common stock upon the closing of an initial public offering, provided that the price per share is not less than $22.00 and the aggregate gross proceeds to the Company are not less than $20.0 million.

In addition, the Company has granted registration rights, preferential rights in liquidation and rights of first offer to the preferred stockholders and is precluded from carrying out certain actions without the approval of the majority of the preferred stockholders voting as a group.

As of December 31, 2003, the preferred stock is redeemable at the option of the holder, upon the vote of a majority of the outstanding shares of preferred stock. The Series A, B, C, D, E and F redemption prices are $5.23, $6.05, $9.19, $15.29, $15.29 and $15.29 per share, respectively.

In connection with the initial public offering in March 2004, all of the outstanding shares of the Company’s redeemable convertible preferred stock were converted into 6,781,814 shares of common stock.

Warrants

From inception through December 31, 1999, warrants were issued to purchase 66,983 shares of Series A preferred stock in connection with a business acquisition at an exercise price of $5.23 per share. The value of the warrants of $330,000 was included in the determination of the purchase price of the business. In addition, warrants to purchase 12,937 shares of Series A preferred stock at $5.23 per share and warrants to purchase 2,238 shares of Series C preferred stock at $9.19 per share were issued in connection with equipment financing. The estimated fair value of the warrants issued of $64,000 and $15,000, respectively, was recorded as an additional financing cost and is being amortized over the term of the loan as interest expense. The warrants to purchase 12,937 shares of Series A preferred stock were exercised in March 2003 through a net exercise, resulting in the issuance of 8,516 shares of Series A preferred stock. In addition, the Company issued warrants to purchase 35,363 shares of Series B preferred stock as partial consideration for a technology license. The warrants were issued at an exercise price of $6.05 per share, and the estimated fair value of the warrants of $131,000 was charged to research and development expense.

During the years ended December 31, 2000 and 2001, the Company issued warrants to purchase 2,612 of Series C preferred stock at an exercise price of $9.19, and 4,316 of Series D preferred stock at an exercise price of $15.29, respectively in connection with equipment financing. The estimated fair value of the warrants issued of $36,000 for Series C and $113,000 for Series D was recorded as additional financing cost and is being amortized over the term of the loan as interest expense using the effective interest method.

During the years ended December 31, 2002 and 2003, the Company issued warrants to purchase 4,316 and 1,143 of Series F stock at an exercise price of $15.29 and $15.29, respectively in connection with equipment financing.

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The estimated fair value of the warrants issued of $56,000 and $14,000 was recorded as additional financing cost and is being amortized over the term of the loan as interest expense using the effective interest method.

During the year ended December 31, 2000, the Company issued a warrant for the purchase of 14,545 shares of Series D preferred stock at an exercise price of $15.29 per share, in connection with a lease for a manufacturing facility. The estimated fair value of the warrant of $340,000 was recorded as deferred rent and is being recognized as additional rent expense over the initial term of the lease.

During the year ended December 31, 2001, the Company issued a warrant for the purchase of 1,818 shares of Series E preferred stock at an exercise price of $15.29 per share for services provided in connection with the private placement of Series E redeemable preferred stock. The estimated fair value of the warrants of $48,000 was included in offering costs of the placement.

Warrants expire at various dates from August 2005 to February 2012. 86,727 warrants outstanding at December 31, 2003 will expire upon the closing of an initial public offering. All remaining preferred stock warrants, (46,607 at December 31, 2003) that do not expire upon the closing of a public offering, will convert to common stock warrants upon the closing of an initial public offering. The Company has valued the warrants issued during the years ended December 31, 2001, 2002 and 2003 using the Black-Scholes option-pricing model with the following assumptions: no dividend yields; life of 5 years to 10 years; risk-free interest rates of 4.5% to 5.42%; and volatility of 75% to 80%.

Concurrent with the closing of the initial public offering in March 2004, certain preferred stock warrants that expired upon the closing of a public offering were converted into common stock through cashless exercises, resulting in the issuance of 23,233 shares of common stock.

7. Stock plans

1996 Stock Option Plan

Under the Company's Amended and Restated 1996 Stock Option Plan (1996 Plan), 1,163,636 shares of common stock have been reserved for grants to employees, directors and consultants as of December 31, 2003. In September 2003, the 1996 Plan was amended to increase common stock reserved for grants to 1,163,636 shares and certain outstanding stock options were modified to accelerate vesting for employees with a five-year vesting schedule to a four-year schedule. There was no immediate accounting impact to this change. However, if employees benefit from the change, the appropriate stock compensation charge will be recorded in the period in which there was a benefit to the employee(s) based upon the measurement of the intrinsic value of the related stock options on the date of modification. The term of the 1996 Plan is 10 years unless terminated earlier by the Board of Directors. Options granted under the 1996 Plan may be designated as incentive or nonqualified at the discretion of the 1996 Plan administrator. The vesting period, exercise price and expiration period of options are also established at the discretion of the 1996 Plan administrator. Vesting periods are typically four or five years, and incentive stock options are exercisable at no less than the fair market value at the date of grant, and nonqualified stock options are exercisable at prices determined by the 1996 Plan administrator. In no event shall the term of any incentive stock option exceed 10 years.

Shares issued upon exercise of options that are unvested are restricted and subject to repurchase by the Company at the original exercise price upon termination of employment, and such restrictions lapse over the original vesting schedule. During the year ended December 31, 2000, the Board of Directors amended the 1996 Plan to

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allow options granted to certain executives to become exercisable immediately. Three executives elected to early exercise stock options for 93,426 shares of restricted common stock in the year ended December 31, 2000. During the year ended December 31, 2001, the Company repurchased 2,424 shares of restricted stock. The shares were repurchased in an amount equal to the original purchase price of the shares. At December 31, 2003, there were a total of 30,207 shares of restricted common stock outstanding and subject to repurchase (21,577 shares at June 30, 2004). A summary of stock option activity and related information follows:

	Years ended December 31,							
	2001		2002		2003		Six months ended June 30, 2004	
	Options	Weighted average exercise price	Options	Weighted average exercise price	Options	Weighted average exercise price	Options	Weighted average exercise price
Outstanding at beginning of period	207,088	$ 1.32	341,858	$ 2.92	610,489	$ 4.24	717,615	$ 4.48
Granted at fair value	—	—	126,853	5.50	—	—	183,326	6.44
Granted at less than fair value	149,148	5.01	229,641	5.50	225,470	5.45	80,453	5.50
Canceled	(12,083)	1.65	(86,641)	4.29	(95,587)	5.34	(3,806)	5.48
Exercised	(2,295)	0.94	(1,222)	1.98	(22,757)	3.69	(44,543)	1.25
Outstanding at end of period	341,858	$ 2.92	610,489	$ 4.24	717,615	$ 4.48	933,045	$ 5.10

The following summarizes information about stock options outstanding and exercisable at December 31, 2003:

				Exercisable	
Range of exercise price	Number of options	Outstanding weighted average remaining contractual life (years)	Weighted average exercise price	Number of options	Weighted average exercise price
$0.55 - $0.61	32,185	3.37	$ 0.57	32,185	$ 0.57
$0.92	79,687	6.01	0.92	79,680	0.92
$1.65 - $2.75	65,847	6.85	2.33	56,790	2.35
$5.50	539,896	8.72	5.50	160,176	5.50
	717,615	8.01	$ 4.48	328,831	$ 3.36

The number of options exercisable at December 31, 2001, 2002 and 2003 was 186,615, 227,892 and 328,831, respectively. The weighted average exercise price of options vested and exercisable at December 31, 2001, 2002 and 2003 was $1.65, $2.53 and $3.36, respectively.

During the years ended December 31, 2001, 2002 and 2003, the Company granted options to purchase a total of 71,814, 6,363 and 10,908 shares of common stock, respectively, to consultants and Scientific Advisory Board members for services to be performed through April 2008. No such options were granted during the six months ended June 30, 2004. In accordance with SFAS 123 and EITF 96-18, options granted to consultants and Scientific Advisory Board members are periodically revalued over the related service periods. The Company recorded stock compensation of $1.1 million, $65,000 and $360,000 during the years ended December 31, 2001, 2002 and 2003, respectively, and $130,000 and $39,000 during the six months ended June 30, 2003 and 2004, respectively, related to consulting services.

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During the years ended December 31, 2001, 2002 and 2003 and the six months ended June 30, 2004, in connection with the grant of certain options to employees, the Company recorded deferred stock compensation of $1.7 million, $3.2 million, $2.4 million and $811,000, respectively, representing the difference between the exercise price and the subsequently determined fair value of the Company's common stock on the date such stock options were granted. The subsequently determined fair value of the Company's common stock was $29.21 during the year ended December 31, 2001, ranged from $5.50 to $21.01 during the year ended December 31, 2002, ranged from $5.50 to $18.59 during the year ended December 31, 2003 and ranged from $4.10 to $15.57 during the six months ended June 30, 2004. Deferred stock compensation is being amortized on a graded vesting method. During the years ended December 31, 2001, 2002 and 2003 and the six months ended June 30, 2003 and 2004, the Company recorded non-cash deferred stock compensation expense related to employees of $1.4 million, $2.5 million, $1.3 million, $595,000 and $1.2 million, respectively.

Other stock plans

In connection with the Company's initial public offering, the Board of Directors authorized, subject to final stockholder approval, the following additional plans.

The 2003 Stock Plan (2003 Plan) provides for the grant of incentive stock options and stock purchase rights to employees (including employee directors) and non-statutory stock options to employees, directors and consultants. A total of 636,363 shares of common stock have been reserved for issuance under the 2003 Plan. The number of shares reserved for issuance under the 2003 Plan will be subject to an automatic annual increase on the first day of each fiscal year beginning in 2005 and ending in 2010 equal to the lesser of 109,090 shares, 4% of the number of outstanding shares of common stock on the last day of the immediately preceding fiscal year or such lesser number of shares as the Board of Directors determines. With respect to options granted under the 2003 Plan, the term of options may not exceed 10 years. In no event may an employee receive awards for more than one million shares under the 2003 Plan in any fiscal year.

A total of 90,909 shares of common stock have been reserved for issuance under the 2003 Directors' Stock Option Plan, as amended in June 2004 (2003 Directors' Plan). Under the 2003 Directors' Plan, each non-employee director who first becomes a non-employee director after the effective date of the plan will receive an automatic initial grant of an option to purchase 10,000 shares of common stock upon becoming a member of the Board of Directors. On the date of each annual meeting of stockholders, each non-employee director will be granted an option to purchase 10,000 shares of common stock if, on such a date, the director has served on the Board of Directors for at least six months. Additionally, the chairman of each committee of the Board of Directors and each member of the audit committee will receive an additional annual option grant to purchase 2,500 shares of common stock. The 2003 Directors' Plan provides that each option granted to a non-employee director shall vest in equal monthly installments over two years. All options granted under the 2003 Directors' Plan have a term of 10 years and an exercise price equal to the fair market value on the date of the grant.

A total of 109,090 shares of common stock have been reserved for issuance under the 2003 Employee Stock Purchase Plan (2003 Employee Plan). The number of shares reserved for issuance under the 2003 Employee Plan will be increased on the first day of each of the fiscal years in 2005 to 2010 by the lesser of 54,545 shares, 1% of the number of outstanding shares of common stock on the last day of the immediately preceding fiscal year or such lesser number of shares as the Board of Directors determines. Unless terminated earlier by the Board of Directors, the 2003 Employee Plan will terminate in September 2023.

XCYTE THERAPIES, INC.
(a development stage company)

NOTES TO FINANCIAL STATEMENTS—(Continued)
(Information as of June 30, 2004, for the six months ended June 30, 2003 and 2004 and for the period from inception (January 5, 1996) to June 30, 2004 is unaudited)

8. Common stock

Stock split

On March 4, 2004 the Company effected a 2 for 11 reverse stock split of the outstanding common and preferred stock and stock options and warrants. All share and per share amounts have been retroactively restated in the accompanying financial statements and notes for all periods presented to reflect the reverse stock split.

Common stock reserved for future issuance at December 31, 2003 and June 30, 2004 is as follows:

Description	December 31, 2003	June 30, 2004
1996 Stock Option Plan		
Options granted and outstanding	717,615	933,045
Options reserved for future grant	278,691	21,143
2003 Stock Plan	636,363	636,363
2003 Directors' Stock Option Plan	90,909	90,909
2003 Employee Stock Purchase Plan	109,090	109,090
Series A preferred stock	7,300,080	—
Series B preferred stock	4,097,580	—
Series C preferred stock	7,212,316	—
Series D preferred stock	10,300,000	—
Series E preferred stock	6,500,000	—
Series F preferred stock	6,500,000	—
Preferred stock warrants	133,334	—
Common stock warrants	907,316	46,607
	44,783,294	1,837,157

Milestone pool

Pursuant to a business acquisition prior to January 1, 1999, the Company reserved 287,698 shares of common stock (Milestone Pool) for the Company's possible acquisition of new technology from the scientific founders of the acquired business. During the year ended December 31, 2001, the Milestone Pool was terminated. In exchange for the termination of all rights to the remaining Milestone Pool shares, these scientific founders entered in consulting agreements and were granted options to purchase a total of 68,178 shares of the Company's common stock. The options vest in equal monthly installments over the four-year consulting term and will be periodically revalued and recognized as expense over the related service period. During the years ended December 31, 2001, 2002 and 2003 and the six months ended June 30, 2003 and 2004, the Company recorded stock-based compensation of $980,000, $30,000, $132,000, $63,000 and $18,000, respectively.

Common stock warrants

The Company has issued warrants to purchase shares of common stock, to private investors in connection with the issuance of preferred stock. During the year ended December 31, 2003, the Company issued warrants to purchase 13,635 shares of common stock in connection with a consulting arrangement. At December 31, 2003 warrants to purchase 907,316 shares of common stock were outstanding with a weighted average exercise price of $0.30 per share. Concurrent with the Company's initial public offering in March 2004, all outstanding

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common stock warrants existing immediately prior to the closing of the offering were converted into common stock through payment of cash and cashless exercises, resulting in the issuance of 873,002 shares of common stock. Also concurrent with the initial public offering, certain preferred stock warrants that did not expire at the closing of the offering were automatically converted into common stock warrants. At June 30, 2004, warrants to purchase 46,607 shares of common stock remain outstanding with a weighted average exercise price of $7.94 per share.

9. Income taxes

At December 31, 2003, the Company had operating loss carryforwards of approximately $74.0 million and research and development tax credit carryforwards of $3.2 million for federal income tax reporting purposes. The net operating losses and tax credits will expire beginning in 2011 if not previously utilized. In certain circumstances, as specified under Section 382 of the Internal Revenue Code of 1986, as amended, due to ownership changes, the Company's ability to utilize its net operating loss carryforwards may be limited.

Deferred income taxes reflect the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. The significant components of deferred taxes are as follows (in thousands):

	December 31,	
	2002	2003
Deferred tax assets:		
Net operating loss carryforwards	$ 19,008	$ 25,147
Research and development tax credit	2,972	3,195
License agreements	562	242
Other	230	309
	22,772	28,893
Less valuation allowance	(22,679)	(28,743)
Net deferred tax assets	93	150
Deferred tax liabilities:		
Depreciation	(93)	(150)
Net deferred taxes	$ —	$ —

A valuation allowance has been recorded for deferred tax assets because realization is primarily dependent on generating sufficient taxable income prior to the expiration of net operating loss carryforwards. The valuation allowance for deferred tax assets increased $6.5 million and $6.1 million during the years ended December 31, 2002 and 2003, respectively, principally due to net operating losses recorded during those periods. There have been no offsets or other deductions to the valuation allowance in any period since the Company's inception.

10. Convertible promissory notes

In October 2003, the Company issued Convertible Promissory Notes for $12.7 million. Interest on the unpaid principal amount of the Notes accrues annually at a rate of 6 percent. Principal and any accrued but unpaid

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interest under these Notes are due and payable upon demand by the holder at any time after October 2004; provided, however, that on or after April 30, 2004, the holders of at least a majority of the aggregate principal amount of the Notes may elect to accelerate the maturity to a date after April 30, 2004. The Notes (including accrued and unpaid interest) are automatically convertible into shares of the Company's common stock, upon the closing of the Company's initial public offering. The Notes are also convertible into shares of a subsequent private round of financing, should the holders of at least a majority of the aggregate principal amount of the Notes so elect.

In connection with the issuance of the Notes, the holders of the Notes received warrants to purchase 207,977 shares of the Company's Series F preferred stock at $15.29 per share, exercisable after the maturity date of the Notes, through 2008. If an initial public offering occurs prior to the maturity date of the Notes and the closing of the next private financing, then the warrants will expire. If the Company completes its next private round of financing prior to the maturity date of the Notes, the warrants become exercisable at the price per share of that round. The Company allocated $1.4 million of the proceeds to the warrants based on the relative fair values of the Notes and warrants (using the Black-Scholes option pricing model). The resulting $1.4 million discount on the Notes is being amortized to interest expense over the term of the Notes.

Should the Company consummate its initial public offering, and the Notes convert to common stock, the Company will recognize $11.3 million in additional interest expense, which represents the beneficial conversion feature of the Notes. This interest expense would be in addition to recognizing interest expense associated with the unamortized discount existing on the date of conversion.

The number of shares to be issued upon conversion shall be equal to the quotient obtained by dividing (A) the entire principal amount of the Notes plus accrued but unpaid interest as of the closing by (B) $9.625, rounded to the nearest whole share.

In connection with the initial public offering in March 2004, all of the outstanding convertible promissory notes, including interest accrued thereon through the closing date of the offering, were converted into 1,357,357 shares of common stock.

11. Long-term obligations and lease obligations

The Company has commitments for noncancelable operating leases for a manufacturing facility, building space and office equipment. The building lease includes rent escalation clauses (3% annually) and has two five-year renewal options. The manufacturing facility lease contains annual rent escalations of 4.5% and an option to renew the lease for two additional five-year periods. In addition to base rent, the Company is required to pay a pro rata share of the operating costs related to the manufacturing facility and building leased space. The Company was required to provide security under the manufacturing lease agreement totaling $435,000 in the form of cash and issued a preferred stock warrant to the lessor.

The Company has financed the acquisition of laboratory and scientific equipment, furniture and fixtures, computer equipment and leasehold improvements through financing arrangements with various third parties. In connection with the financings, the Company has issued preferred stock warrants to the third parties. At December 31, 2003, the Company had two financing arrangements. Under the first arrangement, the Company could borrow up to $1.7 million. At June 30, 2004, the Company had $728,000 available to it under the outstanding arrangement, which was replaced by a new financing agreement with the same party in July 2004.

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This new arrangement provides for borrowings up to $3.0 million, subject to credit approval, and expires in July 2005 unless renewed. Under the second arrangement, the Company could borrow up to $2.5 million. At June 30, 2004, the Company had $1.7 million available to it under the outstanding arrangement, which was replaced by a new financing arrangement with the same party in July 2004. This new arrangement provides for borrowings up to $3.0 million, subject to credit approval, and expires in December 2005 unless renewed. Outstanding borrowings under the current and previous financing arrangements were $1.9 million and $1.8 million at years ended December 31, 2002 and 2003, respectively, and $2.3 million at June 30, 2004. Outstanding borrowings require monthly principal and interest payments and mature at various dates through 2008. Interest rates applicable to the outstanding borrowings at December 31, 2003 range from 9.18% to 14.11%. The weighted average interest rates for borrowings outstanding during the years ended December 31, 2001, 2002 and 2003 and the six months ended June 30, 2004 were 12.66%, 11.09%, 10.27% and 9.72%, respectively. Borrowings are secured by the acquired assets that have a net book value of $2.3 million at December 31, 2003. Under all agreements, the Company is required to comply with certain nonfinancial covenants.

Future minimum payments under operating leases and equipment financing arrangements at December 31, 2003 are as follows (in thousands):

	Equipment financings arrangements	Operating leases
Year ended December 31,		
2004	$ 845	$ 1,571
2005	677	1,580
2006	375	1,430
2007	26	1,085
2008	—	1,120
Thereafter	—	2,260
	1,923	$ 9,046
Less unamortized discount	(85)	
Less current portion	(845)	
Long-term equipment obligations	$ 993	

Rent expense totaled $1.6 million during each of the years ended December 31, 2001, 2002 and 2003 and $807,000 and $843,000 during the six months ended June 30, 2003 and 2004, respectively.

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12. Net loss per share

The calculation of basic and diluted loss per share is shown on the table below (in thousands, except share and per share data).

	Year ended December 31,			Six months ended June 30,	
	2001	2002	2003	2003	2004
Net loss	$ (19,512)	$ (19,453)	$ (18,457)	$ (9,189)	$ (24,370)
Accretion of preferred stock	(8,411)	(8,001)	—	—	(8,973)
Net loss applicable to common stockholders	$ (27,923)	$ (27,454)	$ (18,457)	$ (9,189)	$ (33,343)
Weighted average common shares	1,346,468	1,476,716	1,527,775	1,524,476	9,134,012
Weighted average common shares subject to repurchase	(85,379)	(56,961)	(39,557)	(43,873)	(26,611)
Weighted average number of shares used for basic and diluted per share amounts	1,261,089	1,419,755	1,488,218	1,480,603	9,107,401
Basic and diluted net loss per common share	$ (22.14)	$ (19.34)	$ (12.40)	$ (6.21)	$ (3.66)

The Company has excluded all redeemable convertible preferred stock, redeemable convertible preferred stock warrants, convertible promissory notes, common stock warrants and outstanding stock options from the calculation of diluted net loss per common share because all securities are antidilutive for the periods presented. The total number of shares excluded from the calculations of diluted net loss per common share was 7,008,479, 8,422,596 and 9,880,023 for the years ended December 31, 2001, 2002 and 2003, respectively, and 8,438,244 and 979,652 for the six months ended June 30, 2003 and 2004, respectively.

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NOTES TO FINANCIAL STATEMENTS—(Continued)
(Information as of June 30, 2004, for the six months ended June 30, 2003 and 2004 and for the period from inception (January 5, 1996) to June 30, 2004 is unaudited)

13. Quarterly financial data (unaudited)

The following table contains selected unaudited statement of operations information for each of the quarters in 2002 and 2003, and the first two quarters of 2004. The Company believes that the following information reflects all adjustments, consisting of only normal recurring adjustments, necessary for a fair presentation of the information for the periods presented. The operating results for any quarter are not necessarily indicative of results for any future period.

	Quarter ended			
	March 31	June 30	September 30	December 31
	(in thousands, except per share data)			
2002				
Revenue	$ —	$ —	$ —	$ —
Net loss	$ (4,942)	$(5,470)	$ (4,286)	$ (4,755)
Net loss attributable to common stockholders[1]	$(12,943)	$(5,470)	$ (4,286)	$ (4,755)
Basic and diluted net loss per common share[1]	$ (9.93)	$ (3.82)	$ (2.92)	$ (3.23)
2003				
Revenue	$ 13	$ 59	$ 73	$ 25
Net loss	$ (3,843)	$(5,346)	$ (3,975)	$ (5,293)
Net loss attributable to common stockholders	$ (3,843)	$(5,346)	$ (3,975)	$ (5,293)
Basic and diluted net loss per common share	$ (2.60)	$ (3.60)	$ (2.67)	$ (3.53)
2004				
Revenue	$ 12	$ 24		
Net loss[2]	$(18,284)	$(6,086)		
Net loss attributable to common stockholders[3]	$(27,257)	$(6,086)		
Basic and diluted net loss per common share[2],[3]	$ (7.98)	$ (0.41)		

[1] Net loss attributable to common stockholders for the quarter ended March 31, 2002 includes $8.0 million in accretion of preferred stock.
[2] Net loss for the quarter ended March 31, 2004 includes $12.5 million in noncash interest expense associated with the convertible promissory notes.
[3] Net loss attributable to common stockholders for the quarter ended March 31, 2004 includes $9.0 million in accretion of preferred stock.

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1,500,000 Shares

XCYTE THERAPIES, INC.

% Convertible Exchangeable Preferred Stock

(Cumulative Dividend, Liquidation Preference $10 Per Share)

PROSPECTUS

Piper Jaffray
JMP Securities

, 2004

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution

The following table sets forth the costs and expenses, other than underwriting discounts and commissions, payable by us in connection with the sale of the convertible exchangeable preferred stock, debentures and common stock being registered. All amounts are estimates except the SEC registration fee, the NASD filing fee and The Nasdaq National Market listing fee.

	Amount
SEC registration fee	$ 2,608
NASD filing fee	2,558
Nasdaq National Market listing fee	5,000
Printing and engraving expenses	50,000
Legal fees and expenses	250,000
Accounting fees and expenses	100,000
Blue sky qualification fees and expenses	5,000
Transfer agent and registrar fees	3,500
Trustee fees	10,000
Miscellaneous fees and expenses	11,334
Total	$ 440,000

Item 14. Indemnification of Directors and Officers

Section 145 of the Delaware General Corporation Law authorizes a court to award, or a corporation to grant, indemnity to directors and officers in terms sufficiently broad to permit indemnification under certain circumstances for liabilities, including reimbursement for expenses incurred, arising under the Securities Act of 1933, as amended. Article XIV of our Amended and Restated Certificate of Incorporation (Exhibit 3.1 hereto) and Article VI of our Amended and Restated Bylaws (Exhibit 3.3 hereto), provide for indemnification of our directors and officers, and permits indemnification of our employees and other agents to the maximum extent permitted under the laws of Delaware. Delaware law provides that a corporation may eliminate the personal liability of its directors for monetary damages for breach of their fiduciary duties as directors, except liability for:

- breach of their duty of loyalty to the corporation or its stockholders;
- acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;
- unlawful payments of dividends or unlawful stock repurchases or redemptions; and
- any transaction from which the director derived an improper personal benefit.

In addition, we intend to enter into indemnification agreements (Exhibit 10.1 hereto) with our officers and directors. The underwriting agreement (Exhibit 1.1 hereto) also provides for cross-indemnification among us, and the underwriters with respect to certain matters, including matters arising under the Securities Act. We maintain directors' and officers' liability insurance.

Item 15. Recent Sales of Unregistered Securities

Since September 27, 2001, we have sold and issued the following securities:

1. As of March 19, 2004, we had granted and issued options, which remain outstanding, to purchase an aggregate of 777,158 shares of our common stock with a weighted average price of $4.64 to a number of our employees, directors and consultants pursuant to our 1996 stock incentive compensation plan. Among those receiving options were Ronald J. Berenson, Joanna S. Black, Mark Frohlich, Mark L. Bonyhadi, Kathi L. Cordova, Stewart Craig, Jean Deleage, Peter Langecker and Robert M. Williams.
2. As of March 19, 2004, we had issued an aggregate of 184,600 shares of our common stock to executive officers, directors and employees upon the exercise of stock options granted pursuant to our 1996 stock incentive compensation plan with an aggregate exercise price of $352,927.22. Among those that we have issued shares to were Ronald J. Berenson and Kathi L. Cordova.
3. In November 2001, we issued 863,648 shares of our Series E Preferred Stock to investors, including but not limited to Alta Partners, ARCH Venture Corporation, MPM Capital, entities affiliated with Sprout Group and W Capital Partners Ironworks, L.P. for an aggregate cash consideration of $13,205,264. On March 19, 2004, these shares were converted into 863,648 shares of common stock in connection with our initial public offering.
4. In November 2001, we granted and issued warrants with an expiration date of the earlier of either the closing of our initial public offering or November 12, 2006, to purchase an aggregate of 470,205 shares of common stock at an exercise price of $0.055 per share to our Series E investors for an aggregate cash consideration of $2,586, in connection with our Series E financing. On March 19, 2004, these warrants were net exercised for a total of 466,966 shares of common stock.
5. In November 2001, we granted and issued a warrant with an expiration date of the earlier of either the closing of our initial public offering or August 8, 2005 to purchase 1,818 shares of Series E Preferred Stock at an exercise price of $15.29 to Chun-Te Liao in connection with consulting services. On March 19, 2004, this warrant was terminated in connection with our initial public offering.
6. In February and March 2002, we issued 808,040 shares of our Series F Preferred Stock to investors, including but not limited to Alta Partners, ARCH Venture Corporation, RiverVest, and affiliates of Sprout Group and W Capital Partners Ironworks, L.P. for an aggregate cash consideration of $12,355,018. On March 19, 2004, these shares were converted into 808,040 shares of common stock in connection with our initial public offering.
7. In February and March 2002, we granted and issued warrants with an expiration date of the earlier of either the closing of our initial public offering or February and March 2012 to purchase an aggregate of 439,932 shares of common stock at an exercise price of $0.055 per share to our Series F investors for an aggregate cash consideration of $2,420, in connection with our Series F financing. On March 20, 2002, one of the warrants was exercised for 106,802 shares of common stock for an aggregate purchase price of $5,874.11. On March 19, 2004, the remaining warrants were net exercised for a total of 331,386 shares of common stock.
8. In February 2002, we granted and issued a warrant with an expiration date of February 7, 2009 to purchase 4,316 shares of Series F Preferred Stock at an exercise price of $15.29 to General Electric Capital Corporation in connection with a loan agreement. On March 19, 2004, this warrant was converted into a warrant to purchase 4,316 shares of common stock in connection with our initial public offering.
9. In May 2002, we issued 63,636 shares of our common stock to the Trustees of the University of Pennsylvania in connection with a license agreement.
10. In April 2003, we granted and issued a warrant with an expiration date of the earlier of the closing of our initial public offering or April 1, 2008 to purchase 6,363 shares of common stock at an exercise price of $5.50 to Inkeun Lee in connection with consulting services. On March 19, 2004, this warrant was net exercised for 1,988 shares in connection with our initial public offering.

11. In April 2003, we granted and issued a warrant with an expiration date of the earlier of the closing of our initial public offering or April 1, 2008 to purchase 7,272 shares of common stock at an exercise price of $5.50 to Inkeun Lee in connection with consulting services. On March 19, 2004, this warrant was terminated in connection with our initial public offering.

12. In July 2003, we granted and issued a warrant with an expiration date of the earlier of July 17, 2010 or the closing of our initial public offering to purchase 84 shares of Series F Preferred Stock at an exercise price of $15.29 to Oxford Finance Corporation in connection with an equipment loan. On March 19, 2004, this warrant was terminated in connection with our initial public offering.

13. In September 2003, we granted and issued a warrant with an expiration date of the earlier of September 5, 2010 or the closing of our initial public offering to purchase 140 shares of Series F Preferred Stock at an exercise price of $15.29 to Oxford Finance Corporation in connection with an equipment loan. On March 19, 2004, this warrant was terminated in connection with our initial public offering.

14. In October 2003, we sold convertible promissory notes in an aggregate amount of approximately $12.7 million to investors, including but not limited to Alta Partners, ARCH Venture Partners, MPM Capital, Sprout Group, Vector Fund, Vulcan Ventures and W Capital Partners Ironworks, L.P. These convertible promissory notes were converted into 1,357,357 shares of our common stock on March 19, 2004.

15. In October 2003, in connection with the sale of convertible promissory notes, we issued 25 warrants to purchase shares of either preferred stock issued in our next equity financing at the then applicable price per share, or, if we had not had an equity financing on or before the maturity date of the convertible promissory notes, our Series F Preferred Stock at an exercise price of $15.29 per share. These warrants were not exercised and were terminated in connection with our initial public offering.

16. In November 2003, we granted and issued a warrant with an expiration date of the earlier of November 7, 2010 or the closing of our initial public offering to purchase 154 shares of Series F Preferred Stock at an exercise price of $15.29 to Oxford Finance Corporation in connection with an equipment loan. On March 19, 2004, this warrant was terminated in connection with our initial public offering.

17. In December 2003, we granted and issued a warrant with an expiration date of the earlier of December 19, 2010 or the closing of our initial public offering to purchase 765 shares of Series F Preferred Stock at an exercise price of $15.29 to Oxford Finance Corporation in connection with an equipment loan. On March 19, 2004, this warrant was terminated in connection with our initial public offering.

18. In February 2004, we granted and issued a warrant with an expiration date of the earlier of February 25, 2011 or the closing of our initial public offering to purchase 342 shares of Series F Preferred Stock at an exercise price of $15.29 to Oxford Finance Corporation in connection with an equipment loan. On March 19, 2004, this warrant was terminated in connection with our initial public offering.

The issuances of the above securities were deemed to be exempt from registration under the Securities Act in reliance on Section 4(2) thereof, Regulation D, or another applicable exemption of the Securities Act, as transactions by an issuer not involving any public offering. In addition, certain issuances described in Items 1 and 2 were deemed exempt from registration under the Securities Act in reliance upon Rule 701 promulgated under the Securities Act. The recipients of securities in each such transaction represented to us their intentions to acquire the securities for investment purposes only and not with a view to or for sale in connection with any distribution thereof and appropriate legends were affixed to the share certificates and warrants issued in such transactions. All recipients had adequate access, through their relationships with us and otherwise, to information about us.

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Item 16. Exhibits

Exhibit number	Description
1.1	Form of Underwriting Agreement.
3.1*	Amended and Restated Certificate of Incorporation of Xcyte Therapies, Inc.
3.2	Form of Preferred Stock Certificate of Designations to be filed and effective upon completion of this offering.
3.3*	Amended and Restated Bylaws of Xcyte Therapies, Inc.
4.1	Specimen Convertible Exchangeable Preferred Stock Certificate.
4.2	Form of Preferred Stock Certificate of Designations to be filed and effective upon completion of this offering (filed as Exhibit 3.2).
4.3	Form of Indenture.
4.4*	Specimen Common Stock Certificate.
5.1****	Opinion of Heller Ehrman White & McAuliffe LLP.
10.1*	Form of Indemnification Agreement between Xcyte Therapies, Inc. and each of its officers and directors.
10.2*	Convertible Note and Warrant Purchase Agreement dated October 9, 2003.
10.3*	Form of Convertible Promissory Note issued in connection with the Convertible Note and Warrant Purchase Agreement dated October 9, 2003.
10.4*	Amended and Restated Investor Rights Agreement dated February 5, 2002.
10.5*	Amendment to Amended and Restated Investor Rights Agreement dated May 22, 2002.
10.6*	Waiver of Preemptive Rights and Amendment to Amended and Restated Investor Rights Agreement dated October 9, 2003.
10.7*	Form of Warrant to purchase Common Stock issued by Xcyte Therapies, Inc.
10.8*	Form of Warrant to purchase Series F Preferred Stock issued by Xcyte Therapies, Inc. in favor of General Electric Capital Corporation.
10.9*	Master Security Agreement between Xcyte Therapies, Inc. and Oxford Finance Corporation dated July 1, 2003.
10.10*	Senior Loan and Security Agreement dated July 1, 1999 between Xcyte Therapies, Inc. and Phoenix Leasing Incorporated.
10.11****	Master Security Agreement dated May 1, 2000 between Xcyte Therapies, Inc. and General Electric Capital Corporation.
10.12****	Amendment No. 1 to Master Security Agreement dated May 1, 2000 between Xcyte Therapies, Inc. and General Electric Capital Corporation.
10.13****	Amendment No. 2 to Master Security Agreement dated August 18, 2004 between Xcyte Therapies, Inc. and General Electric Capital Corporation.
10.14*	Facility Lease dated June 21, 1999 between Xcyte Therapies, Inc. and Alexandria Real Estate Equities, Inc.
10.15*	First Amendment to Lease dated October 23, 2001 to Lease dated June 21, 1999 between Xcyte Therapies, Inc. and Alexandria Real Estate Equities, Inc.
10.16*	Second Amendment to Lease dated March 26, 2003 to Lease dated June 21, 1999 between Xcyte Therapies, Inc. and Alexandria Real Estate Equities, Inc.

Exhibit number	Description
10.17*	Third Amendment to Lease dated November 12, 2003 to Lease dated June 21, 1999 between Xcyte Therapies, Inc. and Alexandria Real Estate Equities, Inc.
10.18*	Facility Lease dated December 7, 2000 between Xcyte Therapies, Inc. and Hibbs/ Woodinville Associates, LLC.
10.19*	Amended and Restated 1996 Stock Option Plan.
10.20****	Form of Notice of Option Grant and Agreement for 1996 Stock Option Plan.
10.21*	2003 Stock Plan.
10.22****	Form of Notice of Stock Option Grant and Agreement for 2003 Stock Plan.
10.23*	2003 Employee Stock Purchase Plan.
10.24****	Amended and Restated 2003 Directors' Stock Option Plan.
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10.30*†	License Agreement dated July 8, 1998 between Xcyte Therapies, Inc. and Genetics Institute, Inc.
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10.33*†	Services Agreement dated June 6, 2000 between Xcyte Therapies, Inc. and Lonza Biologics PLC.
10.34*†	Amendment No. 1 dated January 10, 2001 to the Services Agreement dated June 6, 2000 between Xcyte Therapies, Inc. and Lonza Biologics PLC.
10.35*†	Amendment No. 2 dated April 18, 2001 to the Services Agreement dated June 6, 2000 between Xcyte Therapies, Inc. and Lonza Biologics PLC.
10.36*†	Amendment No. 3 dated August 26, 2002 to the Services Agreement dated June 6, 2000 between Xcyte Therapies, Inc. and Lonza Biologics PLC.
10.37*†	Amendment No. 4 dated September 30, 2002 to the Services Agreement dated June 6, 2000 between Xcyte Therapies, Inc. and Lonza Biologics PLC.
10.38*†	Amendment No. 5 dated August 5, 2003 to the Services Agreement dated June 6, 2000 between Xcyte Therapies, Inc. and Lonza Biologics PLC.
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10.49**	Xcyte Therapies, Inc. Code of Business Conduct and Ethics.
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23.1	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.
23.2****	Consent of Heller Ehrman White & McAuliffe LLP (included in Exhibit 5.1).
24.1****	Power of Attorney.
25.1****	Form T-1 Statement of Eligibility of Trustee.

* *Previously filed as an exhibit to registrant's registration statement on Form S-1, File No. 333-109653, originally filed with the Commission on October 10, 2003, as subsequently amended, and incorporated herein by reference.*
** *Previously filed as an exhibit to registrant's quarterly report on form 10-Q filed with the Commission on May 17, 2004.*
*** *Previously filed as an exhibit to registrant's quarterly report on form 10-Q filed with the Commission on August 16, 2004.*
**** *Previouslyfiled as an exhibit to this registration statement.*
† *Certain information in these exhibits has been omitted and filed separately with the Commission pursuant to a confidential treatment request under 17 C.F.R. Sections 200.80(b)(4), 200.83 and 230.406.*
†† *Previously filed as an exhibit to registrant's current report on Form 8-K filed with the Commission on October 8, 2004.*

Item 17. Undertakings

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

The undersigned registrant hereby undertakes that:

(1) for purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective; and

(2) for the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant has duly caused this Amendment No. 1 to Registration Statement on Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized, in the city of Seattle, State of Washington on October 20, 2004.

XCYTE THERAPIES, INC.

By: /S/ RONALD J. BERENSON
Ronald J. Berenson, M.D.
President and Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, as amended, this Amendment No. 1 to Registration Statement on Form S-1 has been signed by the following persons in the capacities and on the dates indicated:

Signature	Title	Date
/S/ RONALD J. BERENSON Ronald J. Berenson, M.D.	President, Chief Executive Officer and Director (Principal Executive Officer)	October 20, 2004
/S/ KATHI L. CORDOVA Kathi L. Cordova	Senior Vice President of Finance and Treasurer (Principal Financial and Accounting Officer)	October 20, 2004
* Stephen N. Wertheimer, M.M.	Director	October 20, 2004
* Jean Deleage, Ph.D.	Director	October 20, 2004
* Dennis Henner, Ph.D.	Director	October 20, 2004
* Peter Langecker, M.D., Ph.D	Director	October 20, 2004
* Robert T. Nelsen	Director	October 20, 2004
* Robert M. Williams, Ph.D.	Director	October 20, 2004
* Daniel R. Spiegelman	Director	October 20, 2004
*By: /s/ JOANNA S. BLACK Joanna S. Black, Attorney-in-fact		

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Exhibit Index

Exhibit number	Description
1.1	Form of Underwriting Agreement.
3.1*	Amended and Restated Certificate of Incorporation of Xcyte Therapies, Inc.
3.2	Form of Preferred Stock Certificate of Designations to be filed and effective upon completion of this offering.
3.3*	Amended and Restated Bylaws of Xcyte Therapies, Inc.
4.1	Specimen Convertible Exchangeable Preferred Stock Certificate.
4.2	Form of Preferred Stock Certificate of Designations to be filed and effective upon completion of this offering (filed as Exhibit 3.2).
4.3	Form of Indenture.
4.4*	Specimen Common Stock Certificate.
5.1****	Opinion of Heller Ehrman White & McAuliffe LLP.
10.1*	Form of Indemnification Agreement between Xcyte Therapies, Inc. and each of its officers and directors.
10.2*	Convertible Note and Warrant Purchase Agreement dated October 9, 2003.
10.3*	Form of Convertible Promissory Note issued in connection with the Convertible Note and Warrant Purchase Agreement dated October 9, 2003.
10.4*	Amended and Restated Investor Rights Agreement dated February 5, 2002.
10.5*	Amendment to Amended and Restated Investor Rights Agreement dated May 22, 2002.
10.6*	Waiver of Preemptive Rights and Amendment to Amended and Restated Investor Rights Agreement dated October 9, 2003.
10.7*	Form of Warrant to purchase Common Stock issued by Xcyte Therapies, Inc.
10.8*	Form of Warrant to purchase Series F Preferred Stock issued by Xcyte Therapies, Inc. in favor of General Electric Capital Corporation.
10.9*	Master Security Agreement between Xcyte Therapies, Inc. and Oxford Finance Corporation dated July 1, 2003.
10.10*	Senior Loan and Security Agreement dated July 1, 1999 between Xcyte Therapies, Inc. and Phoenix Leasing Incorporated.
10.11****	Master Security Agreement dated May 1, 2000 between Xcyte Therapies, Inc. and General Electric Capital Corporation.
10.12****	Amendment No. 1 to Master Security Agreement dated May 1, 2000 between Xcyte Therapies, Inc. and General Electric Capital Corporation.
10.13****	Amendment No. 2 to Master Security Agreement dated August 18, 2004 between Xcyte Therapies, Inc. and General Electric Capital Corporation.
10.14*	Facility Lease dated June 21, 1999 between Xcyte Therapies, Inc. and Alexandria Real Estate Equities, Inc.
10.15*	First Amendment to Lease dated October 23, 2001 to Lease dated June 21, 1999 between Xcyte Therapies, Inc. and Alexandria Real Estate Equities, Inc.
10.16*	Second Amendment to Lease dated March 26, 2003 to Lease dated June 21, 1999 between Xcyte Therapies, Inc. and Alexandria Real Estate Equities, Inc.

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10.17*	Third Amendment to Lease dated November 12, 2003 to Lease dated June 21, 1999 between Xcyte Therapies, Inc. and Alexandria Real Estate Equities, Inc.
10.18*	Facility Lease dated December 7, 2000 between Xcyte Therapies, Inc. and Hibbs/ Woodinville Associates, LLC.
10.19*	Amended and Restated 1996 Stock Option Plan.
10.20****	Form of Notice of Option Grant and Agreement for 1996 Stock Option Plan.
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25.1****	Form T-1 Statement of Eligibility of Trustee.

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*** *Previously filed as an exhibit to registrant's quarterly report on form 10-Q filed with the Commission on August 16, 2004.*

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† *Certain information in these exhibits has been omitted and filed separately with the Commission pursuant to a confidential treatment request under 17 C.F.R. Sections 200.80(b)(4), 200.83 and 230.406.*

†† *Previously filed as an exhibit to registrant's current report on form 8-K filed with the Commission on October 8, 2004.*

EXHIBIT 1.1

XCYTE THERAPIES, INC.

1,500,000 Shares

[__%] Convertible Exchangeable Preferred Stock
($0.001 par value per Share)

UNDERWRITING AGREEMENT

October [__], 2004

October [__], 2004

Piper Jaffray & Co.
JMP Securities LLC
as Managing Underwriters
c/o Piper Jaffray & Co.
800 Nicollet Mall
Suite 800
Minneapolis, MN 55402

Ladies and Gentlemen:

Xcyte Therapies, Inc., a Delaware corporation (the "Company"), proposes to issue and sell to the underwriters named in Schedule A annexed hereto (the "Underwriters"), for whom you are acting as representatives, an aggregate of 1,500,000 shares (the "Firm Shares") of [ ]%Convertible Exchangeable Preferred Stock, $0.001 par value per share (the "Preferred Stock"), of the Company, which Preferred Stock, at the Company's option and subject to certain conditions, is exchangeable for the Company's [__%] convertible subordinated debentures (the "Debentures") issuable pursuant to an indenture (the "Indenture") between the Company and U.S. Bank National Association, as trustee (the "Trustee") to be dated as of the time of purchase (as defined below). The Preferred Stock is and the Debentures, when and if issued, will be, convertible into shares (the "Conversion Shares") of the Company's Common Stock. If the Shares or the Debentures are converted into Common Stock prior to [_____], 2007, the Company will make an additional payment (the "Make-Whole-Payment") on the Shares or the Debentures, as the case may be, equal to the aggregate amount of dividends or interest, as the case may be, that would have accrued and become payable on the Shares or the Debentures, as the case may be, from the date of original issue of the Shares or the Debentures, as the case may be, through and including [_____], 2007, less any dividends already paid on the Shares or interest already paid on the Debentures, as the case may be. The Make-Whole Payment is payable by the Company in cash, or at the Company's option, in shares of Common Stock (the "Make-Whole Shares"). In addition, solely for the purpose of covering over-allotments, the Company proposes to grant to the Underwriters the option to purchase from the Company up to an additional 225,000 Shares (the "Additional Shares"). The Firm Shares and the Additional Shares are hereinafter collectively sometimes referred to as the "Shares." The Shares, the Debentures, the Conversion Shares and the Make-Whole Shares (collectively, the "Securities") are described in the Prospectus referred to below

The Company has filed, in accordance with the provisions of the Securities Act of 1933, as amended, and the rules and regulations thereunder (collectively, the "Act"), with the Securities and Exchange Commission (the "Commission") a registration statement on Form S-1 (File No. 333-119585), including a prospectus, relating to the Securities. The Company has furnished to you, for use by the Underwriters and by dealers, copies of one or more preliminary prospectuses (each such preliminary prospectus being herein called a "Preliminary Prospectus") relating to the Securities. Except where the context otherwise requires, the registration statement, as amended when it became or becomes effective, including all documents filed as a

part thereof, and including any information contained in a prospectus subsequently filed with the Commission pursuant to Rule 424(b) under the Act and deemed to be part of the registration statement at the time of effectiveness pursuant to Rule 430A under the Act and also including any registration statement filed pursuant to Rule 462(b) under the Act, is herein called the "Registration Statement," and the prospectus in the form filed by the Company with the Commission pursuant to Rule 424(b) under the Act on or before the second business day after the date hereof (or such earlier time as may be required under the Act), or, if no such filing is required, the form of final prospectus included in the Registration Statement at the time it became effective, is herein called the "Prospectus." As used herein, "business day" shall mean a day on which the New York Stock Exchange is open for trading.

The Company has filed, in accordance with Section 12 of the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder (collectively, the "Exchange Act"), a registration statement (as may be amended prior to the time of execution of this Agreement, the "Exchange Act Registration Statement") on Form 8-A under the Exchange Act to register, under Section 12(g) of the Exchange Act, the class of securities consisting of the Preferred Stock.

The Company and the Underwriters agree as follows:

1. Sale and Purchase. Upon the basis of the representations and warranties and subject to the terms and conditions herein set forth, the Company agrees to issue and sell to the respective Underwriters and each of the Underwriters, severally and not jointly, agrees to purchase from the Company the number of Firm Shares set forth opposite the name of such Underwriter in Schedule A attached hereto, subject to adjustment in accordance with Section 8 hereof, in each case at a purchase price of $[ ] per Share. The Company is advised by you that the Underwriters intend (i) to make a public offering of their respective portions of the Firm Shares as soon after the effective date of the Registration Statement as in your reasonable judgment is advisable and (ii) initially to offer the Firm Shares upon the terms set forth in the Prospectus. You may from time to time increase or decrease the public offering price after the initial public offering to such extent as you may determine.

In addition, the Company hereby grants to the several Underwriters the option to purchase, and upon the basis of the representations and warranties and subject to the terms and conditions herein set forth, the Underwriters shall have the right to purchase, severally and not jointly, from the Company, ratably in accordance with the number of Firm Shares to be purchased by each of them, all or a portion of the Additional Shares as may be necessary to cover over-allotments made in connection with the offering of the Firm Shares, at the same purchase price per share to be paid by the Underwriters to the Company for the Firm Shares. This option may be exercised by Piper Jaffray on behalf of the several Underwriters at any time and from time to time on or before the thirtieth day following the date of the Prospectus, by written notice to the Company. Such notice shall set forth the aggregate number of Additional Shares as to which the option is being exercised and the date and time when the Additional Shares are to be delivered (such date and time being herein referred to as the "additional time of purchase"); provided, however, that the additional time of purchase shall not be earlier than the

time of purchase (as defined below) nor earlier than the second business day after the date on which the option shall have been exercised nor later than the tenth business day after the date on which the option shall have been exercised. The number of Additional Shares to be sold to each Underwriter shall be the number which bears the same proportion to the aggregate number of Additional Shares being purchased as the number of Firm Shares set forth opposite the name of such Underwriter on Schedule A hereto bears to the total number of Firm Shares (subject, in each case, to such adjustment as you may determine to eliminate fractional shares), subject to adjustment in accordance with Section 8 hereof.

2. Payment and Delivery. Payment of the purchase price for the Firm Shares shall be made to the Company by Federal Funds wire transfer against delivery of the certificates for the Firm Shares to you through the facilities of The Depository Trust Company ("DTC") for the respective accounts of the Underwriters. Such payment and delivery shall be made at 9:00 A.M., New York City time, on October **[__]**, 2004 (unless another time shall be agreed to by you and the Company or unless postponed in accordance with the provisions of Section 8 hereof). The time at which such payment and delivery are to be made is hereinafter sometimes called "the time of purchase." Electronic transfer of the Firm Shares shall be made to you at the time of purchase in such names and in such denominations as you shall specify.

Payment of the purchase price for the Additional Shares shall be made at the additional time of purchase in the same manner and at the same office as the payment for the Firm Shares. Electronic transfer of the Additional Shares shall be made to you at the additional time of purchase in such names and in such denominations as you shall specify.

Deliveries of the documents described in Section 6 hereof with respect to the purchase of the Shares shall be made at the offices of Cooley Godward LLP at 3175 Hanover Street, Palo Alto, California 94304, at 9:00 A.M., New York City time, on the date of the closing of the purchase of the Firm Shares or the Additional Shares, as the case may be.

3. Representations and Warranties of the Company. The Company represents and warrants to and agrees with each of the Underwriters that:

(a) the Registration Statement has been declared effective under the Act; no stop order of the Commission preventing or suspending the use of any Preliminary Prospectus or the effectiveness of the Registration Statement has been issued and no proceedings for such purpose have been instituted or, to the Company's knowledge after due inquiry, are contemplated by the Commission; each Preliminary Prospectus, at the time of filing thereof, complied in all material respects with the requirements of the Act, and the last Preliminary Prospectus distributed in connection with the offering of the Shares did not, as of its date, and does not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading; the Registration Statement complied when it became effective, complies and, at the time of purchase and any additional time of purchase and any time at which any

sales with respect to which the Prospectus is delivered, will comply with the requirements of the Act, and the Prospectus will comply, as of its date and at the time of purchase and any additional times of purchase and any time at which any sales with respect to which the Prospectus is delivered, with the requirements of the Act; any statutes, regulations, contracts or other documents that are required to be described in the Registration Statement or the Prospectus or to be filed as exhibits to the Registration Statement have been and will be so described or filed; the conditions to the use of Form S-1 have been satisfied; the Registration Statement did not when it became effective, does not and, at the time of purchase and any additional time of purchase and any time at which any sales with respect to which the Prospectus is delivered, will not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading, and the Prospectus will not, as of its date and at the time of purchase and any additional time of purchase and any time at which any sales with respect to which the Prospectus is delivered, contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading; provided, however, that the Company makes no warranty or representation with respect to any statement contained in the last Preliminary Prospectus, the Registration Statement or the Prospectus in reliance upon and in conformity with information concerning an Underwriter and furnished in writing by or on behalf of such Underwriter through you to the Company expressly for use in the last Preliminary Prospectus, the Registration Statement or the Prospectus; the Exchange Act Registration Statement has become effective as provided in Section 12 of the Exchange Act; and the Company has not distributed and will not distribute any "prospectus" (within the meaning of the Act) or offering material in connection with the offering or sale of the Shares other than the Registration Statement, the then most recent Preliminary Prospectus and the Prospectus;

(b) as of the date of this Agreement, the Company has an authorized and outstanding capitalization as set forth in the sections of the Registration Statement and the Prospectus entitled "Capitalization" and "Description of Our Other Capital Stock," and, as of the time of purchase and the additional time of purchase, as the case may be, the Company shall have an authorized and outstanding capitalization as set forth in the sections of the Registration Statement and the Prospectus entitled "Capitalization," "Description of Convertible Preferred Stock" and "Description of Our Other Capital Stock" (subject, in each case, to the issuance of shares of Common Stock upon exercise of stock options and warrants disclosed as outstanding in the Registration Statement and the Prospectus and the grant of options under existing stock option plans described in the Registration Statement and the Prospectus); all of the issued and outstanding shares of capital stock, including the Common Stock, of the Company have been duly authorized and validly issued and are fully paid and non-assessable, have been issued in compliance with all federal and state securities laws and were not issued in violation of any preemptive right, resale right, right of first refusal or

similar right; the Certificate of Powers, Designations, Preferences, and Rights of the [__%] Convertible Exchangeable Preferred Stock of the Company in the form filed as an exhibit to the Registration Statement (the "Certificate of Designations"), has been heretofore duly authorized and approved in accordance with the Delaware General Corporation Law and shall become effective and in full force and effect on or before the time of purchase;

(c) the Company has been duly incorporated and is validly existing as a corporation in good standing under the laws of the State of Delaware, with full corporate power and authority to (i) own, lease and operate its properties and conduct its business as described in the Registration Statement and the Prospectus, (ii) execute and deliver this Agreement and to issue, sell and deliver the Shares as contemplated herein, (iii) execute, issue and deliver the Indenture and the Debentures and perform its obligations thereunder, (iv) issue and deliver the Conversion Shares in accordance with the terms of the Certificate of Designations or the Indenture, as the case may be, and (v) issue and deliver the Make-Whole Shares in accordance with the terms of the Certificate of Designations or the Indenture, as the case may be;

(d) the Company is duly qualified to do business as a foreign corporation and is in good standing in each jurisdiction where the ownership or leasing of its properties or the conduct of its business requires such qualification, except where the failure to be so qualified and in good standing would not, individually or in the aggregate, have a material adverse effect on the business, properties, financial condition, results of operation or prospects of the Company (a "Material Adverse Effect");

(e) the Company has no subsidiaries (as defined under the Act); the Company does not own, directly or indirectly, any shares of stock or any other equity or long-term debt securities of any corporation or have any equity interest in any firm, partnership, joint venture, association or other entity; and complete and correct copies of the certificate of incorporation (the "Certificate") and the bylaws (the "Bylaws") of the Company and all amendments (including, without limitation, any certificates of designations) thereto have been delivered to you, and, except for the filing and effectiveness of the Certificate of Designations, no changes therein will be made on or after the date hereof or on or before the time of purchase or, if later, the additional time of purchase;

(f) the Shares have been duly and validly authorized and, when issued and delivered against payment therefor as provided herein, will be duly and validly issued, fully paid and non-assessable and free of statutory and contractual preemptive rights, resale rights, rights of first refusal and similar rights;

(g) the Conversion Shares have been duly authorized and reserved for issuance upon conversion of the Shares or the Debentures, as the case may be, and if and when issued in accordance with the Certificate of Designations or the

Indenture, as the case may be, will be duly and validly issued, fully paid and nonassessable and free of statutory and contractual preemptive rights, resale rights, rights of first refusal and similar rights;

(h) the Make-Whole Shares have been duly authorized and reserved for issuance upon payment of any Make-Whole Payment in shares of Common Stock pursuant to the terms of the Certificate of Designations or the Indenture, as the case may be, and if and when issued in accordance with the Certificate of Designations or the Indenture, as the case may be, will be duly and validly issued, fully paid and nonassessable and free of statutory and contractual preemptive rights, resale rights, rights of first refusal and similar rights;

(i) the Debentures are in the form contemplated by the Indenture, have been duly authorized by the Company for issuance pursuant to the terms of the Indenture and, when executed by the Company and authenticated by the Trustee in the manner provided in the Indenture, will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms, except as the enforcement thereof may be limited by bankruptcy, insolvency, reorganization, moratorium or other similar laws relating to or affecting enforcement of the rights and remedies of creditors or by general equitable principles.

(j) the capital stock of the Company, including the Shares, the Conversion Shares and the Make-Whole Shares, conforms in all material respects to the description thereof contained in the Registration Statement and the Prospectus, and the certificates for the Shares and the Common Stock are in due and proper form and the holders of the Shares or the Common Stock will not be subject to personal liability by reason of being such holders;

(k) this Agreement has been duly authorized, executed and delivered by the Company;

(l) the Indenture and the Debentures conform in all material respects to the descriptions thereof in the Registration Statement and the Prospectus;

(m) the Indenture has been duly and validly authorized by the Company, and assuming due authorization, execution and delivery of the Indenture by the Trustee, will constitute a legally valid and binding agreement of the Company, enforceable against the Company in accordance with its terms, except as the enforcement thereof may be limited by bankruptcy, insolvency, reorganization, moratorium or other similar laws relating to or affecting enforcement of the rights and remedies of creditors or by general equitable principles; the Indenture (i) has been duly qualified under the Trust Indenture Act of 1939, as amended (the “Trust Indenture Act”) and (ii) complies as to form with the requirements of the Trust Indenture Act; as of each of the time of purchase and the additional time of purchase, as applicable, no event has occurred nor has any circumstance arisen which, had the Debentures been issued on such date, would constitute an Event of Default (as such term is defined in the Indenture);

(n) the Company is not in breach or violation of or in default under (and no event has occurred which with notice, lapse of time or both would result in any breach or violation of, constitute a default under or give the holder of any indebtedness (or a person acting on such holder's behalf) the right to require the repurchase, redemption or repayment of all or a part of such indebtedness under) (A) its Certificate or Bylaws, or any indenture, mortgage, deed of trust, bank loan or credit agreement or other evidence of indebtedness or any license to which the Company is a party or by which the Company or any of its properties may be bound or affected, (B) any lease, contract or other agreement or instrument to which the Company is a party or by which the Company or any of its properties may be bound or affected or (C) any federal, state, local or foreign law, regulation or rule or any decree, judgment or order applicable to the Company, except, in the case of clause (B) and (C), for breaches, violations, defaults and events that would not, individually or in the aggregate, have a Material Adverse Effect; and the execution, delivery and performance of this Agreement, the Indenture and the Debentures, the issuance and sale of the Shares, the issuance of the Debentures in compliance with the Indenture, the issuance of the Conversion Shares and the Make-Whole Shares in compliance with the Certificate of Designations or the Indenture, as the case may be, and the consummation of the transactions contemplated by this Agreement, the Certificate of Designations, the Indenture and the Debentures (collectively, the "Transaction Documents") will not conflict with, result in any breach or violation of or constitute a default under (nor constitute any event which with notice, lapse of time or both would result in any breach or violation of or constitute a default under or give the holder of any indebtedness (or a person acting on such holder's behalf) the right to require the repurchase, redemption or repayment of all or a part of such indebtedness under) (I) the Certificate or Bylaws, or any indenture, mortgage, deed of trust, bank loan or credit agreement or other evidence of indebtedness or any license to which the Company is a party or by which the Company or any of its properties may be bound or affected, (II) any lease, contract or other agreement or instrument to which the Company is a party or by which the Company or any of its properties may be bound or affected or (III) any federal, state, local or foreign law, regulation or rule or any decree, judgment or order applicable to the Company, except, in the case of clause (II), for breaches, violations, defaults and events that would not, individually or in the aggregate, have a Material Adverse Effect;

(o) no approval, authorization, consent or order of or filing with any federal, state, local or foreign governmental or regulatory commission, board, body, authority or agency, or of or with the National Association of Securities Dealers Automated Quotation National Market System ("NASDAQ"), or approval of the stockholders of the Company, is required in connection with the execution, delivery and performance of this Agreement, the Indenture, the issuance and sale of the Shares, the issuance of the Conversion Shares, the

issuance of the Debentures, the issuance of the Make-Whole Shares, or the consummation by the Company of the transactions contemplated by the Transaction Documents other than the registration of the Securities under the Act, qualification of the Indenture under the Trust Indenture Act, filing with and acceptance by the Delaware Secretary of State of the Certificate of Designations, authorization for quotation of the Preferred Stock on or with the NASDAQ, each of which has been effected (except for the filing with and acceptance by the Delaware Secretary of State of the Certificate of Designations, which shall occur prior to the time of purchase), listing of the Debentures on NASDAQ or a national securities exchange and such other conditions to issuance of the Debentures as set forth in the Indenture, and any necessary qualification under the securities or blue sky laws of the various jurisdictions in which the Shares are being offered by the Underwriters or under the rules and regulations of the NASD;

(p) except as expressly set forth in the Registration Statement and the Prospectus, (i) no person has the right, contractual or otherwise, to cause the Company to issue or sell to it any shares of Common Stock or shares of any other capital stock or other equity interests of the Company, (ii) no person has any preemptive rights, resale rights, rights of first refusal or other rights to purchase any shares of Common Stock or shares of any other capital stock of or other equity interests in the Company and (iii) no person has the right to act as an underwriter or as a financial advisor to the Company in connection with the offer and sale of the Shares, in the case of each of the foregoing clauses (i), (ii) and (iii), whether as a result of the filing or effectiveness of the Registration Statement or the sale of the Shares as contemplated thereby or otherwise; no person has the right, contractual or otherwise, to cause the Company to register under the Act any shares of Common Stock or shares of any other capital stock of or other equity interests in the Company, or to include any such shares or interests in the Registration Statement or the offering contemplated thereby, whether as a result of the filing or effectiveness of the Registration Statement or the sale of the Shares as contemplated thereby or otherwise; and, except as disclosed in the Registration Statement and Prospectus, no person has the right, exercisable during the Lock-Up Period (as defined below), to cause the Company to purchase any capital stock or other security of the Company;

(q) the Company has all necessary licenses, authorizations, consents and approvals and has made all necessary filings required under any federal, state, local or foreign law, regulation or rule, and has obtained all necessary licenses, authorizations, consents and approvals from other persons, in order to conduct its business; the Company is not in violation of, or in default under, and has not received notice of any proceedings relating to revocation or modification of, any such license, authorization, consent or approval or any federal, state, local or foreign law, regulation or rule or any decree, order or judgment applicable to the Company, except where such violation, default, revocation or modification would not, individually or in the aggregate, have a Material Adverse Effect;

(r) all legal or governmental proceedings, affiliate transactions, off-balance sheet transactions (including, without limitation, transactions related to, and the existence of, "variable interest entities" within the meaning of Financial Accounting Standards Board Interpretation No. 46), contracts, licenses, agreements, leases or documents of a character required to be described in the Registration Statement or the Prospectus or to be filed as an exhibit to the Registration Statement have been so described or filed as required;

(s) there are no actions, suits, claims, investigations or proceedings pending or threatened or, to the Company's knowledge, contemplated to which the Company or any of its directors or officers is or would be a party or of which any of their respective properties is or would be subject at law or in equity, before or by any federal, state, local or foreign governmental or regulatory commission, board, body, authority or agency, except any such action, suit, claim, investigation or proceeding which would not result in a judgment, decree or order having, individually or in the aggregate, a Material Adverse Effect or preventing consummation of the transactions contemplated hereby, except as set forth in the Registration Statement and the Prospectus;

(t) Ernst & Young LLP, whose report on the financial statements of the Company is included the Registration Statement and the Prospectus, are independent public accountants as required by the Act and by Rule 3600T of the Public Company Accounting Oversight Board (the "PCAOB");

(u) the financial statements included in the Registration Statement and the Prospectus, together with the related notes and schedules, present fairly the financial position of the Company as of the dates indicated and the results of operations and cash flows of the Company for the periods specified and have been prepared in compliance with the requirements of the Act and in conformity with generally accepted accounting principles applied on a consistent basis during the periods involved; any pro forma financial statements or data included in the Registration Statement and the Prospectus comply with the requirements of Regulation S-X of the Act, including, without limitation, Article 11 thereof, and the assumptions used in the preparation of such pro forma financial statements and data are reasonable, the pro forma adjustments used therein are appropriate to give effect to the transactions or circumstances described therein and the pro forma adjustments have been properly applied to the historical amounts in the compilation of those statements and data; the other financial and statistical data set forth in the Registration Statement and the Prospectus are accurately presented and prepared on a basis consistent with the financial statements and books and records of the Company; there are no financial statements (historical or pro forma) that are required to be included in the Registration Statement and the Prospectus (including, without limitation, as required by Rules 3-12 or 3-05 or Article 11 of Regulation S-X under the Act) that are not included as required; the Company does not have any material liabilities or obligations, direct or contingent (including any off-balance sheet obligations or any "variable interest entities"

within the meaning of Financial Accounting Standards Board Interpretation No. 46), not disclosed in the Registration Statement and the Prospectus; and all disclosures contained in the Registration Statement or the Prospectus regarding "non-GAAP financial measures" (as such term is defined by the rules and regulations of the Commission) comply with Regulation G of the Exchange Act and Item 10 of Regulation S-K under the Act, to the extent applicable;

(v) subsequent to the respective dates as of which information is given in the Registration Statement and the Prospectus, there has not been (i) any material adverse change, or any development involving a prospective material adverse change, in the business, properties, management, financial condition or results of operations of the Company, (ii) any transaction which is material to the Company, (iii) any obligation, direct or contingent (including any off-balance sheet obligations), incurred by the Company, which is material to the Company, (iv) any change in the capital stock or outstanding indebtedness of the Company or (v) any dividend or distribution of any kind declared, paid or made on the capital stock of the Company;

(w) the Company has obtained for the benefit of the Underwriters the agreement (a "Lock-Up Agreement"), in the form set forth as Exhibit A hereto, or other similar contractual obligation, of each of its directors and employees and each venture capital or other fund that (i) has a direct affiliation with a director of the Company and (ii) holds shares of Common Stock or any security convertible into or exercisable or exchangeable for Common Stock or any warrant or other right to purchase Common Stock or any such security;

(x) the Company is not and, after giving effect to the offering and sale of the Shares, will not be an "investment company" or an entity "controlled" by an "investment company," as such terms are defined in the Investment Company Act of 1940, as amended (the "Investment Company Act");

(y) the Company is not and, after giving effect to the offering and sale of the Shares, will not be a "holding company" or a "subsidiary company" of a "holding company" or an "affiliate" of a "holding company" or of a "subsidiary company," as such terms are defined in the Public Utility Holding Company Act of 1935, as amended (the "Public Utility Holding Company Act");

(z) the Company has good and marketable title to all property (real and personal) described the Registration Statement or in the Prospectus as being owned by the Company, free and clear of all liens, claims, security interests or other encumbrances; all the property described in the Registration Statement and the Prospectus as being held under lease by the Company is held thereby under valid, subsisting and enforceable leases;

(aa) the Company owns, or has obtained valid and enforceable licenses for, or other rights to use, the inventions, patent applications, patents, trademarks

(both registered and unregistered), tradenames, service names, copyrights, trade secrets and other proprietary information described in the Registration Statement or the Prospectus as being owned or licensed by the Company or which are necessary for the conduct of the Company's businesses, except where the failure to own, license or have such rights would not, individually or in the aggregate, have a Material Adverse Effect (collectively, "Intellectual Property"); (i) to the Company's knowledge after due inquiry, there are no third parties who have or will be able to establish rights to any Intellectual Property, except for the ownership rights of the owners of the Intellectual Property which is licensed to the Company; (ii) to the Company's knowledge after due inquiry, there is no infringement by third parties of any Intellectual Property; (iii) there is no pending or threatened action, suit, proceeding or claim by others challenging the Company's rights in or to any Intellectual Property, and the Company is unaware of any facts which could form a reasonable basis for any such action, suit, proceeding or claim; (iv) there is no pending or threatened action, suit, proceeding or claim by others challenging the validity or scope of any Intellectual Property, and the Company is unaware of any facts which could form a reasonable basis for any such action, suit, proceeding or claim; (v) there is no pending or threatened action, suit, proceeding or claim by others that the Company infringes or otherwise violates any patent, trademark, tradename, service name, copyright, trade secret or other proprietary rights of others, and the Company is unaware of any facts which could form a reasonable basis for any such action, suit, proceeding or claim; (vi) to the Company's knowledge after due inquiry, there is no patent or patent application that contains claims that interfere with the issued or pending claims of any of the Intellectual Property; and (vii) to the Company's knowledge after due inquiry, there is no prior art that may render any patent application owned by the Company of the Intellectual Property unpatentable that has not been disclosed to the U.S. Patent and Trademark Office;

(bb) the Company is not engaged in any unfair labor practice; except for matters which would not, individually or in the aggregate, have a Material Adverse Effect, (i) there is (A) no unfair labor practice complaint pending or, to the Company's knowledge after due inquiry, threatened against the Company before the National Labor Relations Board, and no grievance or arbitration proceeding arising out of or under collective bargaining agreements is pending or threatened, (B) no strike, labor dispute, slowdown or stoppage pending or, to the Company's knowledge after due inquiry, threatened against the Company and (C) no union representation dispute currently existing concerning the employees of the Company, and (ii) to the Company's knowledge after due inquiry, (A) no union organizing activities are currently taking place concerning the employees of the Company and (B) there has been no violation of any federal, state, local or foreign law relating to discrimination in the hiring, promotion or pay of employees, any applicable wage or hour laws or any provision of the Employee Retirement Income Security Act of 1974 ("ERISA") or the rules and regulations promulgated thereunder concerning the employees of the Company;

(cc) the Company and its properties, assets and operations are in compliance with, and hold all permits, authorizations and approvals required under, Environmental Laws (as defined below), except to the extent that failure to so comply or to hold such permits, authorizations or approvals would not, individually or in the aggregate, have a Material Adverse Effect; there are no past, present or, to the Company's knowledge, reasonably anticipated future events, conditions, circumstances, activities, practices, actions, omissions or plans that could reasonably be expected to give rise to any material costs or liabilities to the Company under, or to interfere with or prevent compliance by the Company with, Environmental Laws; except as would not, individually or in the aggregate, have a Material Adverse Effect, the Company (i) is not the subject of any investigation, (ii) has not received any notice or claim, (iii) is not a party to or affected by any pending or threatened action, suit or proceeding, (iv) is not bound by any judgment, decree or order and (v) has not entered into any agreement, in each case relating to any alleged violation of any Environmental Law or any actual or alleged release or threatened release or cleanup at any location of any Hazardous Materials (as defined below) (as used herein, "Environmental Law" means any federal, state, local or foreign law, statute, ordinance, rule, regulation, order, decree, judgment, injunction, permit, license, authorization or other binding requirement, or common law, relating to health, safety or the protection, cleanup or restoration of the environment or natural resources, including those relating to the distribution, processing, generation, treatment, storage, disposal, transportation, other handling or release or threatened release of Hazardous Materials, and "Hazardous Materials" means any material (including, without limitation, pollutants, contaminants, hazardous or toxic substances or wastes) that is regulated by or may give rise to liability under any Environmental Law);

(dd) from time to time, the Company conducts a review of the effect of the Environmental Laws on its business, operations and properties, in a manner which is reasonable in light of the Company's business in order to identify and evaluate associated costs and liabilities (including, without limitation, any capital or operating expenditures required for cleanup, closure of properties or compliance with the Environmental Laws or any permit, license or approval, any related constraints on operating activities and any potential liabilities to third parties);

(ee) all tax returns required to be filed by the Company have been filed, and all taxes and other assessments of a similar nature (whether imposed directly or through withholding) including any interest, additions to tax or penalties applicable thereto due or claimed to be due from such entities have been paid, other than those being contested in good faith and for which adequate reserves have been provided;

(ff) the Company maintains insurance covering its properties, operations, personnel and businesses as the Company deems adequate; such insurance insures against such losses and risks to an extent which is adequate in

accordance with customary industry practice to protect the Company and its businesses; all such insurance is fully in force on the date hereof and will be fully in force at the time of purchase and any additional time of purchase;

(gg) the Company has not sustained since the date of the last audited financial statements included in the Registration Statement and the Prospectus any loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree;

(hh) the Company has not sent or received any communication regarding termination of, or intent not to renew, any of the contracts or agreements referred to or described in, or filed as an exhibit to, the Registration Statement, and no such termination or non-renewal has been threatened by the Company or, to the Company's knowledge, any other party to any such contract or agreement;

(ii) the Company maintains a system of internal accounting controls sufficient to provide reasonable assurance that (i) transactions are executed in accordance with management's general or specific authorization; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting principles and to maintain accountability for assets; (iii) access to assets is permitted only in accordance with management's general or specific authorization; and (iv) the recorded accountability for assets is compared with existing assets at reasonable intervals and appropriate action is taken with respect to any differences;

(jj) the Company has established and maintains and evaluates "disclosure controls and procedures" (as such term is defined in Rule 13a-15 and 15d-15 under the Exchange Act) and "internal control over financial reporting" (as such term is defined in Rule 13a-15 and 15d-15 under the Exchange Act); such disclosure controls and procedures are designed to ensure that material information relating to the Company is made known to the Company's Chief Executive Officer and its Principal Financial and Accounting Officer by others within those entities, and such disclosure controls and procedures are effective to perform the functions for which they were established; the Company's auditors and the Audit Committee of the Board of Directors of the Company have been advised of: (i) any significant deficiencies in the design or operation of internal controls which could adversely affect the Company's ability to record, process, summarize, and report financial data; and (ii) any known fraud, whether or not material, that involves management or other employees who have a role in the Company's internal controls; any material weaknesses in internal controls have been identified for the Company's auditors; since the date of the most recent evaluation of such disclosure controls and procedures, there have been no significant changes in internal controls or in other factors that could significantly affect internal controls, including any corrective actions with regard to significant

deficiencies and material weaknesses; and the Company is, and, since the time the Common Stock was first registered under Section 12 of the Exchange Act, has been in compliance with all applicable effective provisions of the Sarbanes-Oxley Act of 2002 (the "Sarbanes-Oxley Act") and the rules and regulations of the Commission and the NASDAQ promulgated thereunder and is actively taking reasonable steps to ensure that it will be in compliance with other applicable provisions of the Sarbanes-Oxley Act upon the effectiveness of such provisions;

(kk) The chief executive officer and the chief financial officer of the Company have made all certifications required by the Sarbanes-Oxley Act and any related rules and regulations promulgated by the Commission, and the statements contained in each such certification were true and correct when made.

(ll) the Company has provided you true, correct and complete copies of all documentation pertaining to any extension of credit in the form of a personal loan made, directly or indirectly, by the Company to any director or executive officer of the Company, or to any family member or affiliate of any director or executive officer of the Company; and on or after July 30, 2002, the Company has not, directly or indirectly, (i) extended credit, arranged to extend credit, or renewed any extension of credit, in the form of a personal loan, to or for any director or executive officer of the Company, or to or for any family member or affiliate of any director or executive officer of the Company; or (ii) made any material modification, including any renewal thereof, to any term of any personal loan to any director or executive officer of the Company, or any family member or affiliate of any director or executive officer, which loan was outstanding on July 30, 2002;

(mm) all statistical or market-related data included in the Registration Statement or the Prospectus are based on or derived from sources that the Company believes to be reliable and accurate, and the Company has obtained the written consent to the use of such data from such sources to the extent required;

(nn) neither the Company nor, to the Company's knowledge, any employee or agent of the Company has made any payment of funds of the Company or received or retained any funds in violation of any law, rule or regulation, which payment, receipt or retention of funds is of a character required to be disclosed in the Registration Statement or the Prospectus;

(oo) the preclinical tests and clinical trials that are described in, or the results of which are referred to in, the Registration Statement or the Prospectus were and, if still pending, are being conducted in accordance with protocols filed with the appropriate regulatory authorities for each such test or trial, as the case may be; the description of the results of such tests and trials contained in the Registration Statement or the Prospectus are accurate and complete, and the Company has no knowledge of any other studies or tests the results of which are inconsistent with, or otherwise call into question, the results described or referred

to in the Registration Statement or the Prospectus; the Company has not received any notices or other correspondence from the Food and Drug Administration of the U.S. Department of Health and Human Services or any committee thereof or from any other governmental agency requiring the termination, suspension or modification of any clinical trials that are described or referred to in the Registration Statement or the Prospectus;

(pp) except pursuant to this Agreement, the Company has not incurred any liability for any finder's or broker's fee or agent's commission in connection with the execution and delivery of this Agreement or the consummation of the transactions contemplated hereby or by the Prospectus;

(qq) neither the Company nor any of its directors, officers, affiliates or controlling persons has taken, directly or indirectly, any action designed, or which has constituted or might reasonably be expected to cause or result in, under the Exchange Act or otherwise, the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Shares;

(rr) to the Company's knowledge after due inquiry, there are no affiliations or associations between any member of the NASD and any of the Company's officers, directors or 5% or greater securityholders;

(ss) on the respective dates of award to the Company of the National Institutes of Health, Small Business Innovation Research grants described in the Registration Statement or the Prospectus, the Company, to its knowledge, satisfied the eligibility requirements for such grants; and at the time of any draw-downs thereon, the Company satisfied the eligibility requirements for such draw-downs, as the case may be, including, without limitation, the requirements set forth in 13 C.F.R. 121; and the Company will not accept any funds from any such grants, or apply for additional Small Business Innovation Research grants, unless, at the time of such acceptance or application, as the case may be, the Company satisfies such eligibility requirements.

In addition, any certificate signed by any officer of the Company and delivered to the Underwriters or counsel for the Underwriters in connection with the offering of the Shares shall be deemed to be a representation and warranty by the Company as to matters covered thereby, to each Underwriter.

4. Certain Covenants of the Company. The Company hereby agrees:

(a) to furnish such information as may be required and otherwise to cooperate in qualifying the Shares for offering and sale under the securities or blue sky laws of such states or other jurisdictions as you may designate and to maintain such qualifications in effect so long as you may request for the distribution of the Shares; provided, however, that the Company shall not be required to qualify as a foreign corporation or to consent to the service of process

under the laws of any such jurisdiction (except service of process with respect to the offering and sale of the Shares); and to promptly advise you of the receipt by the Company of any notification with respect to the suspension of the qualification of the Shares for offer or sale in any jurisdiction or the initiation or threatening of any proceeding for such purpose;

(b) to make available to the Underwriters in New York City, as soon as practicable after the Registration Statement becomes effective, and thereafter from time to time to furnish to the Underwriters, as many copies of the Prospectus (or of the Prospectus as amended or supplemented if the Company shall have made any amendments or supplements thereto after the effective date of the Registration Statement) as the Underwriters may request for the purposes contemplated by the Act; in case any Underwriter is required to deliver a prospectus after the nine-month period referred to in Section 10(a)(3) of the Act in connection with the sale of the Shares, the Company will prepare, at its expense, promptly upon request such amendment or amendments to the Registration Statement and the Prospectus as may be necessary to permit compliance with the requirements of Section 10(a)(3) of the Act;

(c) if, at the time this Agreement is executed and delivered, it is necessary for the Registration Statement or any post-effective amendment thereto to be declared effective before the Shares maybe sold, the Company will endeavor to cause the Registration Statement or such post-effective amendment to become effective as soon as possible, and the Company will advise you promptly and, if requested by you, will confirm such advice in writing, (i) when the Registration Statement and any such post-effective amendment thereto has become effective, and (ii) if Rule 430A under the Act is used, when the Prospectus is filed with the Commission pursuant to Rule 424(b) under the Act (which the Company agrees to file in a timely manner under such Rule);

(d) to advise you promptly, confirming such advice in writing, of any request by the Commission for amendments or supplements to the Registration Statement or the Exchange Act Registration Statement or the Prospectus or for additional information with respect thereto, or of notice of institution of proceedings for, or the entry of a stop order, suspending the effectiveness of the Registration Statement and, if the Commission should enter a stop order suspending the effectiveness of the Registration Statement, to use its best efforts to obtain the lifting or removal of such order as soon as possible; to advise you promptly of any proposal to amend or supplement the Registration Statement or the Exchange Act Registration Statement or the Prospectus and to provide you and Underwriters' counsel copies of any such documents for review and comment a reasonable amount of time prior to any proposed filing and to file no such amendment or supplement to which you shall object in writing;

(e) to file promptly all reports and any definitive proxy or information statement required to be filed by the Company with the Commission in order to

comply with the Exchange Act subsequent to the date of the Prospectus and for so long as the delivery of a prospectus is required in connection with the offering or sale of the Shares; to provide you with a copy of such reports and statements and other documents to be filed by the Company pursuant to Section 13, 14 or 15(d) of the Exchange Act during such period for your review and comment a reasonable amount of time prior to any proposed filing, and to file no such report, statement or document to which you shall object in writing; and to promptly notify you of any such filing;

(f) if necessary or appropriate, to file a registration statement pursuant to Rule 462(b) under the Act and pay the applicable fees in accordance with the Act;

(g) to advise the Underwriters promptly of the happening of any event within the time during which a prospectus relating to the Shares is required to be delivered under the Act which could require the making of any change in the Prospectus then being used so that the Prospectus would not include an untrue statement of material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they are made, not misleading, and, during such time, subject to Section 4(d) hereof, to prepare and furnish, at the Company's expense, to the Underwriters promptly such amendments or supplements to such Prospectus as may be necessary to reflect any such change;

(h) to make generally available to its security holders, and to deliver to you, an earnings statement of the Company (which will satisfy the provisions of Section 11(a) of the Act) covering a period of twelve months beginning after the effective date of the Registration Statement (as defined in Rule 158(c) under the Act) as soon as is reasonably practicable after the termination of such twelve-month period but in any case not later than, March 1, 2006;

(i) to furnish to its stockholders as soon as practicable after the end of each fiscal year an annual report (including a consolidated balance sheet and statements of income, shareholders' equity and cash flow of the Company for such fiscal year, accompanied by a copy of the certificate or report thereon of nationally recognized independent certified public accountants duly registered with the PCAOB);

(j) to furnish to you five (5) copies of the Registration Statement, as initially filed with the Commission, and of all amendments thereto (including all exhibits thereto) and sufficient copies of the foregoing (other than exhibits) for distribution of a copy to each of the other Underwriters;

(k) to furnish to you promptly and, upon request, to each of the other Underwriters for a period of five years from the date of this Agreement (i) copies of any reports, proxy statements, or other communications which the Company

shall send to its stockholders or shall from time to time publish or publicly disseminate, (ii) copies of all annual, quarterly, transition and current reports filed with the Commission on Forms 10-K, 10-Q or 8-K, or such other similar forms as may be designated by the Commission, (iii) copies of documents or reports filed with any national securities exchange on which any class of securities of the Company is listed and (iv) such other information as you may reasonably request regarding the Company;

(l) to furnish to you as early as practicable prior to the time of purchase and any additional time of purchase, as the case may be, but not later than two business days prior thereto, a copy of the latest available unaudited interim and monthly financial statements, if any, of the Company which have been read by the Company's independent certified public accountants, as stated in their letter to be furnished pursuant to Section 6(d) hereof;

(m) to apply the net proceeds from the sale of the Shares in the manner set forth under the caption "Use of proceeds" in the Prospectus;

(n) to pay all costs, expenses, fees and taxes in connection with (i) the preparation and filing of the Registration Statement, each Preliminary Prospectus, the Prospectus and any amendments or supplements thereto, and the printing and furnishing of copies of each thereof to the Underwriters and to dealers (including costs of mailing and shipment), (ii) the registration, issue, sale and delivery of the Shares including any stock or transfer taxes and stamp or similar duties payable upon the sale, issuance or delivery of the Shares to the Underwriters, (iii) the producing, word processing and/or printing of this Agreement, any Agreement Among Underwriters, any dealer agreements, any Powers of Attorney and any closing documents (including compilations thereof) and the reproduction and/or printing and furnishing of copies of each thereof to the Underwriters and (except closing documents) to dealers (including costs of mailing and shipment), (iv) the qualification of the Shares for offering and sale under state or foreign laws and the determination of their eligibility for investment under state or foreign law as aforesaid (including the reasonable legal fees and filing fees and other disbursements of counsel for the Underwriters) and the printing and furnishing of copies of any blue sky surveys or legal investment surveys to the Underwriters and to dealers, (v) any listing of the Shares on any securities exchange or qualification of the Shares for quotation on the NASDAQ and any registration thereof under the Exchange Act, (vi) any filing for review of the public offering of the Shares by the NASD, including the reasonable legal fees and filing fees and other disbursements of counsel to the Underwriters, (vii) the fees and disbursements of any transfer agent or registrar for the Shares, (viii) the costs and expenses of the Company relating to presentations or meetings undertaken in connection with the marketing of the offering and sale of the Shares to prospective investors and the Underwriters' sales forces, including, without limitation, expenses associated with the production of road show slides and graphics, fees and expenses of any consultants engaged in connection with the

road show presentations, travel, lodging and other expenses incurred by the officers of the Company and any such consultants, and the cost of any aircraft chartered in connection with the road show, (ix) the preparation and filing of the Exchange Act Registration Statement, including any amendments thereto and (x) the performance of the Company's other obligations hereunder;

(o) not to sell, offer to sell, contract or agree to sell, hypothecate, pledge, grant any option to purchase or otherwise dispose of or agree to dispose of, directly or indirectly, any Common Stock or securities convertible into or exchangeable or exercisable for Common Stock or warrants or other rights to purchase Common Stock or any other securities of the Company that are substantially similar to Common Stock, or file or cause to be declared effective a registration statement under the Act relating to the offer and sale of any shares of Common Stock or securities convertible into or exercisable or exchangeable for Common Stock or warrants or other rights to purchase Common Stock or any other securities of the Company that are substantially similar to Common Stock for a period of 90 days after the date hereof (the "Lock-Up Period"), without the prior written consent of Piper Jaffray, except for (i) the registration of the Shares and the sales to the Underwriters pursuant to this Agreement, (ii) issuances of Common Stock upon the exercise of options or warrants disclosed as outstanding in the Registration Statement and the Prospectus, (iii) the issuance of employee stock options not exercisable during the Lock-Up Period pursuant to stock option plans described in the Registration Statement and the Prospectus and (iv) the issuance of Common Stock upon conversion of the Shares in compliance with the Certificate of Designations;

(p) prior to the time of purchase or the additional time of purchase, as the case may be, to issue no press release or other communication directly or indirectly and hold no press conferences with respect to the Company, the financial condition, results of operations, business, properties, assets, or liabilities of the Company, or the offering of the Shares, without your prior consent;

(q) to use its best efforts to cause the Shares, the Conversion Shares and the Make-Whole Shares, if any, to be listed for quotation on the NASDAQ and to maintain the listing of the Shares and the Common Stock (including the Conversion Shares and the Make-Whole Shares, if any) on the NASDAQ;

(r) to maintain a transfer agent and, if necessary under the jurisdiction of incorporation of the Company, a registrar for the Shares; and

(s) to cause the Debentures, if issued, to be listed for quotation on one of the following markets: The NASDAQ, The Nasdaq SmallCap Market, American Stock Exchange, New York Stock Exchange or another national securities exchange and to use its best efforts to maintain such listing.

5. Reimbursement of Underwriters' Expenses. If the Shares are not delivered for any reason other than the termination of this Agreement pursuant to the fifth paragraph of Section 8 hereof or the default by one or more of the Underwriters in its or their respective obligations hereunder, the Company shall, in addition to paying the amounts described in Section 4(n) hereof, reimburse the Underwriters for all of their out-of-pocket expenses, including the fees and disbursements of their counsel.

6. Conditions of Underwriters' Obligations. The several obligations of the Underwriters hereunder are subject to the accuracy of the representations and warranties on the part of the Company on the date hereof, at the time of purchase and, if applicable, at the additional time of purchase, the performance by the Company of its obligations hereunder and to the following additional conditions precedent:

(a) The Company shall furnish to you at the time of purchase and, if applicable, at the additional time of purchase, an opinion of Heller Ehrman White & McAuliffe LLP, counsel for the Company, addressed to the Underwriters, and dated the time of purchase or the additional time of purchase, as the case may be, with executed copies for each of the other Underwriters, and in form and substance reasonably satisfactory to Cooley Godward LLP, counsel for the Underwriters, in the form set forth in Exhibit B hereto.

(b) The Company shall furnish to you at the time of purchase and, if applicable, at the additional time of purchase, an opinion of Seed Intellectual Property Law Group PLLC, special counsel for the Company with respect to patents and proprietary rights, addressed to the Underwriters, and dated the time of purchase or the additional time of purchase, as the case may be, with executed copies for each of the other Underwriters, and in form and substance reasonably satisfactory to Cooley Godward LLP, counsel for the Underwriters, in the form set forth in Exhibit C hereto.

(c) The Company shall furnish to you at the time of purchase and, if applicable, at the additional time of purchase, an opinion of Covington & Burling, special counsel for the Company with respect to regulatory matters, addressed to the Underwriters, and dated the time of purchase or the additional time of purchase, as the case may be, with executed copies for each of the other Underwriters, and in form and substance reasonably satisfactory to Cooley Godward LLP, counsel for the Underwriters, in the form set forth in Exhibit D hereto.

(d) You shall have received from Ernst & Young LLP letters dated, respectively, the date of this Agreement, the time of purchase and, if applicable, the additional time of purchase, and addressed to the Underwriters (with executed copies for each of the Underwriters) in the forms heretofore approved by Piper Jaffray.

(e) You shall have received at the time of purchase and, if applicable, at the additional time of purchase, the favorable opinion of Cooley Godward LLP,

counsel for the Underwriters, dated the time of purchase or the additional time of purchase, as the case may be, in form and substance reasonably satisfactory to Piper Jaffray.

(f) No Prospectus or amendment or supplement to the Registration Statement or the Prospectus shall have been filed to which you object in writing.

(g) The Registration Statement and the Exchange Act Registration Statement shall become effective not later than 5:30 P.M., New York City time, on the date of this Agreement and, if Rule 430A under the Act is used, the Prospectus shall have been filed with the Commission pursuant to Rule 424(b) under the Act at or before 5:30 P.M., New York City time, on the second full business day after the date of this Agreement and any registration statement pursuant to Rule 462(b) under the Act required in connection with the offering and sale of the Shares shall have been filed and become effective no later than 10:00 P.M., New York City time, on the date of this Agreement.

(h) Prior to the time of purchase, and, if applicable, the additional time of purchase, (i) no stop order with respect to the effectiveness of the Registration Statement shall have been issued under the Act or proceedings initiated under Section 8(d) or 8(e) of the Act; (ii) the Registration Statement and all amendments thereto shall not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading; and (iii) the Prospectus and all amendments or supplements thereto shall not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they are made, not misleading.

(i) Between the time of execution of this Agreement and the time of purchase or the additional time of purchase, as the case may be, (A) no material adverse change or any development involving a prospective material adverse change in the business, properties, management, financial condition or results of operations of the Company shall occur or become known and (B) no transaction which is material and adverse to the Company has been entered into by the Company.

(j) The Company will, at the time of purchase and, if applicable, at the additional time of purchase, deliver to you a certificate of its Chief Executive Officer and its Senior Vice President of Finance, dated the time of purchase or additional time of purchase, as the case may be, in the form attached as Exhibit F hereto.

(k) You shall have received signed Lock-up Agreements referred to in Section 3(w) hereof.

(l) The Company shall have furnished to you such other documents and certificates as to the accuracy and completeness of any statement in the Registration Statement and the Prospectus as of the time of purchase and, if applicable, the additional time of purchase, as you may reasonably request.

(m) The Shares shall have been approved for quotation on the NASDAQ, subject only to notice of issuance at or prior to the time of purchase or the additional time of purchase, as the case may be.

(n) The Company and the Trustee shall have executed and delivered the Indenture.

7. Effective Date of Agreement; Termination. This Agreement shall become effective (i) if Rule 430A under the Act is not used, when you shall have received notification of the effectiveness of the Registration Statement, or (ii) if Rule 430A under the Act is used, when the parties hereto have executed and delivered this Agreement.

The obligations of the several Underwriters hereunder shall be subject to termination in the absolute discretion of Piper Jaffray or any group of Underwriters (which may include Piper Jaffray) which has agreed to purchase in the aggregate at least 50% of the Firm Shares, if (x) since the time of execution of this Agreement or the earlier respective dates as of which information is given in the Registration Statement and the Prospectus, there has been any material adverse change or any development involving a prospective material adverse change in the business, properties, management, financial condition or results of operations of the Company, which would, in Piper Jaffray's judgment or in the judgment of such group of Underwriters, make it impracticable or inadvisable to proceed with the public offering or the delivery of the Shares on the terms and in the manner contemplated in the Registration Statement and the Prospectus, or (y) since of execution of this Agreement, there shall have occurred: (i) a suspension or material limitation in trading in securities generally on the New York Stock Exchange, the American Stock Exchange or the NASDAQ; (ii) a suspension or material limitation in trading in the Company's securities on NASDAQ; (iii) a general moratorium on commercial banking activities declared by either federal or New York State authorities or a material disruption in commercial banking or securities settlement or clearance services in the United States; (iv) an outbreak or escalation of hostilities or acts of terrorism involving the United States or a declaration by the United States of a national emergency or war; or (v) any other calamity or crisis or any change in financial, political or economic conditions in the United States or elsewhere, if the effect of any such event specified in clause (iv) or (v) in Piper Jaffray's judgment or in the judgment of such group of Underwriters makes it impracticable or inadvisable to proceed with the public offering or the delivery of the Shares on the terms and in the manner contemplated in the Registration Statement and the Prospectus, or (z) since the time of execution of this Agreement, there shall have occurred any downgrading, or any notice or announcement shall have been given or made of (i) any intended or potential downgrading or (ii) any watch, review or possible change that does not indicate an affirmation or improvement in the rating accorded any securities of or guaranteed by the Company by any "nationally recognized statistical rating organization," as that term is defined in Rule 436(g)(2) under the Act.

If Piper Jaffray or any group of Underwriters elects to terminate this Agreement as provided in this Section 7, the Company and each other Underwriter shall be notified promptly in writing.

If the sale to the Underwriters of the Shares, as contemplated by this Agreement, is not carried out by the Underwriters for any reason permitted under this Agreement, or if such sale is not carried out because the Company shall be unable to comply with any of the terms of this Agreement, the Company shall not be under any obligation or liability under this Agreement (except to the extent provided in Sections 4(n), 5 and 9 hereof), and the Underwriters shall be under no obligation or liability to the Company under this Agreement (except to the extent provided in Section 9 hereof) or to one another hereunder.

8. Increase in Underwriters' Commitments. Subject to Sections 6 and 7 hereof, if any Underwriter shall default in its obligation to take up and pay for the Firm Shares to be purchased by it hereunder (otherwise than for a failure of a condition set forth in Section 6 hereof or a reason sufficient to justify the termination of this Agreement under the provisions of Section 7 hereof) and if the number of Firm Shares which all Underwriters so defaulting shall have agreed but failed to take up and pay for does not exceed 10% of the total number of Firm Shares, the non-defaulting Underwriters shall take up and pay for (in addition to the aggregate number of Firm Shares they are obligated to purchase pursuant to Section 1 hereof) the number of Firm Shares agreed to be purchased by all such defaulting Underwriters, as hereinafter provided. Such Shares shall be taken up and paid for by such non-defaulting Underwriters in such amount or amounts as you may designate with the consent of each Underwriter so designated or, in the event no such designation is made, such Shares shall be taken up and paid for by all non-defaulting Underwriters pro rata in proportion to the aggregate number of Firm Shares set forth opposite the names of such non-defaulting Underwriters in Schedule A.

Without relieving any defaulting Underwriter from its obligations hereunder, the Company agrees with the non-defaulting Underwriters that it will not sell any Firm Shares hereunder unless all of the Firm Shares are purchased by the Underwriters (or by substituted Underwriters selected by you with the approval of the Company or selected by the Company with your approval).

If a new Underwriter or Underwriters are substituted by the Underwriters or by the Company for a defaulting Underwriter or Underwriters in accordance with the foregoing provision, the Company or you shall have the right to postpone the time of purchase for a period not exceeding five business days in order that any necessary changes in the Registration Statement and the Prospectus and other documents may be effected.

The term "Underwriter" as used in this Agreement shall refer to and include any Underwriter substituted under this Section 8 with like effect as if such substituted Underwriter had originally been named in Schedule A hereto.

If the aggregate number of Firm Shares which the defaulting Underwriter or Underwriters agreed to purchase exceeds 10% of the total number of Firm Shares which all

Underwriters agreed to purchase hereunder, and if neither the non-defaulting Underwriters nor the Company shall make arrangements within the five business day period stated above for the purchase of all the Firm Shares which the defaulting Underwriter or Underwriters agreed to purchase hereunder, this Agreement shall terminate without further act or deed and without any liability on the part of the Company to any non-defaulting Underwriter and without any liability on the part of any non-defaulting Underwriter to the Company. Nothing in this paragraph, and no action taken hereunder, shall relieve any defaulting Underwriter from liability in respect of any default of such Underwriter under this Agreement.

9. Indemnity and Contribution.

(a) Subject to the provisions of subsection (c) below, the Company agrees to indemnify, defend and hold harmless each Underwriter, its partners, directors and officers, and any person who controls any Underwriter within the meaning of Section 15 of the Act or Section 20 of the Exchange Act, and the successors and assigns of all of the foregoing persons, from and against any loss, damage, expense, liability or claim (including the reasonable cost of investigation) which, jointly or severally, any such Underwriter or any such person may incur under the Act, the Exchange Act, the common law or otherwise, insofar as such loss, damage, expense, liability or claim arises out of or is based upon (i) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement (or in the Registration Statement as amended by any post-effective amendment thereof by the Company), or arises out of or is based upon any omission or alleged omission to state a material fact required to be stated in such Registration Statement or necessary to make the statements made therein not misleading, except insofar as any such loss, damage, expense, liability or claim arises out of or is based upon any untrue statement or alleged untrue statement of a material fact contained in, and in conformity with information concerning such Underwriter furnished in writing by or on behalf of such Underwriter through you to the Company expressly for use in, such Registration Statement or arises out of or is based upon any omission or alleged omission to state a material fact in connection with such information required to be stated in such Registration Statement or necessary to make such information not misleading, (ii) any untrue statement or alleged untrue statement of a material fact contained in a Prospectus (the term Prospectus for the purpose of this Section 9 being deemed to include any Preliminary Prospectus, the Prospectus and the Prospectus as amended or supplemented by the Company), or arises out of or is based upon any omission or alleged omission to state a material fact required to be stated in such Prospectus or necessary to make the statements made therein, in light of the circumstances under which they were made, not misleading, except insofar as any such loss, damage, expense, liability or claim arises out of or is based upon any untrue statement or alleged untrue statement of a material fact contained in, and in conformity with information concerning such Underwriter furnished in writing by or on behalf of such Underwriter through you to the Company expressly for use in, such Prospectus or arises out of or is based upon any omission or alleged omission to state a material fact in connection with such

information required to be stated in such Prospectus or necessary to make such information, in light of the circumstances under which they were made, not misleading, (iii) any untrue statement or alleged untrue statement made by the Company in Section 3 hereof or the failure by the Company to perform when and as required any agreement or covenant contained herein, or (iv) any untrue statement or alleged untrue statement of any material fact contained in any audio or visual materials provided by the Company or based upon written information furnished by or on behalf of the Company including, without limitation, slides, videos, films or tape recordings used in connection with the marketing of the Shares.

If any action, suit or proceeding (each, a "Proceeding") is brought against an Underwriter or any such person in respect of which indemnity may be sought against the Company pursuant to the foregoing paragraph, such Underwriter or such person shall promptly notify the Company in writing of the institution of such Proceeding and the Company shall assume the defense of such Proceeding, including the employment of counsel reasonably satisfactory to such indemnified party and payment of all fees and expenses; provided, however, that the omission to so notify the Company shall not relieve the Company from any liability which the Company may have to any Underwriter or any such person or otherwise. Such Underwriter or such person shall have the right to employ its or their own counsel in any such case, but the fees and expenses of such counsel shall be at the expense of such Underwriter or of such person unless the employment of such counsel shall have been authorized in writing by the Company in connection with the defense of such Proceeding or the Company shall not have, within a reasonable period of time in light of the circumstances, employed counsel to have charge of the defense of such Proceeding or such indemnified party or parties shall have reasonably concluded that there may be defenses available to it or them which are different from, additional to or in conflict with those available to the Company (in which case the Company shall not have the right to direct the defense of such Proceeding on behalf of the indemnified party or parties, but the Company may, without limiting the generality of the foregoing, employ counsel and participate in the defense thereof, provided the fees and expenses of such counsel shall be at the expense of the Company), in any of which events such fees and expenses shall be borne by the Company and paid as incurred (it being understood, however, that the Company shall not be liable for the expenses of more than one separate counsel (in addition to any local counsel) in any one Proceeding or series of related Proceedings in the same jurisdiction representing the indemnified parties who are parties to such Proceeding). The Company shall not be liable for any settlement of any Proceeding effected without its written consent but, if settled with the written consent of the Company, the Company agrees to indemnify and hold harmless any Underwriter and any such person from and against any loss or liability by reason of such settlement. Notwithstanding the foregoing sentence, if at any time an indemnified party shall have requested an indemnifying party to reimburse the indemnified party for fees and expenses of counsel as contemplated by the second sentence of this paragraph, then the indemnifying party agrees that it shall be liable for any settlement of any Proceeding effected without its written consent if (i) such settlement is entered into more than 60 business days after receipt by such indemnifying

party of the aforesaid request, (ii) such indemnifying party shall not have fully reimbursed the indemnified party in accordance with such request prior to the date of such settlement and (iii) such indemnified party shall have given the indemnifying party at least 30 days' prior notice of its intention to settle. No indemnifying party shall, without the prior written consent of the indemnified party, effect any settlement of any pending or threatened Proceeding in respect of which any indemnified party is or could have been a party and indemnity could have been sought hereunder by such indemnified party, unless such settlement includes an unconditional release of such indemnified party from all liability on claims that are the subject matter of such Proceeding and does not include an admission of fault, culpability or a failure to act, by or on behalf of such indemnified party.

(b) Each Underwriter severally agrees to indemnify, defend and hold harmless the Company, its directors and officers, and any person who controls the Company within the meaning of Section 15 of the Act or Section 20 of the Exchange Act, and the successors and assigns of all of the foregoing persons, from and against any loss, damage, expense, liability or claim (including the reasonable cost of investigation) which, jointly or severally, the Company or any such person may incur under the Act, the Exchange Act, the common law or otherwise, insofar as such loss, damage, expense, liability or claim arises out of or is based upon any untrue statement or alleged untrue statement of a material fact contained in, and in conformity with information concerning such Underwriter furnished in writing by or on behalf of such Underwriter through you to the Company expressly for use in, the Registration Statement (or in the Registration Statement as amended by any post-effective amendment thereof by the Company) or in a Prospectus, or arises out of or is based upon any omission or alleged omission to state a material fact in connection with such information required to be stated in such Registration Statement or such Prospectus or necessary to make such information, in light of the circumstances under which they were made, not misleading.

If any Proceeding is brought against the Company or any such person in respect of which indemnity may be sought against any Underwriter pursuant to the foregoing paragraph, the Company or such person shall promptly notify such Underwriter in writing of the institution of such Proceeding and such Underwriter shall assume the defense of such Proceeding, including the employment of counsel reasonably satisfactory to such indemnified party and payment of all fees and expenses; provided, however, that the omission to so notify such Underwriter shall not relieve such Underwriter from any liability which such Underwriter may have to the Company or any such person or otherwise. The Company or such person shall have the right to employ its own counsel in any such case, but the fees and expenses of such counsel shall be at the expense of the Company or such person unless the employment of such counsel shall have been authorized in writing by such Underwriter in connection with the defense of such Proceeding or such Underwriter shall not have, within a reasonable period of time in light of the circumstances, employed counsel to defend such Proceeding or such indemnified party or parties shall have reasonably concluded that there may be defenses available to it

or them which are different from or additional to or in conflict with those available to such Underwriter (in which case such Underwriter shall not have the right to direct the defense of such Proceeding on behalf of the indemnified party or parties, but such Underwriter may employ counsel and participate in the defense thereof but the fees and expenses of such counsel shall be at the expense of such Underwriter), in any of which events such fees and expenses shall be borne by such Underwriter and paid as incurred (it being understood, however, that such Underwriter shall not be liable for the expenses of more than one separate counsel (in addition to any local counsel) in any one Proceeding or series of related Proceedings in the same jurisdiction representing the indemnified parties who are parties to such Proceeding). No Underwriter shall be liable for any settlement of any such Proceeding effected without the written consent of such Underwriter but, if settled with the written consent of such Underwriter, such Underwriter agrees to indemnify and hold harmless the Company and any such person from and against any loss or liability by reason of such settlement. Notwithstanding the foregoing sentence, if at any time an indemnified party shall have requested an indemnifying party to reimburse the indemnified party for fees and expenses of counsel as contemplated by the second sentence of this paragraph, then the indemnifying party agrees that it shall be liable for any settlement of any Proceeding effected without its written consent if (i) such settlement is entered into more than 60 business days after receipt by such indemnifying party of the aforesaid request, (ii) such indemnifying party shall not have fully reimbursed the indemnified party in accordance with such request prior to the date of such settlement and (iii) such indemnified party shall have given the indemnifying party at least 30 days' prior notice of its intention to settle. No indemnifying party shall, without the prior written consent of the indemnified party, effect any settlement of any pending or threatened Proceeding in respect of which any indemnified party is or could have been a party and indemnity could have been sought hereunder by such indemnified party, unless such settlement includes an unconditional release of such indemnified party from all liability on claims that are the subject matter of such Proceeding and such settlement does not include an admission of fault or culpability, or a failure to act, by or on behalf of such indemnified party.

(c) If the indemnification provided for in this Section 9 is unavailable to an indemnified party under subsections (a) and (b) of this Section 9 or insufficient to hold an indemnified party harmless in respect of any losses, damages, expenses, liabilities or claims referred to therein, then each applicable indemnifying party shall contribute to the amount paid or payable by such indemnified party as a result of such losses, damages, expenses, liabilities or claims (i) in such proportion as is appropriate to reflect the relative benefits received by the Company on the one hand and the Underwriters on the other hand from the offering of the Shares or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company on the one hand and of the Underwriters on the other in connection with the statements or omissions which resulted in such losses, damages, expenses, liabilities or claims, as well as any other relevant equitable considerations. The relative benefits received by the Company on the

one hand and the Underwriters on the other shall be deemed to be in the same respective proportions as the total proceeds from the offering (net of underwriting discounts and commissions but before deducting expenses) received by the Company, and the total underwriting discounts and commissions received by the Underwriters, bear to the aggregate public offering price of the Shares. The relative fault of the Company on the one hand and of the Underwriters on the other shall be determined by reference to, among other things, whether the untrue statement or alleged untrue statement of a material fact or omission or alleged omission relates to information supplied by the Company or by the Underwriters and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission. The amount paid or payable by a party as a result of the losses, damages, expenses, liabilities and claims referred to in this subsection shall be deemed to include any legal or other fees or expenses reasonably incurred by such party in connection with investigating, preparing to defend or defending any Proceeding.

(d) The Company and the Underwriters agree that it would not be just and equitable if contribution pursuant to this Section 9 were determined by pro rata allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation that does not take account of the equitable considerations referred to in subsection (c) above. Notwithstanding the provisions of this Section 9, no Underwriter shall be required to contribute any amount in excess of the amount by which the total price at which the Shares underwritten by such Underwriter and distributed to the public were offered to the public exceeds the amount of any damage which such Underwriter has otherwise been required to pay by reason of such untrue statement or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Underwriters' obligations to contribute pursuant to this Section 9 are several in proportion to their respective underwriting commitments and not joint.

(e) The indemnity and contribution agreements contained in this Section 9 and the covenants, warranties and representations of the Company contained in this Agreement shall remain in full force and effect regardless of any investigation made by or on behalf of any Underwriter, its partners, directors or officers or any person (including each partner, officer or director of such person) who controls any Underwriter within the meaning of Section 15 of the Act or Section 20 of the Exchange Act, or by or on behalf of the Company, its directors or officers or any person who controls the Company within the meaning of Section 15 of the Act or Section 20 of the Exchange Act, and shall survive any termination of this Agreement or the issuance and delivery of the Shares. The Company and each Underwriter agree promptly to notify each other of the commencement of any Proceeding against it and, in the case of the Company, against any of the Company's officers or directors in connection with the issuance and sale of the Shares, or in connection with the Registration Statement or the Prospectus.

10. Information Furnished by the Underwriters. The statements set forth in "Commissions and Discounts" under the caption "Underwriting" in the Prospectus, only insofar as such statements relate to the amount of selling concession and reallowance that may be undertaken by the Underwriters, constitute the only information furnished by or on behalf of the Underwriters as such information is referred to in Sections 3 and 9 hereof.

11. Notices. Except as otherwise herein provided, all statements, requests, notices and agreements shall be in writing or by facsimile and, if to the Underwriters, shall be sufficient in all respects if delivered or sent to Piper Jaffray & Co., 800 Nicollet Mall, Suite 800, Minneapolis, MN 55402, Attention: Syndicate Department and, if to the Company, shall be sufficient in all respects if delivered or sent to the Company at the offices of the Company at 1124 Columbia Street, Suite 130, Seattle, Washington 98104, Attention: Ronald J. Berenson, MD, with a copy to Sonya Erickson, Heller Ehrman White & McAuliffe LLP, 701 5th Avenue, Suite 6100, Seattle, WA 98104.

12. Governing Law; Construction. This Agreement and any claim, counterclaim or dispute of any kind or nature whatsoever arising out of or in any way relating to this Agreement ("Claim"), directly or indirectly, shall be governed by, and construed in accordance with, the laws of the State of New York. The section headings in this Agreement have been inserted as a matter of convenience of reference and are not a part of this Agreement.

13. Submission to Jurisdiction. Except as set forth below, no Claim may be commenced, prosecuted or continued in any court other than the courts of the State of New York located in the City and County of New York or in the United States District Court for the Southern District of New York, which courts shall have jurisdiction over the adjudication of such matters, and the Company consents to the jurisdiction of such courts and personal service with respect thereto. The Company hereby consents to personal jurisdiction, service and venue in any court in which any Claim arising out of or in any way relating to this Agreement is brought by any third party against Piper Jaffray or any indemnified party. Each of Piper Jaffray and the Company (on its behalf and, to the extent permitted by applicable law, on behalf of its stockholders and affiliates) waives all right to trial by jury in any action, proceeding or counterclaim (whether based upon contract, tort or otherwise) in any way arising out of or relating to this Agreement. The Company agrees that a final judgment in any such action, proceeding or counterclaim brought in any such court shall be conclusive and binding upon the Company and may be enforced in any other courts to the jurisdiction of which the Company is or may be subject, by suit upon such judgment.

14. Parties at Interest. The Agreement herein set forth has been and is made solely for the benefit of the Underwriters and the Company and to the extent provided in Section 9 hereof the controlling persons, partners, directors and officers referred to in

such Section, and their respective successors, assigns, heirs, personal representatives and executors and administrators. No other person, partnership, association or corporation (including a purchaser, as such purchaser, from any of the Underwriters) shall acquire or have any right under or by virtue of this Agreement.

15. Counterparts. This Agreement may be signed by the parties in one or more counterparts which together shall constitute one and the same agreement among the parties.

16. Successors and Assigns. This Agreement shall be binding upon the Underwriters and the Company and their successors and assigns and any successor or assign of any substantial portion of the Company's and any of the Underwriters' respective businesses and/or assets.

[The Remainder of This Page Intentionally Left Blank; Signature Page Follows]

If the foregoing correctly sets forth the understanding between the Company and the several Underwriters, please so indicate in the space provided below for that purpose, whereupon this agreement and your acceptance shall constitute a binding agreement between the Company and the Underwriters, severally.

Very truly yours,

XCYTE THERAPIES, INC.

By: _____

Name: Ronald J. Berenson, MD
Title: CEO & President

Accepted and agreed to as of the
date first above written, on
behalf of themselves
and the other several Underwriters
named in Schedule A

PIPER JAFFRAY & CO.
JMP SECURITIES LLC

By: PIPER JAFFRAY & CO.

By: _____

Scott Beardsley
Managing Director

SCHEDULE A

Underwriter	Number of Firm Shares
PIPER JAFFRAY & CO.	
JMP SECURITIES LLC	
Total	

EXHIBIT A

Lock-Up Agreement

September __, 2004

PIPER JAFFRAY & CO.
AS REPRESENTATIVE
of the Underwriters
c/o Piper Jaffray & Co.
800 Nicollet Mall, Suite 800
Minneapolis, MN 55402

Re: Proposed Public Offering of Xcyte Therapies, Inc.

Ladies and Gentlemen:

The undersigned understands that Piper Jaffray & Co. ("Piper Jaffray") will act as representative for a group of underwriters (the "Underwriters") that proposes to enter into an Underwriting Agreement (the "Underwriting Agreement") with Xcyte Therapies, Inc. (the "Company"), providing for a public offering (the "Offering") by the Underwriters of securities of the Company, which may consist of common stock, preferred stock, units of securities and warrants, convertible debt securities or other securities of the Company (the "Securities"), pursuant to the Company's registration statement on Form S-1 to be filed with the U.S. Securities and Exchange Commission (the "Registration Statement").

In consideration of the Underwriters' agreement to purchase and make the Offering of the Securities, and for other good and valuable consideration, the receipt of which is hereby acknowledged, the undersigned hereby agrees that without the prior written consent of Piper Jaffray, on behalf of the Underwriters (which consent may be withheld in Piper Jaffray's sole discretion), the undersigned will not, during the period commencing on the date of the filing of the Registration Statement and ending 90 days after the date of the final prospectus relating to the Offering, directly or indirectly: (1) offer, sell, contract to sell, pledge, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of any shares of the Company's common stock (the "Common Stock"), or any securities convertible into or exercisable or exchangeable for the Common Stock; (2) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the Common Stock, or any securities convertible into or exchangeable for the Common Stock, regardless of whether any such transaction described herein is to be settled by delivery of the Common Stock or such other securities, or by delivery of cash or otherwise; (3) make any demand for, or exercise any right with respect to, the registration of any shares of the Common Stock or any security convertible into or exercisable of exchangeable for the Common Stock; or (4) publicly announce any intention to do any of the foregoing. The foregoing sentence shall not apply to (a) the sale of any Common Stock to the Underwriters pursuant to the Underwriting Agreement, (b) bona fide gifts, provided the recipient or recipients thereof agree in writing to be bound by the terms of this

Lock-Up Agreement, or (c) dispositions to any trust for the direct or indirect benefit of the undersigned and/or the immediate family of the undersigned, provided that such trust agrees in writing to be bound by the terms of this Lock-Up Agreement. For purposes of this paragraph, "immediate family" shall mean the undersigned and the spouse, any lineal descendant, father, mother, brother or sister of the undersigned and father, mother, brother or sister of the undersigned's spouse.

In addition, notwithstanding the foregoing, if the undersigned is a corporation, the corporation may transfer the capital stock of the Company to any wholly-owned subsidiary of such corporation; and, if the undersigned is a partnership, the partnership may transfer any shares of capital stock of the Company to a partner of such partnership or a retired partner of such partnership who retires after the date hereof, or to the estate of any such partner or retired partner, and any such partner who is an individual may transfer shares of capital stock, by will or intestate succession, to his or her immediate family; provided that (x) the donee or transferee agrees in writing to be bound by the foregoing in the same manner as it applies to the undersigned and (y) if the donor or transferor is a reporting person subject to Section 16(a) of the Securities Exchange Act of 1934, as amended, (the "Exchange Act"), any gifts or transfer made in accordance with this paragraph shall not require such person to, and such person shall not voluntarily, file a report of such transaction on Form 4 under the Exchange Act.

The undersigned hereby agrees and consents to the entry of stop transfer instructions with the Company's transfer agent against the transfer of securities of the Company held by the undersigned except in compliance with this Lock-Up Agreement.

The undersigned recognizes that the Offering will benefit the undersigned and the Company. The undersigned acknowledges that the Underwriters are relying on the representations and agreements of the undersigned contained in this Lock-Up Agreement in carrying out the Offering and in entering into the Underwriting Agreement.

The undersigned hereby represents and warrants that the undersigned has full power and authority to enter into this Lock-Up Agreement. This Lock-Up Agreement is irrevocable and all authority herein conferred or agreed to be conferred shall survive the death or incapacity of the undersigned and any obligations of the undersigned shall be binding upon the heirs, personal representatives, successors and assigns of the undersigned.

This Lock-Up Agreement shall be terminated and the undersigned shall be released from the undersigned's obligations hereunder (i) upon the date the Company notifies you in writing that it does not intend to proceed with the Offering, (ii) upon the date the registration statement filed with the Securities and Exchange Commission with respect to the Offering is withdrawn, (iii) upon the date the Underwriting Agreement is terminated, for any reason, prior to the time of

purchase (as defined in the Underwriting Agreement) or (iv) if the Underwriting Agreement does not become effective by January 31, 2005.

Very truly yours,

Printed Name of Securityholder:

Capacity:

(Indicate capacity of person signing if signing as custodian or trustee or on behalf of an entity)

Address:

Accepted as of the date first set forth above:

PIPER JAFFRAY & CO. AS REPRESENTATIVE of the Underwriters

By:

Name:

Title:

EXHIBIT B

OPINION OF HELLER EHRMAN WHITE & MCAULIFFE LLP

1. The Company has been duly incorporated and is validly existing as a corporation in good standing under the laws of the State of Delaware, with full corporate power and authority to own, lease and operate its properties and conduct its business as described in the Registration Statement and the Prospectus, to execute and deliver the Agreement and to issue, sell and deliver the Shares as contemplated therein.

2. The Company is duly qualified to do business as a foreign corporation and is in good standing in each jurisdiction where the ownership or leasing of its properties or the conduct of its business requires such qualification, except where the failure to be so qualified and in good standing would not, individually or in the aggregate, have a Material Adverse Effect.

3. The Agreement has been duly authorized, executed and delivered by the Company.

4. The Shares have been duly authorized and validly issued and are fully paid and non-assessable.

5. The Conversion Shares have been duly authorized and reserved for issuance upon conversion of the Shares or the Debentures, as the case may be, and if and when issued in accordance with the Certificate of Designations or the Indenture, as the case may be, will be duly and validly issued, fully paid and nonassessable and free of statutory and contractual preemptive rights, resale rights, rights of first refusal and similar rights.

6. The Make-Whole Shares have been duly authorized and reserved for issuance upon payment of any Make-Whole Payment in shares of Common Stock pursuant to the terms of the Certificate of Designations or the Indenture, as the case may be, and if and when issued in accordance with the Certificate of Designations or the Indenture, as the case may be, will be duly and validly issued, fully paid and nonassessable and free of statutory and contractual preemptive rights, resale rights, rights of first refusal and similar rights.

7. The Debentures are in the form contemplated by the Indenture, have been duly authorized by the Company for issuance pursuant to the terms of the Indenture and, when executed by the Company and authenticated by the Trustee in the manner provided in the Indenture, will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms, except as the enforcement thereof may be limited by bankruptcy, insolvency, reorganization, moratorium or other similar laws relating to or affecting enforcement of the rights and remedies of creditors or by general equitable principles.

8. The Indenture has been duly and validly authorized by the Company, and assuming due authorization, execution and delivery of the Indenture by the Trustee, will constitute a legally valid and binding agreement of the Company, enforceable against the Company in

accordance with its terms, except as the enforcement thereof may be limited by bankruptcy, insolvency, reorganization, moratorium or other similar laws relating to or affecting enforcement of the rights and remedies of creditors or by general equitable principles; the Indenture (i) has been duly qualified under the Trust Indenture Act and (ii) complies as to form with the requirements of the Trust Indenture Act; as of each of the time of purchase and the additional time of purchase, as applicable, no event has occurred nor has any circumstance arisen which, had the Debentures been issued on such date, would constitute an Event of Default (as each such term is defined in the Indenture);

9. The Company has an authorized and outstanding capitalization as set forth in the Registration Statement and the Prospectus. All of the issued and outstanding shares of capital stock of the Company (a) have been duly authorized and validly issued, (b) are fully paid and non-assessable, (c) have been issued pursuant to (i) valid exemptions from registration or qualification under applicable U.S. federal and state securities laws, (ii) the Company's Registration Statement or Form S-1 (Commission File No. 333-109653) or (iii) the Company's Registration Statement on Form S-8 (Commission File No. 333-113753), (d) are free of any statutory preemptive rights, and (e) are free of any preemptive rights, resale rights, rights of first refusal or similar rights created by any contracts to which the Company is a party and of which such counsel is aware. The Shares are free of any statutory preemptive rights, and of any preemptive rights, resale rights, rights of first refusal or similar rights created by any contracts to which the Company is a party and of which such counsel is aware. The form of certificate for the Shares filed as an exhibit to the 8-A Registration Statement is in due and proper form. The Certificate and the Bylaws, each in the form filed (or incorporated by reference) as an exhibit to the Registration Statement, have been heretofore duly authorized and adopted, and are in full force and effect as of the date hereof, in each case in accordance with the DGCL.

10. The Certificate of Designations has been duly authorized and adopted by the Company, has been filed with and accepted by the office of the Secretary of State of the State of Delaware and is in full force and effect.

11. The capital stock of the Company, including the Shares, conforms to the descriptions thereof contained in the Registration Statement and the Prospectus.

12. The form of specimen stock certificate relating to the Shares and filed as an exhibit to the Registration Statement complies with the applicable provisions of the Delaware General Corporation Law.

13. The Indenture and the Debentures conform in all material respects to the descriptions thereof in the Registration Statement and the Prospectus.

14. The Registration Statement and the Prospectus (except as to the financial statements and schedules and other financial data contained therein, as to which such counsel expresses no opinion) comply as to form in all material respects with the requirements of the Act; and the conditions to the use of Form S-1 have been satisfied.

15. The Registration Statement has become effective under the Act and, to such counsel's knowledge, no stop order proceedings with respect thereto are pending or threatened under the Act, and any required filing of the Prospectus and any supplement thereto pursuant to Rule 424 under the Act has been made in the manner and within the time period required by such Rule 424; and the class of securities consisting of the Preferred Stock has become registered under Section 12(g) of the Exchange Act.

16. No approval, authorization, consent or order of or filing with any United States federal, state or local governmental or regulatory commission, board, body, authority or agency, or of or with the NASDAQ, or approval of the stockholders of the Company, is required in connection with the execution, delivery and performance of this Agreement, the Indenture, the issuance and sale of the Shares, the issuance of the Conversion Shares, the issuance of the Make-Whole Shares, or the consummation by the Company of the transactions contemplated by the Transaction Documents other than such as have been filed or obtained under the Act and the Trust Indenture Act, filed under the Exchange Act, filed with and accepted by the Delaware Secretary of State, obtained from NASDAQ, each of which has been effected, and such as may be required under the securities or blue sky laws of the various jurisdictions in which the Shares are being offered by the Underwriters (as to which such counsel expresses no opinion).

17. The Preferred Stock is authorized for quotation on or with the NASDAQ.

18. The execution, delivery and performance of this Agreement, the Indenture and the Debentures by the Company, the issuance and sale of the Shares, the issuance of the Debentures in compliance with the Indenture, the issuance of the Conversion Shares and the Make-Whole Shares in compliance with the Certificate of Designations or the Indenture, as the case may be, and the consummation of the transactions contemplated by the Transaction Documents do not and will not conflict with, result in any breach or violation of or constitute a default under (nor constitute any event which with notice, lapse of time or both would result in any breach or violation of or constitute a default under) (a) the Certificate (including the Certificate of Designations and any other certificate of designation) or Bylaws, (b) any indenture, mortgage, deed of trust, bank loan or credit agreement or other evidence of indebtedness, or any license, lease, contract or other agreement or instrument which is filed (or incorporated by reference) as an exhibit to the Registration Statement (any of the foregoing, a "***Filed Document***"), or (c) any United States federal or state regulation or rule, or any decree, judgment or order applicable to the Company and known to such counsel.

19. To such counsel's knowledge, the Company is not in breach or violation of or in default under (nor has any event occurred which with notice, lapse of time, or both would result in any breach or violation of, or constitute a default under or give the holder of any indebtedness (or a person acting on such holder's behalf) the right to require the repurchase, redemption or repayment of all or a part of such indebtedness under) (a) the Certificate or Bylaws, or (b) any Filed Document.

20. To such counsel's knowledge, there are no actions, suits, claims, investigations or proceedings pending, threatened or contemplated to which the Company is or would be a party or to which any of its properties is or would be subject at law or in equity, before or by any United States federal, state or local governmental or regulatory commission, board, body, authority or agency which are required to be described in the Registration Statement or the Prospectus but are not so described.

21. The Company is not and, after giving effect to the offering and sale of the Shares, will not be an "investment company" or an entity "controlled" by an "investment company," as such terms are defined in the Investment Company Act of 1940, as amended.

22. The information in the Registration Statement and the Prospectus under the headings (a) "Management—Employment Agreements," (b) "Management—Equity Compensation Plan Information," (c) "Certain Relationships and Related Party Transactions," (d) "Shares Eligible For Future Sale," (e) "Description of Convertible Preferred Stock," (f) "Description of Debentures," (g) "Description of Our Other Capital Stock," (h) "Part II - Item 14 - Indemnification of Directors and Officers," and (i) "Part II - Item 15 - Recent Sales of Unregistered Securities," insofar as such statements constitute a summary of documents or matters of law, as of the date hereof, are accurate and complete in all material respects and present fairly the information required to be shown.

23. The description of the terms of written agreements between the Company and various third parties that are set forth in the Registration Statement and the Prospectus under the headings (a) "Risk factors - Risks Related To Our Business - We rely on a limited number of manufacturers and suppliers for some of the key components of our Xcellerate Technology. The loss of these suppliers, or their failure to provide us with adequate quantities of these key components when needed, could delay our clinical trails and prevent or delay commercialization of Xcellerated T Cells," (b) "Risk factors - Risks Related To Our Business - In some circumstances we plan to rely on collaborators to commercialize Xcellerated T Cells. If our current collaborators do not perform as expected or if future collaborators do not commit adequate resources to their collaboration with us, our product development and potential for profitability may suffer," (c) "Risk factors - Risks Related To Our Intellectual Property - Our rights to use antibodies and technologies licensed to us by third parties are not within our control and we may not be able to implement or Xcellerate Technology without these antibodies and technologies," (d) "Business - Manufacturing and Supply," (e) "Business - Corporate Collaborations" and (f) "Business - Technology Licenses," are accurate and fairly summarize the matters referred to therein.

24. To such counsel's knowledge, no holders of securities of the Company have rights to the registration of such securities under the Registration Statement, other than rights that have been waived or not exercised in connection with the transactions contemplated by the Registration Statement.

25. To such counsel's knowledge, there are no agreements to which the Company is a party that are required to be filed as exhibits to the Registration Statement which have not been filed as so required.

26. The statements set forth in the Registration Statement and the Prospectus under the heading “Material Federal Income Tax Consequences,” while not purporting to address all possible United States federal income tax consequences of acquiring, owning or disposing of the Shares, the Debentures and the Common Stock, insofar as they purport to constitute summaries of matters of United States federal income tax law or legal conclusions with respect thereto, constitute accurate summaries of the matters described therein in all material respects.

EXHIBIT C

OPINION OF SEED INTELLECTUAL PROPERTY LAW GROUP PLLC

1. To such counsel's knowledge, there are no legal or governmental proceedings pending relating to patent rights or other proprietary information or materials of the Company, and no such proceedings are threatened or contemplated by governmental authorities or others.

2. Such counsel is not aware of any notice of infringement received by the Company, and such counsel has no reason to believe that the Company is infringing, or would, by the sale of any product or potential product described in the Prospectus or Registration Statement, infringe any patent claims of any third party or that the company is infringing any trade secrets, trademarks, service marks, or other proprietary information of any third party, and such counsel has no reason to believe that any third party is infringing or otherwise violating any of the Company's patent claims, trade secrets, trademarks, service marks or other proprietary information.

3. Such counsel is not aware of any material fact with respect to the patent applications of the Company presently on file that (a) would preclude the issuance of patents with respect to such applications or (b) would lead such counsel to conclude that such patents, when issued, would not be valid and enforceable in accordance with applicable regulations.

4. Such counsel is unaware of any facts which, if litigated, would form a basis for a finding of unenforceability or invalidity of any of the Company's patents and other material intangible property, including, without limitation, those in-licensed to the Company; such counsel is unaware of any facts which would preclude the Company from having valid license rights or clear title to the patents referenced in the Registration Statement or the Prospectus; such counsel has no knowledge that the Company lacks or will be unable to obtain any rights or licenses to use all patents and other material intangible property and assets necessary to conduct the business now conducted or proposed to be conducted by the Company as described in the Registration Statement or the Prospectus.

5. The Company owns all patents, copyrights, inventions, trade secrets and rights described in the Prospectus or Registration Statement as being owned by it.

6. Such counsel is unaware of any contracts or other documents, relating to the Company's patents, trade secrets, trademarks, service marks or other proprietary information or materials, of a character required to be described in the Registration Statement or the Prospectus or to be filed as an exhibit to the Registration Statement which have not been so described or filed.

EXHIBIT D

OPINION OF COVINGTON & BURLING

Such counsel is of the opinion that the sections of the Registration Statement and the Prospectus captioned "Risk Factors—Risks Related To Our Business —Our ability to initiate a pivotal trial in patients with CLL on our proposed protocol and timeline is uncertain and highly dependent on the FDA," "Risk Factors —Risks Related To Our Business —We may fail to obtain or may experience delays in obtaining regulatory approval to market Xcellerated T Cells, which will significantly harm our business," "Risk Factors—Risks Related To Our Business —Even if we obtain regulatory approvals for Xcellerated T Cells, those approvals and ongoing regulation of our products may limit how we manufacture and market our products, which could prevent us from realizing the full benefit of our efforts," "Risk Factors—Risks Related To Our Business —If we or any of our third party manufacturers do not maintain high standards of manufacturing, our ability to develop and commercialize Xcellerated T Cells could be delayed or curtailed," and "Business—Governmental Regulation," insofar as such sections constitute a summary of the Federal Food, Drug, and Cosmetic Act, as amended, the Public Health Service Act, as amended, and the regulations, policies, and procedures of the FDA, including the process under the aforementioned laws to submit applications with the FDA and obtain FDA approvals or clearances, at the time such Registration Statement became effective, as of the date of the Prospectus and as of the date hereof, was or is, as the case may be, an accurate summary in all material respects of such laws, regulations, policies, and procedures.

Such counsel informs the Company that, in the course of the preparation of such counsel's opinion, no facts have come to such counsel's attention that cause such counsel to believe that (a) the Regulatory Information contained in the Registration Statement insofar as it relates to FDA Regulatory Matters, at the time such Registration Statement became effective contained or as of the date hereof contains an untrue statement of a material fact or omitted or omits to state a material fact necessary to make the statements therein not misleading, or (b) the Regulatory Information contained in the Prospectus insofar as it relates to FDA Regulatory Matters, at the date of the Prospectus and as of the date hereof, contained an untrue statement of material fact or omitted to state a material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

To such counsel's knowledge there are no FDA enforcement actions pending or threatened against the Company.

EXHIBIT E

OFFICERS' CERTIFICATE

Each of the undersigned, Ronald J. Berenson, M.D., President and Chief Executive Officer, and Kathi L. Cordova, C.P.A., Vice President, Finance, of Xcyte Therapies, Inc., a Delaware corporation (the "***Company***"), on behalf of the Company, does hereby certify pursuant to Section 6(k) of that certain Underwriting Agreement dated October [__], 2004 (the "***Underwriting Agreement***") between the Company and Piper Jaffray & Co. and JMP Securities LLC, as representatives of the several underwriters (terms used in this Certificate but not defined herein are defined in the Underwriting Agreement) do hereby certify, in their respective capacities as officers of the Company, as follows:

1. The representations, warranties and agreements of the Company contained in the Underwriting Agreement were true and correct when made and are true and correct as of the date hereof;

2. The Company has performed all covenants and agreements and satisfied all conditions contained in the Underwriting Agreement;

3. No stop order with respect to the effectiveness of the Registration Statement shall have been issued under the Securities Act of 1933, as amended, and the rules and regulations thereunder (collectively, the "Act") or proceedings initiated under Section 8(d) or 8(e) of the Act; (ii) the Registration Statement and all amendments thereto shall not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading; and (iii) the Prospectus and all amendments or supplements thereto shall not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they are made, not misleading;

4. Between the time of execution of the Underwriting Agreement and the time of purchase or the additional time of purchase, as the case may be, (i) no material adverse change or any development involving a prospective material adverse change in the business, properties, management, financial condition or results of operations of the Company shall occur or become known and (ii) no transaction which is material and adverse to the Company has been entered into by the Company; and

5. Heller Ehrman White & McAuliffe and Cooley Godward LLP are entitled to rely on this certificate in connection with the opinions such firms are rendering pursuant to the Underwriting Agreement.

IN WITNESS WHEREOF, I have signed my name to this Executive Officers' Certificate this [__] day of October, 2004.

Ronald J. Berenson, M.D.
President and Chief Executive Officer

Kathi L. Cordova, C.P.A.
Chief Financial Officer

[SIGNATURE PAGE TO OFFICERS' CERTIFICATE]

**CERTIFICATE OF THE POWERS, DESIGNATIONS,
PREFERENCES AND RIGHTS OF THE**

**_____% CONVERTIBLE EXCHANGEABLE PREFERRED STOCK
($0.001 PAR VALUE)
(CUMULATIVE DIVIDEND, LIQUIDATION PREFERENCE $10 PER SHARE)**

OF XCYTE THERAPIES, INC.

**PURSUANT TO SECTION 151(g) OF THE GENERAL CORPORATION LAW
OF THE STATE OF DELAWARE**

THE UNDERSIGNED, being the Secretary of Xcyte Therapies, Inc., a Delaware corporation (the "Company"), **DOES HEREBY CERTIFY** that, pursuant to the provisions of Section 151(g) of the General Corporation Law of the State of Delaware, the following resolutions were duly adopted by the Board of Directors of the Company and a Committee thereof, and pursuant to authority conferred upon the Board of Directors by the provisions of the Certificate of Incorporation of the Company, as amended (the "Certificate of Incorporation") and, in the case of the Committee, by express resolution of the Board of Directors, the Board of Directors of the Company and the Committee adopted resolutions fixing the designation and the relative powers, preferences, rights, qualifications, limitations and restrictions of such stock. These composite resolutions are as follows:

RESOLVED, that pursuant to authority expressed granted to and vested in the Board of Directors of the Company by the provisions of the Certificate of Incorporation, the issuance of a series of preferred stock, par value $0.001 per share, which shall consist of up to 1,725,000 of the 5,000,000 shares of preferred stock which the Company now has authority to issue, be, and the same hereby is, authorized, and the Board hereby fixes the powers, designations, preferences and relative, participating, optional and other special rights, and the qualifications, limitations and restrictions thereof (in addition to the powers, designations, preferences and relative, participating, optional or other special rights, and the qualifications, limitations or restrictions thereof, set forth in the Certificate of Incorporation which may be applicable to the preferred stock of this series) as follows:

1. Number of Shares and Designation. 1,725,000 shares of the preferred stock, par value $0.001 per share, of the Company are hereby constituted as a series of the preferred stock designated as _____% Convertible Exchangeable Preferred Stock (the "Preferred Stock").

2. Definitions. For purposes of the Preferred Stock, in addition to those terms otherwise defined herein, the following terms shall have the meanings indicated:

"***Affiliate***" of any specified person shall mean any other person directly or indirectly controlling or controlled by or under direct or indirect common control with such specified person. For the purposes of this definition, "control," when used with respect to any

specified person means the power to direct or cause the direction of the management and policies of such person, directly or indirectly, whether through the ownership of voting securities, by contract or otherwise; and the terms "controlling" and "controlled" have meanings correlative to the foregoing.

"***Applicable Price***" shall have the meaning specified in Section 7(l).

"***Automatic Conversion***" shall have the meaning specified in Section 7(j).

"***Automatic Conversion Date***" shall have the meaning specified in Section 7(j).

"***Automatic Conversion Notice***" shall have the meaning specified in Section 7(j).

"***Board of Directors***" shall mean the Board of Directors of the Company or a committee of such Board duly authorized to act for it hereunder.

"***Board Resolution***" means a copy of a resolution certified by the Secretary or an Assistant Secretary of the Company to have been duly adopted by the Board of Directors and to be in full force and effect on the date of such certification, and delivered to the Transfer Agent.

"***Business Day***" means each Monday, Tuesday, Wednesday, Thursday and Friday which is not a day on which the banking institutions in The City of New York, New York are authorized or obligated by law or executive order to close or be closed.

"***Commission***" shall mean the Securities and Exchange Commission.

"***Common Stock***" shall mean the class of capital stock of the Company designated as Common Stock, par value $0.001 per share, at the date hereof. Subject to the provisions of Section 7(e), shares issuable on conversion of the Preferred Stock shall include only shares of such class or shares of any class or classes resulting from any reclassification or reclassifications thereof and which have no preference in respect of dividends or of amounts payable in the event of any voluntary or involuntary liquidation, dissolution or winding up of the Company and which are not subject to redemption by the Company; *provided that* if at any time there shall be more than one such resulting class, the shares of each such class then so issuable shall be substantially in the proportion which the total number of shares of such class resulting from all such reclassifications bears to the total number of shares of all such classes resulting from all such reclassifications.

"***Common Stock Fundamental Change***" shall have the meaning specified in Section 7(l).

"***Company***" shall mean Xcyte Therapies, Inc., a Delaware corporation, and, shall include its successors and assigns.

"***Conversion Price***" shall have the meaning specified in Section 7(a).

"***Custodian***" shall mean _____, as custodian with respect to the Global Certificate, or any successor entity thereto.

"***Debentures***" shall mean the Company's ____% Convertible Subordinated Debentures, issued under an Indenture, dated as of _____ ____, 2004 between the Company and U.S. Bank National Association, as trustee (the "Indenture").

"***Depositary***" means, with respect to the Preferred Stock issuable or issued in the form of a Global Certificate, the person specified in Section 13 as the Depositary with respect to the Preferred Stock, until a successor shall have been appointed and become such pursuant to the applicable provisions of this Certificate, and thereafter, "***Depositary***" shall mean or include such successor. The foregoing sentence shall likewise apply to any subsequent successor or successors.

"***Dividend Payment Date***" shall have the meaning specified in Section 3(a).

"***Dividend Payment Record Date***" shall have the meaning specified in Section 3(a).

"***Dividend Periods***" shall mean quarterly dividend periods commencing on the ____ day of _____, _____, _____ and _____ of each year and ending on and including the day preceding the ____ day of the next succeeding Dividend Period (other than the initial Dividend Period which shall commence on the Issue Date and end on and include _____ ____, 2005).

"***Exchange Act***" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

"***Exchange Date***" shall have the meaning specified in Section 10(b).

"***Fundamental Change***" shall have the meaning specified in Section 7(l).

"***Global Certificate***" shall have the meaning specified in Section 13(a).

"***holder***," "***holder of shares of Preferred Stock***," or "***holder of the Preferred Stock***," as applied to any share of Preferred Stock, or other similar terms (but excluding the term "beneficial holder"), shall mean any person in whose name at the time a particular share of Preferred Stock is registered on the Company's stock records, which shall include the books of the Transfer Agent in respect of the Company and any stock transfer books of the Company.

"***Issue Date***" shall mean the first date on which shares of the Preferred Stock are issued.

"Liquidation Preference" shall have the meaning specified in Section 4(a).

"***Officers' Certificate***", when used with respect to the Company, shall mean a certificate signed by (a) one of the President, the Chief Executive Officer, Executive or Senior Vice President or any Vice President (whether or not designated by a number or numbers or word added before or after the title "Vice President") and (b) by one of the Treasurer or any Assistant Treasurer, Secretary or any Assistant Secretary or Controller of the Company, which is delivered to the Transfer Agent.

"***Make-Whole Dividend Payment***" shall have the meaning specified in Section 7(k).

"***Non-Stock Fundamental Change***" shall have the meaning specified in Section 7(l).

"***Purchaser Stock Price***" shall have the meaning specified in Section 7(l.)

"***person***" shall mean a corporation, an association, a partnership, an individual, a joint venture, a joint stock company, a trust, a limited liability company, an unincorporated organization or a government or an agency or a political subdivision thereof.

"***Securities Act***" means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

"***Subsidiary***" means a corporation more than 50% of the outstanding voting stock of which is owned, directly or indirectly, by the Company or by one or more other Subsidiaries, or by the Company and one or more other Subsidiaries. For the purposes of this definition, "voting stock" means stock which ordinarily has voting power for the election of directors, whether at all times or only so long as no senior class of stock has such voting power by reason of any contingency.

"***Trading Day***" has the meaning specified in Section 7(l).

"***Transfer Agent***" means American Stock Transfer and Trust Company or such other agent or agents of the Company as may be designated by the Board of Directors of the Company as the transfer agent for the Preferred Stock.

The definitions of certain other terms are specified in Section 7.

3. Dividends.

(a) Holders of the Preferred Stock are entitled to receive, when, as and if declared by the Board of Directors, out of the funds of the Company legally available therefor, cash dividends at the annual rate of ____% of the Liquidation Preference, payable in equal quarterly installments on _____ ____, _____ ____, _____ ____ and _____ ____ (each a "Dividend Payment Date"), commencing _____ ____, 2005 (and, in the case of any accrued but unpaid dividends, at such additional times and for such interim periods, if any, as determined by the Board of Directors). If any Dividend Payment Date shall be on a day other than a Business Day, then the Dividend Payment Date shall be on the next succeeding Business Day. Dividends on the Preferred Stock will be cumulative from the Issue Date, whether or not in any Dividend Period or Periods there shall be funds of the Company legally available for the payment of such dividends and whether or not such dividends are declared, and will be payable to holders of record as they appear on the stock books of the Company on such record dates (each such date, a "Dividend Payment Record Date"), which shall be not more than 60 days nor less than 10 days preceding the Dividend Payment Dates thereof, as shall be fixed by the Board of Directors. Dividends on the Preferred Stock shall accrue (whether or not declared) on a daily basis from the Issue Date, and accrued dividends for each Dividend Period shall accumulate to the extent not

paid on the Dividend Payment Date first following the Dividend Period for which they accrue. As used herein, the term “accrued” with respect to dividends includes both accrued and accumulated dividends.

(b) The amount of dividends payable per share for each full Dividend Period for the Preferred Stock shall be computed by dividing the annual dividend rate by four (rounded down to the nearest one one-hundredth (1/100) of one cent). The amount of dividends payable for the initial Dividend Period on the Preferred Stock, or any other period shorter or longer than a full Dividend Period on the Preferred Stock, shall be computed on the basis of a 360-day year consisting of twelve 30-day months. Holders of shares of Preferred Stock called for redemption on a redemption date falling between the close of business on a Dividend Payment Record Date and the opening of business on the corresponding Dividend Payment Date shall, in lieu of receiving such dividend on the Dividend Payment Date fixed therefor, receive such dividend payment together with all other accrued and unpaid dividends on the date fixed for redemption (unless such holders convert such shares in accordance with Section 7 hereof). Holders of shares of Preferred Stock shall not be entitled to any dividends, whether payable in cash, property or stock, in excess of cumulative dividends, as herein provided. No interest, or sum of money in lieu of interest, shall be payable in respect of any dividend payment or payments on the Preferred Stock which may be in arrears.

(c) So long as any shares of Preferred Stock are outstanding, no dividends, except as described in the next succeeding sentence, shall be declared or paid or set apart for payment on any class or series of stock of the Company ranking, as to dividends, on a parity with the Preferred Stock, for any period unless full cumulative dividends have been or contemporaneously are declared and paid or declared and a sum sufficient for the payment thereof set apart for such payment on the Preferred Stock for all Dividend Periods terminating on or prior to the applicable Dividend Payment Date. When dividends are not paid in full or a sum sufficient for such payment is not set apart, as aforesaid, upon the shares of Preferred Stock and any other class or series of stock ranking on a parity as to dividends with Preferred Stock, all dividends declared upon shares of Preferred Stock and all dividends declared upon such other stock shall be declared pro rata so that the amounts of dividends per share declared on the Preferred Stock and such other stock shall in all cases bear to each other the same ratio that accrued dividends per share on the shares of Preferred Stock and on such other stock bear to each other.

(d) So long as any shares of the Preferred Stock are outstanding, no other stock of the Company ranking on a parity with the Preferred Stock as to dividends or upon liquidation, dissolution or winding up shall be redeemed, purchased or otherwise acquired for any consideration (or any monies be paid to or made available for a sinking fund or otherwise for the purchase or redemption of any shares of any such stock) by the Company or any Subsidiary unless (i) the full cumulative dividends, if any, accrued on all outstanding shares of Preferred Stock shall have been paid or set apart for payment for all past Dividend Periods and (ii) sufficient funds shall have been set apart for the payment of the dividend for the current Dividend Period with respect to the Preferred Stock.

(e) So long as any shares of the Preferred Stock are outstanding, no dividends (other than dividends or distributions paid in shares of, or options, warrants or rights to subscribe

for or purchase shares of, Common Stock or other stock ranking junior to the Preferred Stock, as to dividends and upon liquidation, dissolution or winding up) shall be declared or paid or set apart for payment and no other distribution shall be declared or made or set apart for payment, in each case upon the Common Stock or any other stock of the Company ranking junior to the Preferred Stock as to dividends or upon liquidation, dissolution or winding up, nor shall any Common Stock nor any other such stock of the Company ranking junior to the Preferred Stock as to dividends or upon liquidation, dissolution or winding up be redeemed, purchased or otherwise acquired for any consideration (or any monies be paid to or made available for a sinking fund or otherwise for the purchase or redemption of any shares of any such stock) by the Company or any Subsidiary (except (A) by conversion into or exchange for stock of the Company ranking junior to the Preferred Stock as to dividends and upon liquidation, dissolution or winding up; or (B) repurchases of unvested shares of the Company's capital stock at cost upon termination of the employment or consultancy of the holder thereof, provided such repurchases are approved by the Board of Directors of the Company in good faith) unless, in each case (i) the full cumulative dividends, if any, accrued on all outstanding shares of Preferred Stock and any other stock of the Company ranking on a parity with the Preferred Stock as to dividends shall have been paid or set apart for payment for all past Dividend Periods and all past dividend periods with respect to such other stock and (ii) sufficient funds shall have been set apart for the payment of the dividend for the current Dividend Period with respect to the Preferred Stock and for the current dividend period with respect to any other stock of the Company ranking on a parity with the Preferred Stock as to dividends.

4. Liquidation Preference.

(a) In the event of any voluntary or involuntary dissolution, liquidation or winding up of the Company (for the purposes of this Section 4, a "Liquidation"), before any distribution of assets shall be made to the holders of Common Stock or the holders of any other stock of the Company that ranks junior to the Preferred Stock upon Liquidation, the holder of each share of Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Company available for distribution to its stockholders, a liquidation preference in an amount equal to $10 per share (the "Liquidation Preference") plus all dividends accrued and unpaid on such share up to the date of distribution of the assets of the Company to the holders of Preferred Stock, and the holders of any class or series of preferred stock ranking on a parity with the Preferred Stock as to Liquidation shall be entitled to receive the full respective liquidation preferences (including any premium) to which they are entitled and shall receive all accrued and unpaid dividends with respect to their respective shares through and including the date of distribution.

(b) If upon any Liquidation of the Company, the assets available for distribution to the holders of Preferred Stock and any other stock of the Company ranking on a parity with the Preferred Stock upon Liquidation which shall then be outstanding shall be insufficient to pay the holders of all outstanding shares of Preferred Stock and all other such parity stock the full amounts (including all dividends accrued and unpaid) of the liquidating distribution to which they shall be entitled, then the holders of each series of such stock will share ratably in any such distribution of assets first in proportion to their respective liquidation preferences until such preferences are paid in full, and then in proportion to their respective amounts of accrued but unpaid dividends. After payment of any such liquidating preference and

accrued dividends, the holders of shares of the Preferred Stock will not be entitled to any further participation in any distribution of assets by the Company.

(c) For purposes of this Section 4, a Liquidation shall not include (i) any consolidation or merger of the Company with or into any other corporation, (ii) any liquidation, dissolution, winding up or reorganization of the Company immediately followed by reincorporation as another corporation or (iii) a sale or other disposition of all or substantially all of the Company's assets to another corporation unless in connection therewith the Liquidation of the Company is specifically approved by all requisite corporate action.

(d) The holder of any shares of Preferred Stock shall not be entitled to receive any payment owed for such shares under this Section 4 until such holder shall cause to be delivered to the Company (i) the certificate(s) representing such shares of Preferred Stock and (ii) transfer instrument(s) satisfactory to the Company and sufficient to transfer such shares of Preferred Stock to the Company free of any adverse interest. No interest shall accrue on any payment upon Liquidation after the due date thereof.

5. Redemption at the Option of the Company.

(a) Preferred Stock may not be redeemed by the Company prior to _____ ____, 2007, on or after which the Company, at its option, may redeem the shares of Preferred Stock, in whole or in part, out of funds legally available therefor, at any time or from time to time, subject to the notice provisions and provisions for partial redemption described below, during the period beginning on _____ ____ of the years shown below (beginning on _____ ____, 2007 and ending on _____ ____, 2008, in the case of the first such period), at the following redemption prices per share plus an amount equal to accrued and unpaid dividends, if any, to (but excluding) the date fixed for redemption, whether or not earned or declared:

Year	Redemption Price
2007	$
2008	
2009	
2010	
2011	
2012	
2013	

and $10 at _____, 2014 and thereafter; *provided that*, if the applicable redemption date is a Dividend Payment Date, the quarterly payment of dividends becoming due on such date shall be payable to the holders of such shares of Preferred Stock registered as such on the relevant record date subject to the terms and provisions of Section 3.

No sinking fund, mandatory redemption or other similar provision shall apply to the Preferred Stock.

(b) In case the Company shall desire to exercise the right to redeem the shares of Preferred Stock, in whole or in part, pursuant to Section 5(a), it shall fix a date for redemption, and it, or at its request (which must be received by the Transfer Agent at least ten (10) Business Days prior to the date the Transfer Agent is requested to give notice as described below unless a shorter period is agreed to by the Transfer Agent), the Transfer Agent in the name of and at the expense of the Company, shall mail or cause to be mailed a notice of such redemption at least twenty (20) and not more than sixty (60) days prior to the date fixed for redemption to the holders of the shares of Preferred Stock so to be redeemed at their last addresses as the same appear on the Company's stock records (*provided that* if the Company shall give such notice, it shall also give such notice, and notice of the shares of Preferred Stock to be redeemed, to the Transfer Agent). Such mailing shall be by first class mail. The notice if mailed in the manner herein provided shall be conclusively presumed to have been duly given, whether or not the holder receives such notice. In any case, failure to give such notice by mail or any defect in the notice to the holder of any share of Preferred Stock designated for redemption shall not affect the validity of the proceedings for the redemption of any other share of Preferred Stock.

Each such notice of redemption shall specify the number of shares of Preferred Stock to be redeemed, the date fixed for redemption, the redemption price at which such shares of Preferred Stock are to be redeemed, the place or places of payment, that payment will be made upon presentation and surrender of the certificate or certificates representing such shares of Preferred Stock, that dividends accrued to (but excluding) the date fixed for redemption will be paid as specified in said notice, and that on and after said date dividends thereon or on the portion thereof to be redeemed will cease to accrue. Such notice shall also state the current Conversion Price and the date on which the right to convert such shares of Preferred Stock into Common Stock will expire.

On or prior to the redemption date specified in the notice of redemption given as provided in this Section 5(b), the Company will deposit with a bank or trust company having an office or agency in the Borough of Manhattan, City of New York and having a combined capital and surplus of at least $50,000,000 (the "Deposit Bank") an amount of money sufficient to redeem on the redemption date all the shares of Preferred Stock so called for redemption (other than those theretofore surrendered for conversion into Common Stock) at the appropriate redemption price, together with accrued dividends to (but excluding) the date fixed for redemption; *provided that* if such payment is made on the redemption date it must be received by the Deposit Bank by 10:00 a.m. New York City time, on such date. If any shares of Preferred Stock called for redemption are converted pursuant hereto, any money deposited with the Deposit Bank or so segregated and held in trust for the redemption of such shares of Preferred Stock shall be paid to the Company upon its request, or, if then held by the Company shall be discharged from such trust. The Company shall be entitled to make any deposit of funds contemplated by this Section 5 under arrangements designed to permit such funds to generate interest or other income for the Company, and the Company shall be entitled to receive all interest and other income earned by any funds while they shall be deposited as contemplated by this Section 5, *provided that* the Company shall maintain on deposit funds sufficient to satisfy all payments which the deposit arrangement shall have been established to satisfy. If the conditions precedent to the disbursement of any funds deposited by the Company pursuant to this Section 5 shall not have been satisfied within two years after the establishment of such funds, then (i) such funds shall be returned to the Company upon its request; (ii) after such return, such funds shall

be free of any trust which shall have been impressed upon them; (iii) the person entitled to the payment for which such funds shall have been originally intended shall have the right to look only to the Company for such payment, subject to applicable escheat laws; and (iv) the trustee which shall have held such funds shall be relieved of any responsibility for such funds upon the return of such funds to the Company.

If fewer than all the outstanding shares of Preferred Stock are to be redeemed, shares to be redeemed shall be selected by the Company from outstanding shares of Preferred Stock not previously called for redemption by lot or pro rata (as near as may be) or by any other equitable method determined by the Company in its sole discretion.

(c) If notice of redemption has been given as above provided, on and after the date fixed for redemption (unless the Company shall default in the payment of the redemption price, together with accrued and unpaid dividends to (but excluding) said date), dividends on such shares of Preferred Stock so called for redemption shall cease to accrue and such shares of Preferred Stock shall be deemed no longer outstanding and the holders thereof shall have no right in respect of such shares of Preferred Stock except the right to receive the redemption price thereof and accrued and unpaid dividends to (but excluding) the date fixed for redemption, without interest thereon. On presentation and surrender of the certificate or certificates representing such shares of Preferred Stock at a place of payment specified in said notice, such shares of Preferred Stock to be redeemed shall be redeemed by the Company at the applicable redemption price, together with dividends accrued thereon to (but excluding) the date fixed for redemption; *provided that*, if the applicable redemption date is a Dividend Payment Date, the quarterly payment of dividends becoming due on such date shall be payable to the holders of such shares of Preferred Stock registered as such on the relevant record date subject to the terms and provisions of Section 3.

If fewer than all the shares of Preferred Stock represented by any certificate are redeemed, a new certificate shall be issued representing the unredeemed shares without cost to the holder thereof.

(d) In connection with any redemption of Preferred Stock, the Company may arrange for the purchase and conversion of any Preferred Stock by an agreement with one or more investment bankers or other purchasers to purchase such Preferred Stock by paying to the Deposit Bank in trust for the holders of Preferred Stock, on or before the date fixed for redemption, an amount not less than the applicable redemption price, together with dividends accrued to (but excluding) the date fixed for redemption, of such Preferred Stock. Notwithstanding anything to the contrary contained in this Section 5, the obligation of the Company to pay the redemption price of such Preferred Stock, together with dividends accrued to (but excluding) the date fixed for redemption, shall be deemed to be satisfied and discharged to the extent such amount is so paid by such purchasers. If such an agreement is entered into, a copy of which will be filed with the Deposit Bank prior to the date fixed for redemption, any certificate representing the Preferred Stock so converted not duly surrendered for conversion by the holders thereof may, at the option of the Company, be deemed, to the fullest extent permitted by law, acquired by such purchasers from such holders and (notwithstanding anything to the contrary contained in Section 7) surrendered by such purchasers for conversion, all as of immediately prior to the close of business on the date fixed for redemption (and the right to

convert any such Preferred Stock shall be deemed to have been extended through such time), subject to payment of the above amount as aforesaid. At the direction of the Company, the Deposit Bank shall hold and dispose of any such amount paid to it in the same manner as it would monies deposited with it by the Company for the redemption of Preferred Stock.

6. Shares to Be Retired. Any share of Preferred Stock converted, redeemed or otherwise acquired by the Company shall be retired and canceled and shall upon cancellation be restored to the status of authorized but unissued shares of preferred stock, subject to reissuance by the Board of Directors as shares of preferred stock of one or more series.

7. Conversion. Holders of shares of Preferred Stock shall have the right to convert all or a portion of such shares (including fractions of such shares) into shares of Common Stock, as follows:

(a) Subject to and upon compliance with the provisions of this Section 7, a holder of shares of Preferred Stock shall have the right, at the holder's option, at any time after the Issue Date (except that, with respect to shares of Preferred Stock which shall be called for redemption, such right shall terminate at the close of business on the Business Day immediately preceding the date fixed for redemption of such shares of Preferred Stock unless the Company shall default in payment due upon redemption thereof) to convert any of such shares into that number of fully paid and non-assessable shares of Common Stock (as such shares shall then be constituted) obtained by dividing $10 by the Conversion Price, as adjusted in accordance with this Section 7, by surrender of the certificate or certificates representing such share of Preferred Stock so to be converted in the manner provided in Section 7(b). As used herein, the initial "Conversion Price" shall mean the dollar amount obtained by dividing $10 by _____. A holder of the Preferred Stock is not entitled to any rights of a holder of Common Stock until such holder has converted his, her or its Preferred Stock to Common Stock, and only to the extent such Preferred Stock is deemed to have been converted to Common Stock under this Section 7.

(b) In order to exercise the conversion right, the holder of the Preferred Stock to be converted shall surrender the certificate or certificates (with the Conversion Notice, the form of which is set forth in Section 14(a), on the reverse of the certificate or certificates duly completed) representing the number of shares to be so converted, duly endorsed, at an office or agency of the Transfer Agent in the Borough of Manhattan, City of New York, and shall give written notice of conversion to the office or agency that the holder elects to convert such number of shares of Preferred Stock specified in said notice. Such notice shall also state the name or names (with address) in which the certificate or certificates for shares of Common Stock which shall be of Common Stock issuable on such conversion shall be issued, and shall be accompanied by transfer taxes, if required pursuant to Section 7(f). Each such share of Preferred Stock surrendered for conversion shall, unless the shares of Common Stock issuable on conversion are to be issued in the same name in which such share of Preferred Stock is registered, be duly endorsed by, or be accompanied by instruments of transfer in form satisfactory to the Company duly executed by the holder or his, her or its duly authorized attorney.

As promptly as practicable after satisfaction of the requirements for conversion set forth above, the Company shall issue and shall deliver to such holder or, if shares of Common Stock issuable on conversion are to be issued in a name other than that in which such share of Preferred

Stock to be converted is registered (as if such transfer were a transfer of the share of Preferred Stock so converted), to such other person, at the office or agency of the Transfer Agent in the Borough of Manhattan, City of New York, the certificate or certificates representing the number of shares of Common Stock issuable upon the conversion of such share of Preferred Stock or a portion thereof in accordance with the provisions of this Section 7, the payment (in appropriate form) of the Make-Whole Dividend Payment (as defined in Section 7(k)), if any, payable upon such conversion, and a check or cash in respect of any fractional interest in respect of a share of Common Stock arising upon such conversion, as provided in Section 7(c) (which payment, if any, shall be paid no later than five Business Days after satisfaction of the requirements for conversion set forth above).

Each conversion pursuant to Section 7(a) shall be deemed to have been effected on the date on which the requirements set forth above in this Section 7(b) have been satisfied as to such share of Preferred Stock so converted, and the person in whose name any certificate or certificates for the shares of Common Stock shall be issuable upon such conversion shall be deemed to have become on said date the holder of record of the shares represented thereby; *provided, however,* that if any such surrender occurs on any date when the stock transfer books of the Company shall be closed, the conversion shall be effected on the next succeeding day on which such stock transfer books are open, and the person in whose name the certificates are to be issued shall be the record holder thereof for all purposes, but such conversion shall be at the Conversion Price in effect on the date upon which certificate or certificates representing such shares of Preferred Stock shall be surrendered. All shares of Common Stock delivered upon conversion of the Preferred Stock will, upon delivery, be duly authorized, validly issued and fully paid and nonassessable.

In the case of any share of Preferred Stock which is converted after any record date with respect to the payment of a dividend on the Preferred Stock and prior to the close of business on the Business Day prior to the next succeeding Dividend Payment Date, the dividend due on such Dividend Payment Date shall be payable on such Dividend Payment Date to the holder of record of such share as of such preceding record date notwithstanding such conversion; *provided that* shares of Preferred Stock surrendered for conversion during the period between the close of business on any record date with respect to the payment of a dividend on the Preferred Stock and prior to the close of business on the Business Day prior to the next succeeding Dividend Payment Date must (except in the case of shares of Preferred Stock which (a) have been called for redemption and a notice of redemption has been sent to the holders of Preferred Stock pursuant to Section 5(b) or (b) have been elected to be automatically converted and for which an Automatic Conversion Notice has been issued in accordance with Section 7(j)) be accompanied by payment in funds acceptable to the Company of an amount equal to the dividend payable on such Dividend Payment Date on the shares of Preferred Stock being surrendered for conversion. The Transfer Agent shall not be required to accept for conversion any shares of Preferred Stock not accompanied by any payment required by the preceding sentence. Except as provided in this paragraph or Section 7(k), no payment or adjustment shall be made upon any conversion on account of any dividends accrued on shares of Preferred Stock surrendered for conversion or on account of any dividends on the Common Stock issued upon conversion.

(c) In connection with the conversion of any shares of Preferred Stock (whether pursuant to Section 7(a) or Section 7(j)), a portion of such shares may be converted;

however, no fractional shares of Common Stock or scrip representing fractional shares shall be issued upon conversion of the Preferred Stock. If any fractional share of stock otherwise would be issuable upon the conversion of the Preferred Stock, the Company shall make an adjustment therefor in cash at the current market value thereof to the holder of the Preferred Stock. The current market value of a share of Common Stock shall be the Closing Price on the first Trading Day immediately preceding the day on which the Preferred Stock (or a specified portion thereof) is deemed to have been converted and such Closing Price shall be determined as provided in Section 7(l). If more than one share (or fraction thereof) shall be surrendered for conversion at one time by the same holder, the number of full shares of Common Stock issuable upon conversion thereof shall be computed on the basis of the aggregate number of shares of Preferred Stock so surrendered.

(d) The Conversion Price shall be adjusted from time to time by the Company as follows:

(i) In case the Company shall hereafter pay a dividend or make a distribution to all holders of the outstanding Common Stock in shares of Common Stock, the Conversion Price in effect at the opening of business on the date following the date fixed for the determination of stockholders entitled to receive such dividend or other distribution shall be reduced by multiplying such Conversion Price by a fraction of which the numerator shall be the number of shares of Common Stock outstanding at the close of business on the Record Date (as defined in Section 7(l)) fixed for such determination and the denominator shall be the sum of such number of shares and the total number of shares constituting such dividend or other distribution, such reduction to become effective immediately prior to the opening of business on the day following the Record Date. If any dividend or distribution of the type described in this Section 7(d)(i) is declared but not so paid or made, the Conversion Price shall again be adjusted to the Conversion Price which would then be in effect if such dividend or distribution had not been declared.

(ii) In case the Company shall issue rights or warrants to all holders of its outstanding shares of Common Stock entitling them (for a period expiring within forty-five (45) days after the date fixed for the determination of stockholders entitled to receive such rights or warrants) to subscribe for or purchase shares of Common Stock at a price per share less than the Current Market Price (as defined in Section 7(l)) on the Record Date fixed for the determination of stockholders entitled to receive such rights or warrants, the Conversion Price shall be adjusted so that the same shall equal the price determined by multiplying the Conversion Price in effect at the opening of business on the date after such Record Date by a fraction of which the numerator shall be the number of shares of Common Stock outstanding at the close of business on the Record Date plus the number of shares which the aggregate offering price of the total number of shares so offered would purchase at such Current Market Price, and of which the denominator shall be the number of shares of Common Stock outstanding on the close of business on the Record Date plus the total number of additional shares of Common Stock so offered for subscription or purchase. Such adjustment shall become effective immediately after the opening of business on the day following the Record Date fixed for determination of stockholders entitled to receive such rights or warrants. To the extent that shares of Common Stock are not delivered pursuant to such rights or warrants, upon the expiration or termination of such rights or warrants the Conversion Price shall be readjusted to the Conversion Price which

would then be in effect had the adjustments made upon the issuance of such rights or warrants been made on the basis of delivery of only the number of shares of Common Stock actually delivered. In the event that such rights or warrants are not so issued, the Conversion Price shall again be adjusted to be the Conversion Price which would then be in effect if such date fixed for the determination of stockholders entitled to receive such rights or warrants had not been fixed. In determining whether any rights or warrants entitle the holders to subscribe for or purchase shares of Common Stock at less than the Current Market Price, and in determining the aggregate offering price of such shares of Common Stock, there shall be taken into account any consideration received for such rights or warrants, the value of such consideration, if other than cash, to be determined by the Board of Directors.

(iii) In case the outstanding shares of Common Stock shall be subdivided into a greater number of shares of Common Stock, the Conversion Price in effect at the opening of business on the day following the day upon which such subdivision becomes effective shall be proportionately reduced, and conversely, in case outstanding shares of Common Stock shall be combined into a smaller number of shares of Common Stock, the Conversion Price in effect at the opening of business on the day following the day upon which such combination becomes effective shall be proportionately increased, such reduction or increase, as the case may be, to become effective immediately after the opening of business on the day following the day upon which such subdivision or combination becomes effective.

(iv) In case the Company shall, by dividend or otherwise, distribute to all holders of its Common Stock shares of any class of capital stock of the Company (other than any dividends or distributions to which Section 7(d)(i) applies) or evidences of its indebtedness, cash or other assets (including securities, but excluding (1) any rights or warrants referred to in Section 7(d)(ii) or (2) dividends and distributions paid exclusively in cash (the foregoing hereinafter in this Section 7(d)(iv) called the “Securities”)), then, in each such case, the Conversion Price shall be reduced so that the same shall be equal to the price determined by multiplying the Conversion Price in effect immediately prior to the close of business on the Record Date (as defined in Section 7(l)) with respect to such distribution by a fraction of which the numerator shall be the Current Market Price (determined as provided in Section 7(l)) on such date less the fair market value (as determined by the Board of Directors, whose determination shall be conclusive and described in a Board Resolution) on such date of the portion of the Securities so distributed applicable to one share of Common Stock and the denominator shall be such Current Market Price, such reduction to become effective immediately prior to the opening of business on the day following the Record Date; *provided, however,* that in the event the then fair market value (as so determined) of the portion of the Securities so distributed applicable to one share of Common Stock is equal to or greater than the Current Market Price on the Record Date, in lieu of the foregoing adjustment, adequate provision shall be made so that each holder of the Preferred Stock shall have the right to receive upon conversion of the Preferred Stock (or any portion thereof) the amount of Securities such holder would have received had such holder converted such Preferred Stock (or portion thereof) immediately prior to such Record Date. In the event that such dividend or distribution is not so paid or made, the Conversion Price shall again be adjusted to be the Conversion Price which would then be in effect if such dividend or distribution had not been declared. If the Board of Directors determines the fair market value of any distribution for purposes of this Section 7(d)(iv) by reference to the actual or when issued trading market for any securities comprising all or part of such distribution, it must in doing so

consider the prices in such market over the same period (the "Reference Period") used in computing the Current Market Price pursuant to Section 7(l) to the extent possible, unless the Board of Directors in a board resolution determines in good faith that determining the fair market value during the Reference Period would not be in the best interest of the holder of the Preferred Stock.

For purposes of this Section 7(d)(iv) and Sections 7(d)(i) and (ii), any dividend or distribution to which this Section 7(d)(iv) is applicable that also includes shares of Common Stock to which 7(d)(i) applies, or rights or warrants to subscribe for or purchase shares of Common Stock to which Section 7(d)(ii) applies (or both), shall be deemed instead to be (1) a dividend or distribution of the evidences of indebtedness, assets, shares of capital stock, rights or warrants other than such shares of Common Stock to which Section 7(d)(i) applies or rights or warrants to which Section 7(d)(ii) applies (and any Conversion Price reduction required by this Section 7(d)(iv) with respect to such dividend or distribution shall then be made) immediately followed by (2) a dividend or distribution of such shares of Common Stock or such rights or warrants (and any further Conversion Price reduction required by Sections 7(d)(i) and (ii) with respect to such dividend or distribution shall then be made) except (A) the Record Date of such dividend or distribution shall be substituted as "the date fixed for the determination of stockholders entitled to receive such dividend or other distribution", "Record Date fixed for such determination" and "Record Date" within the meaning of Section 7(d)(i) and as "the date fixed for the determination of stockholders entitled to receive such rights or warrants", "the Record Date fixed for the determination of the stockholders entitled to receive such rights or warrants" and "such Record Date" within the meaning of Section 7(d)(ii), and (B) any shares of Common Stock included in such dividend or distribution shall not be deemed "outstanding at the close of business on the date fixed for such determination" within the meaning of Section 7(d)(i).

In the event that the Company implements a stockholders' rights plan (a "New Rights Plan") or amends any existing stockholders' rights plan (as amended, an "Amended Rights Plan" and together with any New Rights Plan, a "Rights Plan"), such Rights Plan shall provide that upon conversion of the Preferred Stock the holders will receive, in addition to the Common Stock issuable upon such conversion, the rights under such Rights Plan (notwithstanding the occurrence of an event causing such rights to separate from the Common Stock at or prior to the time of conversion). Any distribution of rights or warrants pursuant to the Rights Plan complying with the requirements set forth in the immediately preceding sentence of this paragraph shall not constitute a distribution of rights or warrants for purposes of this Section 7(d). Rights or warrants distributed by the Company to all holders of Common Stock entitling the holders thereof to subscribe for or purchase shares of the Company's capital stock (either initially or under certain circumstances), which rights or warrants, until the occurrence of a specified event or events ("Trigger Event"): (i) are deemed to be transferred with such shares of Common Stock; (ii) are not exercisable; and (iii) are also issued in respect of future issuances of Common Stock, shall be deemed not to have been distributed for purposes of this Section 7(d)(iv) (and no adjustment to the Conversion Price under this Section 7(d)(iv) will be required) until the occurrence of the earliest Trigger Event. If such right or warrant is subject to subsequent events, upon the occurrence of which such right or warrant shall become exercisable to purchase different securities, evidences of indebtedness or other assets or entitle the holder to purchase a different number or amount of the foregoing or to purchase any of the foregoing at a different purchase price, then the occurrence of each such event shall be deemed to be the date of

issuance and record date with respect to a new right or warrant (and a termination or expiration of the existing right or warrant without exercise by the holder thereof). In addition, in the event of any distribution (or deemed distribution) of rights or warrants, or any Trigger Event or other event (of the type described in the preceding sentence) with respect thereto, that resulted in an adjustment to the Conversion Price under this Section 7(d)(iv), (1) in the case of any such rights or warrants which shall all have been redeemed or repurchased without exercise by any holders thereof, the Conversion Price shall be readjusted upon such final redemption or repurchase to give effect to such distribution or Trigger Event, as the case may be, as though it were a cash distribution, equal to the per share redemption or repurchase price received by a holder of Common Stock with respect to such rights or warrants (assuming such holder had retained such rights or warrants), made to all holders of Common Stock as of the date of such redemption or repurchase, and (2) in the case of such rights or warrants all of which shall have expired or been terminated without exercise, the Conversion Price shall be readjusted as if such rights and warrants had never been issued.

(v) In case the Company shall, by dividend or otherwise, distribute to all holders of its Common Stock cash (excluding any cash that is distributed upon a merger or consolidation to which Section 7(e) applies or as part of a distribution referred to in Section 7(d) (iv)), then, immediately after the close of business on the Record Date with respect to such distribution, the Conversion Price shall be reduced so that the same shall equal the price determined by multiplying the Conversion Price in effect immediately prior to the close of business on such Record Date by a fraction (i) the numerator of which shall be equal to the Current Market Price on the Record Date less an amount equal to the quotient of (x) the amount of such distribution and (y) the number of shares of Common Stock outstanding on the Record Date and (ii) the denominator of which shall be equal to the Current Market Price on such date, *provided, however,* that in the event the portion of the cash so distributed applicable to one share of Common Stock is equal to or greater than the Current Market Price of the Common Stock on the Record Date, in lieu of the foregoing adjustment, adequate provision shall be made so that each holder of the Preferred Stock shall have the right to receive upon conversion of shares of Preferred Stock the amount of cash such holder would have received had such holder converted such shares immediately prior to such Record Date. In the event that such dividend or distribution is not so paid or made, the Conversion Price shall again be adjusted to be the Conversion Price which would then be in effect if such dividend or distribution had not been declared. Any cash distribution to all holders of Common Stock as to which the Company makes the election permitted by Section 7(d)(xiii) and as to which the Company has complied with the requirements of such Section shall be treated as not having been made for all purposes of this Section 7(d)(v).

(vi) In case a tender offer made by the Company or of any Subsidiary for all or any portion of the Common Stock shall expire and such tender offer (as amended upon the expiration thereof) shall require the payment of consideration to stockholders (based on the acceptance (up to any maximum specified in the terms of the tender offer) of Purchased Shares (as defined below)) then, immediately prior to the opening of business on the day after the date upon which occurred the last time tenders could have been made pursuant to such tender offer (the “Expiration Time”), the Conversion Price shall be adjusted so that the same shall equal the price determined by multiplying the Conversion Price in effect immediately prior to close of business on the date of the Expiration Time by a fraction of which the numerator shall be the

number of shares of Common Stock outstanding (including any tendered shares) on the Expiration Time multiplied by the Current Market Price of the Common Stock on the Trading Day next succeeding the Expiration Time and the denominator shall be the sum of (x) the fair market value (as determined by the Board of Directors, whose determination shall be conclusive and described in a Board Resolution) of the aggregate consideration payable to stockholders based on the acceptance (up to any maximum specified in the terms of the tender offer) of all shares validly tendered and not withdrawn as of the Expiration Time (the shares deemed so accepted, up to any such maximum, being referred to as the "Purchased Shares") and (y) the product of the number of shares of Common Stock outstanding (less any Purchased Shares) at the Expiration Time and the Current Market Price of the Common Stock on the Trading Day next succeeding the Expiration Time, such reduction (if any) to become effective immediately prior to the opening of business on the day following the Expiration Time. In the event that the Company is obligated to purchase shares pursuant to any such tender offer, but the Company is permanently prevented by applicable law from effecting any such purchases or all such purchases are rescinded, the Conversion Price shall again be adjusted to be the Conversion Price which would then be in effect if such tender offer had not been made. If the application of this Section 7(d)(vi) to any tender offer would result in an increase in the Conversion Price, no adjustment shall be made for such tender offer under this Section 7(d)(vi).

(vii) In case of a tender or exchange offer made by a person other than the Company or any Subsidiary for an amount which increases the offeror's ownership of Common Stock to more than 25% of the Common Stock outstanding and shall involve the payment by such person of consideration per share of Common Stock having a fair market value (as determined by the Board of Directors, whose determination shall be conclusive, and described in a resolution of the Board of Directors) at the last time (the "Tender Expiration Time") tenders or exchanges may be made pursuant to such tender or exchange offer (as it shall have been amended)) that exceeds the Current Market Price of the Common Stock on the Trading Day next succeeding the Tender Expiration Time, and with respect to which, as of the Tender Expiration Time, the Board of Directors is not recommending rejection of the offer, the Conversion Price shall be reduced so that the same shall equal the price determined by multiplying the Conversion Price in effect immediately prior to the Tender Expiration Time by a fraction of which the numerator shall be the number of shares of Common Stock outstanding (including any tendered or exchanged shares) on the Tender Expiration Time multiplied by the Current Market Price of the Common Stock on the Trading Day next succeeding the Tender Expiration Time and the denominator shall be the sum of (x) the fair market value (determined as aforesaid) of the aggregate consideration payable to stockholders based on the acceptance (up to any maximum specified in the terms of the tender or exchange offer) of all shares validly tendered or exchanged and not withdrawn as of the Tender Expiration Time (the shares deemed so accepted, up to any such maximum, being referred to as the "Tender Purchased Shares") and (y) the product of the number of shares of Common Stock outstanding (less any Tender Purchased Shares) on the Tender Expiration Time and the Current Market Price of the Common Stock on the Trading Day next succeeding the Tender Expiration Time, such reduction to become effective immediately prior to the opening of business on the day following the Tender Expiration Time. In the event that such person is obligated to purchase shares pursuant to any such tender or exchange offer, but such person is permanently prevented by applicable law from effecting any such purchases or all such purchases are rescinded, the Conversion Price shall again be adjusted to be the Conversion Price which would then be in effect if such tender or

exchange offer had not been made. Notwithstanding the foregoing, the adjustment described in this Section 7(d)(vii) shall not be made if, as of the Tender Expiration Time, the offering documents with respect to such offer disclose a plan or intention to cause the Company to engage in any consolidation or merger of the Company with or into any other corporation or corporations (whether or not affiliated with the Company), or successive consolidations or mergers in which the Company or its successor or successors shall be a party or parties, or any sale, conveyance or lease (or successive sales, conveyances or leases) of all or substantially all of the property of the Company, to any other corporation (whether or not affiliated with the Company), authorized to acquire and operate the same and which shall be organized under the laws of the United States of America, any state thereof or the District of Columbia; *provided, however,* that each share of Preferred Stock shall remain outstanding, or unaffected or shall be converted into or exchanged for convertible exchangeable preferred stock of the corporation (if other than the Company) formed by such consolidation, or into which the Company shall have been merged, or by the corporation which shall have acquired or leased such property having powers, preferences and relative, participating, optional or other rights and qualifications, limitations and restrictions substantially similar to (but no less favorable than) a share of Preferred Stock.

(viii) The Company may make such reductions in the Conversion Price, in addition to those required by Sections 7(d)(i), (ii), (iii), (iv), (v), (vi), and (vii), as the Board of Directors considers to be advisable to avoid or diminish any income tax to holders of Common Stock or rights to purchase Common Stock resulting from any dividend or distribution of stock (or rights to acquire stock) or from any event treated as such for income tax purposes.

(ix) To the extent permitted by applicable law, the Company from time to time may reduce the Conversion Price by any amount for any period of time if the period is at least twenty (20) days, the reduction is irrevocable during the period and the Board of Directors shall have made a determination that such reduction would be in the best interests of the Company, which determination shall be conclusive and described in a Board Resolution. Whenever the Conversion Price is reduced pursuant to the preceding sentence, the Company shall mail to each holder of the Preferred Stock at his, her or its last address appearing on the Company's stock records a notice of the reduction at least fifteen (15) days prior to the date the reduced Conversion Price takes effect, and such notice shall state the reduced Conversion Price and the period during which it will be in effect.

No adjustment in the Conversion Price shall be required unless such adjustment would require an increase or decrease of at least 1% in such price; *provided, however,* that any adjustments which by reason of this Section 7(d)(ix) are not required to be made shall be carried forward and taken into account in any subsequent adjustment. All calculations under Section 7 shall be made by the Company and shall be made to the nearest cent or to the nearest one hundredth of a share, as the case may be. No adjustment need be made for a change in the par value or no par value of the Common Stock.

(x) Whenever the Conversion Price is adjusted as herein provided, the Company shall promptly file with the Transfer Agent an Officers' Certificate setting forth the Conversion Price after such adjustment and setting forth a brief statement of the facts requiring such adjustment. Promptly after delivery of such certificate, the Company shall prepare a notice

of such adjustment of the Conversion Price setting forth the adjusted Conversion Price and the date on which each adjustment becomes effective and shall mail such notice of such adjustment of the Conversion Price to each holder of the Preferred Stock at his, her or its last address appearing on the Company's stock records, within twenty (20) days of the effective date of such adjustment. Failure to deliver such notice shall not affect the legality or validity of any such adjustment.

(xi) In any case in which this Section 7(d) provides that an adjustment shall become effective immediately after a Record Date for an event, the Company may defer until the occurrence of such event (i) issuing to the holder of any share of Preferred Stock converted after such Record Date and before the occurrence of such event the additional shares of Common Stock issuable upon such conversion by reason of the adjustment required by such event over and above the Common Stock issuable upon such conversion before giving effect to such adjustment and (ii) paying to such holder of Preferred Stock any amount in cash in lieu of any fraction pursuant to Section 7(c).

(xii) For purposes of this Section 7(d), the number of shares of Common Stock at any time outstanding shall not include shares held in the treasury of the Company but shall include shares issuable in respect of scrip certificates issued in lieu of fractions of shares of Common Stock. The Company will not pay any dividend or make any distribution on shares of Common Stock held in the treasury of the Company.

(xiii) In lieu of making any adjustment to the Conversion Price pursuant to Section 7(d)(v), the Company may elect to reserve an amount of cash for distribution to the holders of the Preferred Stock upon the conversion of the Preferred Stock so that any such holder converting Preferred Stock will receive upon such conversion, in addition to the shares of Common Stock and other items to which such holder is entitled, the full amount of cash which such holder would have received if such holder had, immediately prior to the Record Date for such distribution of cash, converted its Preferred Stock into Common Stock, together with any interest accrued with respect to such amount, in accordance with this Section 7(d)(xiii). The Company may make such election by providing an Officers' Certificate to the Transfer Agent to such effect on or prior to the payment date for any such distribution and depositing with the Deposit Bank (as defined in Section 5(b)) on or prior to such date an amount of cash equal to the aggregate amount the holders of the Preferred Stock would have received if such holders had, immediately prior to the Record Date for such distribution, converted all of the Preferred Stock into Common Stock, with irrevocable instructions and authority to the Deposit Bank that such funds be applied in the manner set forth in this Section 7(d)(xiii). The Company shall instruct the Deposit Bank to invest any such funds so deposited in marketable obligations issued or fully guaranteed by the United States government with a maturity not more than three (3) months from the date of issuance. Upon conversion of the Preferred Stock by a holder, the holder will be entitled to receive, in addition to the Common Stock issuable upon conversion, an amount of cash equal to the amount such holder would have received if such holder had, immediately prior to the Record Date for such distribution, converted its Preferred Stock into Common Stock, along with such holder's pro rata share of any accrued interest earned as a consequence of the investment of such funds. Promptly after making an election pursuant to this Section 7(d)(xiii), the Company shall give or shall cause to be given notice to all holders of the Preferred Stock of such election, which notice shall state the amount of cash such holders shall be entitled to receive

(excluding interest) upon conversion of the Preferred Stock as a consequence of the Company having made such election.

(e) In the event that the Company shall be a party to any transaction (including, without limitation (a) any recapitalization or reclassification of shares of Common Stock (other than a change in par value, or from par value to no par value, or from no par value to par value, or as a result of a subdivision or combination of Common Stock), (b) any consolidation of the Company with, or merger of the Company into, any other person, or any merger of another person into the Company (other than a merger that does not result in a reclassification, conversion, exchange or cancellation of Common Stock), (c) any sale, transfer or lease of all or substantially all of the assets of the Company or (d) any compulsory share exchange) pursuant to which either shares of Common Stock shall be converted into the right to receive other securities, cash or other property, or, in the case of a sale or transfer of all or substantially all of the assets of the Company, the holders of Common Stock shall be entitled to receive other securities, cash or other property, then appropriate provision shall be made so that the holder of each share of Preferred Stock then outstanding shall have the right thereafter to convert such Preferred Stock only into: (x) in the case of any such transaction that does not constitute a Common Stock Fundamental Change (as defined in Section 7(l)) and subject to funds being legally available for such purpose under applicable law at the time of such conversion, the kind and amount of the securities, cash or other property that would have been receivable upon such recapitalization, reclassification, consolidation, merger, sale, transfer or share exchange by a holder of the number of shares of Common Stock issuable upon conversion of such share of Preferred Stock immediately prior to such recapitalization, reclassification, consolidation, merger, sale, transfer or share exchange, after giving effect, in the case of any Non-Stock Fundamental Change (as defined in Section 7(l)), to any adjustment in the Conversion Price in accordance with Section 7(i)(i), and (y) in the case of any such transaction that constitutes a Common Stock Fundamental Change, common stock of the kind received by holders of Common Stock as a result of such Common Stock Fundamental Change in an amount determined in accordance with Section 7(i)(ii). The company formed by such consolidation or resulting from such merger or that acquires such assets or that acquires the Company's shares, as the case may be, shall make provision in its certificate or articles of incorporation or other constituent document to establish such right. Such certificate or articles of incorporation or other constituent document shall provide for adjustments that, for events subsequent to the effective date of such certificate or articles of incorporation or other constituent document, shall be as nearly equivalent as may be practicable to the relevant adjustments provided for in this Section 7. The above provisions shall similarly apply to successive transactions of the type described in this Section 7(e).

(f) The issue of stock certificates representing the shares of Common Stock on conversions of the Preferred Stock shall be made without charge to the holders of such shares for any issuance tax in respect thereof imposed by the government of the United States or any political subdivision thereof or other cost incurred by the Company in connection with such conversion and/or the issuance of such shares. The Company shall not, however, be required to pay any tax which may be payable in respect of any transfer involved in the issue and delivery of stock in any name other than the name in which the shares of Preferred Stock with respect to which such shares of Common Stock are issued are registered, and the Company shall not be required to issue or deliver any such stock certificate unless and until the person or persons

requesting the issue thereof shall have paid to the Company the amount of such tax or shall have established to the satisfaction of the Company that such tax has been paid.

(g) The Company covenants that all shares of Common Stock which may be delivered upon conversion of shares of Preferred Stock will upon delivery be duly and validly issued and fully paid and non-assessable, free of all liens and charges and not subject to any preemptive rights.

The Company covenants that it will at all times reserve and keep available, free from preemptive rights, out of the aggregate of its authorized but unissued shares of Common Stock or its issued shares of Common Stock held in its treasury, or both, a sufficient number of shares of Common Stock for the purpose of effecting conversions of shares of Preferred Stock not theretofore converted into Common Stock. For purposes of this reservation of Common Stock, the number of shares of Common Stock which shall be deliverable upon the conversion of all outstanding shares of Preferred Stock shall be computed as if at the time of computation all outstanding shares of Preferred stock were held by a single holder. The issuance of shares of Common Stock upon conversion of shares of Preferred Stock is authorized in all respects.

The Company shall from time to time, in accordance with the laws of the State of Delaware, use its best efforts to increase the authorized number of shares of Common Stock if at any time the number of shares of authorized and unissued Common Stock shall not be sufficient to permit the conversion of all the then outstanding shares of Preferred Stock.

Before taking any action which would cause an adjustment reducing the Conversion Price below the then par value, if any, of the shares of Common Stock issuable upon conversion of the Preferred Stock, the Company will take all corporate action which may, in the opinion of its counsel, be necessary in order that the Company may validly and legally issue shares of such Common Stock at such adjusted Conversion Price.

The Company covenants that if any shares of Common Stock to be provided for the purpose of conversion of the Preferred Stock hereunder require registration with or approval of any governmental authority under any Federal or State law before such shares may be validly issued upon conversion, the Company will in good faith and as expeditiously as possible endeavor to secure such registration or approval, as the case may be.

The Company further covenants that if at any time the Common Stock shall be listed on the Nasdaq National Market or any national securities exchange or automated quotation system the Company will, if permitted by the rules of such exchange or automated quotation system, list and keep listed, so long as the Common Stock shall be so listed on such exchange or automated quotation system, all Common Stock issuable upon conversion of the Preferred Stock.

(h) In case:

(i) the Company shall declare a dividend (or any other distribution) on its Common Stock (that would require an adjustment in the Conversion Price pursuant to Section 7(d)); or

(ii) the Company shall authorize the granting to the holders of its Common Stock of rights or warrants to subscribe for or purchase any share of any class or any other rights or warrants; or

(iii) of any reclassification of the Common Stock of the Company (other than a subdivision or combination of its outstanding Common Stock, or a change in par value, or from par value to no par value, or from no par value to par value), or of any consolidation or merger to which the Company is a party and for which approval of any stockholders of the Company is required, or of the sale or transfer of all or substantially all of the assets of the Company; or

(iv) of the voluntary or involuntary dissolution, liquidation or winding-up of the Company;

the Company shall cause to be filed with the Transfer Agent and to be mailed to each holder of the Preferred Stock at his, her or its address appearing on the Company's stock records, as promptly as possible but in any event at least fifteen days prior to the applicable date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution or rights or warrants, or, if a record is not to be taken, the date as of which the holders of Common Stock of record to be entitled to such dividend, distribution or rights are to be determined, or (y) the date on which such reclassification, consolidation, merger, sale, transfer, dissolution, liquidation or winding-up is expected to become effective or occur, and the date as of which it is expected that holders of Common Stock of record shall be entitled to exchange their Common Stock for securities or other property deliverable upon such reclassification, consolidation, merger, sale, transfer, dissolution, liquidation or winding-up. Failure to give such notice, or any defect therein, shall not affect the legality or validity of such dividend, distribution, reclassification, consolidation, merger, sale, transfer, dissolution, liquidation or winding-up.

(i) Notwithstanding any other provisions in this Section 7 to the contrary, if any Fundamental Change (as defined in Section 7(l)) occurs, then the Conversion Price in effect will be adjusted immediately after such Fundamental Change as described below. In addition, in the event of a Common Stock Fundamental Change, shares of Preferred Stock shall thereafter be convertible solely into common stock of the kind received by holders of Common Stock as the result of such Common Stock Fundamental Change.

For purposes of calculating any adjustment to be made pursuant to this Section 7(i) in the event of a Fundamental Change, immediately after such Fundamental Change (and for such purposes a Fundamental Change shall be deemed to occur on the earlier of (a) the occurrence of such Fundamental Change and (b) the date, if any, fixed for determination of stockholders entitled to receive the cash, securities, property or other assets distributable in such Fundamental Change to holders of the Common Stock):

(i) in the case of a Non-Stock Fundamental Change, the Conversion Price of the Preferred Stock immediately following such Non-Stock Fundamental Change shall be the lower of (A) the Conversion Price in effect immediately prior to such Non-Stock Fundamental Change, but after giving effect to any other prior adjustments effected pursuant to

this Section 7, and (B) the product of (1) the Applicable Price (as defined in Section 7(l)) and (2) a fraction, the numerator of which is $10 and the denominator of which is (x) the amount of the redemption price for one share of Preferred Stock if the redemption date were the date of such Non-Stock Fundamental Change (or if the date of such Non-Stock Fundamental Change falls within the period commencing on the first date of original issuance of the Preferred Stock through _____ __, 2005 or the twelve-month period commencing _____ __, 2005, the product of _____% or _____%, respectively, and $10) plus (y) any then-accrued and unpaid distributions on one share of Preferred Stock; and

(ii) in the case of a Common Stock Fundamental Change, the Conversion Price of the Preferred Stock immediately following such Common Stock Fundamental Change shall be the Conversion Price in effect immediately prior to such Common Stock Fundamental Change, but after giving effect to any other prior adjustments effected pursuant to this Section 7, multiplied by a fraction, the numerator of which is the Purchaser Stock Price (as defined in Section 7(l)) and the denominator of which is the Applicable Price; *provided*, *however*, that in the event of a Common Stock Fundamental Change in which (A) 100% of the value of the consideration received by a holder of Common Stock is common stock of the successor, acquiror or other third party (and cash, if any, paid with respect to any fractional interests in such common stock resulting from such Common Stock Fundamental Change) and (B) all of the Common Stock shall have been exchanged for, converted into or acquired for, common stock of the successor, acquiror or other third party (and any cash with respect to fractional interests), the Conversion Price of the Preferred Stock immediately following such Common Stock Fundamental Change shall be the Conversion Price in effect immediately prior to such Common Stock Fundamental Change multiplied by a fraction, the numerator of which is one (1) and the denominator of which is the number of shares of common stock of the successor, acquiror or other third party received by a holder of one share of Common Stock as a result of such Common Stock Fundamental Change.

(j) The Company may elect to automatically convert all or any portion of the Preferred Stock (an "Automatic Conversion") at any time if the Closing Price of the Company's Common Stock has exceeded 150% of the Conversion Price for at least 20 Trading Days during a 30-day Trading Day period, ending within five Trading Days prior to the date of the Automatic Conversion Notice (as defined below). If fewer than all the outstanding shares of Preferred Stock are to be converted in connection with any Automatic Conversion, shares to be converted shall be selected by the Company from outstanding shares of Preferred Stock by lot or pro rata (as near as may be) or by any other equitable method determined by the Company in its sole discretion. In the event that the Automatic Conversion Date (as defined below in this Section 7(j)) occurs on or prior to _____ __, 2007, the Company will pay the Make-Whole Dividend Payment on the Automatic Conversion Date.

(i) In case the Company shall desire to exercise the right to convert the shares of Preferred Stock, in whole or in part, pursuant to this Section 7(j), it shall fix a date for the Automatic Conversion (the "Automatic Conversion Date"), and it, or at its request (which must be received by the Transfer Agent at least ten (10) Business Days prior to the date the Transfer Agent is requested to give notice as described below unless a shorter period is agreed to by the Transfer Agent), the Transfer Agent in the name of and at the expense of the Company, shall mail or cause to be mailed a notice of such Automatic Conversion (the "Automatic

Conversion Notice") at least twenty (20) and not more than thirty (30) days prior to the Automatic Conversion Date to the holders of the shares of Preferred Stock so to be converted at their last addresses as the same appear on the Company's stock records (*provided that* if the Company shall give such Automatic Conversion Notice, it shall also give such Automatic Conversion Notice, and notice of the shares of Preferred Stock to be converted, to the Transfer Agent). Such mailing shall be by first class mail. The Automatic Conversion Notice if mailed in the manner herein provided shall be conclusively presumed to have been duly given, whether or not the holder receives such notice. In any case, failure to give such Automatic Conversion Notice by mail or any defect in the notice to the holder of any share of Preferred Stock designated for conversion shall not affect the validity of the proceedings for the conversion of any other share of Preferred Stock.

(ii) Each such Automatic Conversion Notice shall specify the number of shares of Preferred Stock to be converted, the Automatic Conversion Date, the amount of the Make-Whole Dividend Payment, if any, that shall be paid by the Company, the portion of such Make-Whole Dividend Payment, if any, that shall be paid in cash, the portion of such Make-Whole Dividend Payment, if any, that shall be paid by delivery of shares of Common Stock, the place or places where the shares of Preferred Stock to be converted are to be surrendered for conversion and payment of the Make-Whole Dividend Payment, if any, and the Conversion Price then in effect.

(iii) If the Automatic Conversion Notice has been given as above provided, on and after the Automatic Conversion Date (unless the Company shall default in the payment of the Make-Whole Dividend Payment, if any), dividends on such shares of Preferred Stock so converted shall cease to accrue and such shares of Preferred Stock shall be deemed no longer outstanding and the holders thereof shall have no right in respect of such shares of Preferred Stock except the right to receive the shares of Common Stock issuable upon conversion of the shares of Preferred Stock so converted and the Make-Whole Dividend Payment, if any, due on such shares of Preferred Stock along with any cash in respect of any fractional shares of Common Stock arising from such conversion as provided in Section 7(c). On presentation and surrender of the certificate or certificates representing such shares of Preferred Stock as specified in said Automatic Conversion Notice, the Company shall issue and shall deliver a certificate or certificates for the number of full shares of Common Stock issuable upon conversion of the shares of Preferred Stock so converted and shall pay the Make-Whole Dividend Payment, if any, due on such shares of Preferred Stock along with any cash in respect of any fractional shares of Common Stock arising from such conversion as provided in Section 7(c) (which payment, if any, shall be paid no later than five (5) Business Days after the presentation and surrender of the certificate or certificates representing such shares of Preferred Stock so converted). Notwithstanding the failure to present and surrender the certificate or certificates representing the shares of Preferred Stock as specified in the Automatic Conversion Notice, the effective date of the conversion of any shares subject to any Automatic Conversion that complies with this Section 7 shall be the Automatic Conversion Date.

(iv) Notwithstanding the other provisions of this Section 7(j), in the event that on a proposed Automatic Conversion Date on or after _____ __ 2007, the Company has not paid full cumulative dividends on the Preferred Stock (or set aside a sum therefor) for all past Dividend Periods, the Company may not convert the Preferred Stock pursuant to this

Section 7(j) and any Automatic Conversion Notice previously given pursuant to this Section 7(j) shall be of no effect.

(v) If any of the foregoing provisions of this Section 7(j) are inconsistent with applicable law at the time of such Automatic Conversion, such law shall govern.

(k) Upon any conversion of the Preferred Stock (whether pursuant to Section 7(a) or 7(j)) prior to _____ __, 2007, the Company shall make a payment (the "Make-Whole Dividend Payment") with respect to the shares of Preferred Stock so converted in an amount equal to full amount of dividends that would have accrued and become payable through and including _____ __, 2007 pursuant to Section 3(a) on such shares of Preferred Stock, less any dividends actually accrued and paid with respect to such shares of Preferred Stock prior to the date upon which such conversion becomes effective. The Company shall calculate the amount of the Make-Whole Dividend Payment. The Company may elect to pay the Make-Whole Dividend Payment or any portion thereof (i) in cash or, (ii) by delivering shares of Common Stock. In the event of an Automatic Conversion pursuant to Section 7(j) or a voluntary conversion pursuant to Section 7(a) on or following the date of an Automatic Conversion Notice (unless and until such Automatic Conversion Notice shall be deemed to have no effect), the number of shares to be delivered in the event the Company shall elect to make the Make-Whole Dividend Payment (or any portion thereof) in shares of Common Stock shall be equal to (x) the Make-Whole Dividend Payment (or any portion thereof that the Company elects to pay in shares of Common Stock) divided by (y) 150% of the Conversion Price (as adjusted pursuant to this Section 7) in effect on the effective date of such conversion. In all other circumstances in which the Company is required to make the Make-Whole Dividend Payment and elects to make the Make-Whole Dividend Payment (or any portion thereof) in shares of Common Stock, the number of shares of Common Stock to be delivered shall be equal to the greater of (1) (A) the Make-Whole Dividend Payment (or any portion thereof that the Company elects to pay in shares of Common Stock) divided by (B) 95% of the average of the Closing Price per share of Common Stock for the two consecutive Trading Days immediately preceding and including the last Trading Day prior to the effective date of such conversion; or (2) (A) the Make-Whole Dividend Payment (or any portion thereof that the Company elects to pay in shares of Common Stock) divided by (B) $_____. All shares of Common Stock which may be issued upon payment of the Make-Whole Dividend Payment (or any portion thereof) will be issued out of the Company's authorized but unissued Common Stock and will, upon issue, be duly and validly issued and fully paid and nonassessable and free of any preemptive or similar rights.

(l) The following definitions shall apply to terms used in this Section 7:

(i) "Applicable Price" shall mean (i) in the event of a Non-Stock Fundamental Change in which the holders of Common Stock receive only cash, the amount of cash received by a holder of one share of Common Stock and (ii) in the event of any other Fundamental Change, the average of the daily Closing Price for one share of Common Stock during the 10 Trading Days immediately prior to the record date for the determination of the holders of Common Stock entitled to receive cash, securities, property or other assets in connection with such Fundamental Change or, if there is no such record date, prior to the date upon which the holders of Common Stock shall have the right to receive such cash, securities,

property or other assets. The Closing Price on any Trading Day may be subject to adjustment as provided in Section 7(l)(ii).

(ii) "Closing Price" with respect to any securities on any day shall mean the closing sale price regular way on such day or, in case no such sale takes place on such day, the average of the reported closing bid and asked prices, regular way, in each case on the Nasdaq National Market or New York Stock Exchange, as applicable, or, if such security is not listed or admitted to trading on such Nasdaq National Market or New York Stock Exchange, on the principal national security exchange or quotation system on which such security is quoted or listed or admitted to trading, or, if not quoted or listed or admitted to trading on any national securities exchange or quotation system, the average of the closing bid and asked prices of such security on the over-the-counter market on the day in question as reported by the National Quotation Bureau Incorporated, or a similar generally accepted reporting service, or if not so available, in such manner as furnished by any New York Stock Exchange member firm selected from time to time by the Board of Directors for that purpose, or a price determined in good faith by the Board of Directors, whose determination shall be conclusive and described in a Board Resolution.

(iii) "Common Stock Fundamental Change" shall mean any Fundamental Change in which more than 50% of the value (as determined in good faith by the Board of Directors of the Company) of the consideration received by holders of Common Stock consists of common stock that, for the 10 Trading Days immediately prior to such Fundamental Change, has been admitted for listing or admitted for listing subject to notice of issuance on a national securities exchange or quoted on Nasdaq National Market, *provided, however,* that a Fundamental Change shall not be a Common Stock Fundamental Change unless either (i) the Company continues to exist after the occurrence of such Fundamental Change and the outstanding Preferred Stock continues to exist as outstanding Preferred Stock, or (ii) not later than the occurrence of such Fundamental Change, the outstanding Preferred Stock is converted into or exchanged for shares of convertible preferred stock, which convertible preferred stock has powers, preferences and relative, participating optional or other rights, and qualifications, limitations and restrictions substantially similar (but no less favorable) to those of the Preferred Stock.

(iv) "Current Market Price" shall mean the lesser of (a) the Closing Price per share of Common Stock on the date in question and (b) the average of the daily Closing Prices per share of Common Stock for the ten (10) consecutive Trading Days immediately prior to the date in question; *provided*, *however,* that (1) if the "ex" date (as hereinafter defined) for any event (other than the issuance or distribution or Fundamental Change requiring such computation) that requires an adjustment to the Conversion Price pursuant to Section 7(d)(i), (ii), (iii), (iv), (v), (vi), or (vii) occurs during such ten (10) consecutive Trading Days, the Closing Price for each Trading Day prior to the "ex" date for such other event shall be adjusted by multiplying such Closing Price by the same fraction by which the Conversion Price is so required to be adjusted as a result of such other event, (2) if the "ex" date for any event (other than the issuance or distribution or Fundamental Change requiring such computation) that requires an adjustment to the Conversion Price pursuant to Section 7(d)(i), (ii), (iii), (iv), (v), (vi), or (vii) occurs on or after the "ex" date for the issuance or distribution or Fundamental Change requiring such computation and prior to the day in question, the Closing Price for each

Trading Day on and after the "ex" date for such other event shall be adjusted by multiplying such Closing Price by the reciprocal of the fraction by which the Conversion Price is so required to be adjusted as a result of such other event, and (3) if the "ex" date for the issuance, distribution or Fundamental Change requiring such computation is prior to the day in question, after taking into account any adjustment required pursuant to clause (1) or (2) of this proviso, the Closing Price for each Trading Day on or after such "ex" date shall be adjusted by adding thereto the amount of any cash and the fair market value (as determined by the Board of Directors in a manner consistent with any determination of such value for purposes of Section 7(d)(iv), (vi) or (vii) whose determination shall be conclusive and described in a Board Resolution) of the evidences of indebtedness, shares of capital stock or assets being distributed applicable to one share of Common Stock as of the close of business on the day before such "ex" date.

For purposes of any computation under Sections 7(d)(vi) or (vii), the Current Market Price of the Common Stock on any date shall be deemed to be the average of the daily Closing Prices per share of Common Stock for such day and the next two succeeding Trading Days; *provided, however,* that if the "ex" date for any event (other than the tender offer requiring such computation) that requires an adjustment to the Conversion Price pursuant to Section 7(d)(i), (ii), (iii), (iv), (v), (vi), or (vii) occurs on or after the Expiration Time or the Tender Expiration Time, as the case may be, for the tender or exchange offer requiring such computation and prior to the day in question, the Closing Price for each Trading Day on and after the "ex" date for such other event shall be adjusted by multiplying such Closing Price by the reciprocal of the fraction by which the Conversion Price is so required to be adjusted as a result of such other event. For purposes of this paragraph, the term "ex" date, (1) when used with respect to any issuance or distribution or Fundamental Change, means the first date on which the Common Stock trades regular way on the relevant exchange or in the relevant market from which the Closing Price was obtained without the right to receive such issuance or distribution, (2) when used with respect to any subdivision or combination of shares of Common Stock, means the first date on which the Common Stock trades regular way on such exchange or in such market after the time at which such subdivision or combination becomes effective, and (3) when used with respect to any tender or exchange offer means the first date on which the Common Stock trades regular way on such exchange or in such market after the Expiration Time or Tender Expiration Time, as the case may be, of such offer. Notwithstanding the foregoing, whenever successive adjustments to the Conversion Price are called for pursuant to Section 7(d), such adjustments shall be made to the Current Market Price as may be necessary or appropriate to effectuate the intent of Section 7(d) and to avoid unjust or inequitable results as determined in good faith by the Board of Directors.

(v) "fair market value" shall mean the amount which a willing buyer would pay a willing seller in an arm's length transaction.

(vi) "Fundamental Change" shall mean the occurrence of any transaction or event or series of transactions or events pursuant to which all or substantially all of the Common Stock shall be exchanged for, converted into, acquired for or shall constitute solely the right to receive cash, securities, property or other assets (whether by of an exchange offer, liquidation, tender offer, consolidation, merger, combination, reclassification, recapitalization or otherwise); *provided, however,* in the case of any such series of transactions or events, for purposes of adjustment of the Conversion Price, such Fundamental Change shall be deemed to have occurred when substantially all of the Common Stock shall have been exchanged for,

converted into or acquired for, or shall constitute solely the right to receive, such cash, securities, property or other assets, but the adjustment shall be based upon the consideration that the holders of the Common Stock received in the transaction or event as a result of which more than 50% of the Common Stock shall have been exchanged for, converted into or acquired for, or shall constitute solely the right to receive, such cash, securities, property or other assets.

(vii) "Non-Stock Fundamental Change" shall mean any Fundamental Change other than a Common Stock Fundamental Change.

(viii) "Purchaser Stock Price" shall mean, with respect to any Common Stock Fundamental Change, the average of the daily Closing Price for one share of the common stock received by holders of the Common Stock in such Common Stock Fundamental Change during the 10 Trading Days immediately prior to the date fixed for the determination of the holders of the Common Stock entitled to receive such common stock or, if there is no such date, prior to the date upon which the holders of the Common Stock shall have the right to receive such common stock.

(ix) "Record Date" shall mean, with respect to any dividend, distribution or other transaction or event in which the holders of Common Stock have the right to receive any cash, securities or other property or in which the Common Stock (or other applicable security) is exchanged for or converted into any combination of cash, securities or other property, the date fixed for determination of stockholders entitled to receive such cash, securities or other property (whether such date is fixed by the Board of Directors or by statute, contract or otherwise).

(x) "Trading Day" shall mean (x) if the applicable security is quoted on the Nasdaq National Market, a day on which trades may be made thereon or (y) if the applicable security is listed or admitted for trading on the New York Stock Exchange or another national security exchange, a day on which the New York Stock Exchange or another national security exchange is open for business or (z) if the applicable security is not so listed, admitted for trading or quoted, any day other than a Saturday or Sunday or a day on which banking institutions in the State of New York are authorized or obligated by law or executive order to close.

8. Ranking. Any class or classes of stock of the Company shall be deemed to rank:

(a) prior to the Preferred Stock, as to dividends or as to distribution of assets upon liquidation, dissolution or winding up, if the holders of such class shall be entitled to the receipt of dividends or of amounts distributable upon liquidation, dissolution or winding up, as the case may be, in preference or priority to the holders of Preferred Stock.

(b) on a parity with the Preferred Stock, as to dividends or as to distribution of assets upon liquidation, dissolution or winding up, whether or not the dividend rates, Dividend Payment Dates or redemption or liquidation prices per share thereof be different from those of the Preferred Stock, if the holders of such class of stock and the Preferred Stock shall be entitled to the receipt of dividends or of amounts distributable upon liquidation, dissolution or winding

up, as the case may be, in proportion to their respective amounts of accrued and unpaid dividends per share or liquidation prices, without preference or priority of one over the other; and

(c) junior to the Preferred Stock, as to dividends or as to the distribution of assets upon liquidation, dissolution or winding up, if such stock shall be Common Stock or if the holder of Preferred Stock shall be entitled to receipt of dividends or of amounts distributable upon liquidation, dissolution or winding up, as the case may be, in preference or priority to the holders of shares of such stock.

9. Voting Rights.

(a) The holders of the Preferred Stock will not have any voting rights except as set forth below or as otherwise from time to time required by law. In connection with any right to vote, each holder of the Preferred Stock will have one vote for each share of Preferred Stock held. Any shares of Preferred Stock held by the Company or any entity controlled by the Company shall not have voting rights hereunder and shall not be counted in determining the presence of a quorum.

(b) Whenever dividends on the Preferred Stock or on any outstanding shares of preferred stock ranking on parity as to dividends with the Preferred Stock shall be in arrears in an aggregate amount equal to at least six quarterly dividends (whether or not consecutive), (i) the number of members of the Board of Directors of the Company shall be increased by two, effective as of the time of election of such directors as hereinafter provided and (ii) the holders of the Preferred Stock (voting separately as a class with the holders of preferred stock ranking on parity as to dividends with the Preferred Stock on which like voting rights have been conferred and are exercisable, without regard to series) will have the exclusive right to vote for and elect such two additional directors of the Company at any meeting of stockholders of the Company at which directors are to be elected held during the period such dividends remain in arrears. The right of the holders of the Preferred Stock to vote for such two additional directors shall terminate when all accrued and unpaid dividends on the Preferred Stock and all other affected classes or series of preferred stock ranking on parity as to dividends with the Preferred Stock have been declared and paid or set apart for payment. The holders of the Preferred Stock voting as a class shall have the right to remove without cause at any time and replace any directors such holders shall have elected pursuant to this Section 9. If the office of any director elected by the holders of Preferred Stock voting as a class becomes vacant by reason of death, resignation, retirement, disqualification, removal from office or otherwise, the remaining director elected by the holders of Preferred Stock (together with any other series of preferred stock ranking on a parity with the Preferred Stock and upon which like voting rights have been conferred and are exercisable) voting as a class may choose a successor who shall hold office for the unexpired term in respect of which such vacancy occurred. The term of office of all directors so elected shall terminate immediately upon the termination of the right of the holders of the Preferred Stock to vote for such directors, and the number of directors of the Board of Directors of the Company shall immediately thereafter be reduced by two. The Board of Directors of the Company shall determine, when and if required, to which class of directors such directors appointed by the holders of the Preferred Stock shall be appointed under the Company's Certificate of Incorporation; *provided, however,* that if applicable, the term of such directors shall terminate earlier than the expiration of the terms provided for the applicable class or classes

of directors if the right of the holders of Preferred Stock to appoint directors under this Section 9 terminates as provided herein.

The foregoing right of the holders of the Preferred Stock with respect to the election of two directors may be exercised at any annual meeting of stockholders or at any special meeting of stockholders held for such purpose. If the right to elect directors shall have accrued to the holders of the Preferred Stock more than ninety (90) days preceding the date established for the next annual meeting of stockholders, the President of the Company shall, within twenty (20) days after the delivery to the Company at its principal office of a written request for a special meeting signed by the holders of at least 10% of all outstanding shares of Preferred Stock, call a special meeting of the holders of the Preferred Stock to be held within sixty (60) days after the delivery of such request for the purpose of electing such additional directors.

(c) So long as the Preferred Stock is outstanding, the Company shall not, without the affirmative vote or consent of the holders of at least a majority (unless a higher percentage shall then be required by applicable law) of all outstanding shares of Preferred Stock voting separately as a class with the holders of preferred stock ranking on parity as to dividends with the Preferred Stock on which like voting rights have been conferred and are exercisable, without regard to series, (i) amend, alter or repeal any provision of the Certificate of Incorporation (including, without limitation, these resolutions) or the Bylaws of the Company so as to affect adversely the relative rights, preferences, qualifications, limitations or restrictions of the Preferred Stock, or (ii) create, authorize or issue, or reclassify any authorized stock of the Company into, or increase the authorized amount of, any class or series of the Company's capital stock ranking senior to the Preferred Stock as to dividends or as to distributions of assets upon liquidation, dissolution or winding up of the Company, whether voluntary or involuntary, or any obligation or security convertible into shares of such a class or series. In addition, so long as the Preferred Stock is outstanding, the Company shall not, without the affirmative vote or consent of the holders of at least a majority (unless a higher percentage shall then be required by applicable law) of all outstanding shares of Preferred Stock voting separately as a class with the holders of preferred stock ranking on parity as to dividends with the Preferred Stock on which like voting rights have been conferred and are exercisable, without regard to series, enter into a share exchange pursuant to which the Preferred Stock would be exchanged for any other securities or merge or consolidate with or into any other person or permit any other person to merge or consolidate with or into the Company, unless in such case each share of Preferred Stock shall remain outstanding or unaffected or shall be converted into or exchanged for convertible exchangeable preferred stock of the surviving entity having voting rights, preferences, limitations or special rights thereof substantially similar (but no less favorable) to a share of Preferred Stock. A class vote on the part of the Preferred Stock shall, without limitation, specifically not be deemed to be required (except as otherwise required by law or resolution of the Company's Board of Directors) in connection with (a) the authorization, issuance or increase in the authorized amount of any shares of capital stock ranking junior to or on parity with the Preferred Stock both as to the payment of dividends and as to distribution of assets upon liquidation, dissolution or winding up of the Company, whether voluntary or involuntary, when and if issued, including Common Stock; or (b) the authorization, issuance or increase in the amount of any bonds, mortgages, debentures or other obligations of the Company (other than those that may be covered by clause (ii) of the preceding sentence).

The holders of Preferred Stock shall also be entitled to vote on certain amendments or supplements to the Indenture establishing the Debentures, for which the Preferred Stock may be exchanged, as described in Section 10 hereof, and provided in Article XI of such Indenture.

10. Exchange.

(a) The Preferred Stock shall be exchangeable, in whole but not in part, at the option of the Company on any Dividend Payment Date beginning _____ __, 2005, for the Debentures at the rate of $10 principal amount of Debentures for each share of Preferred Stock outstanding at the time of exchange; *provided that* the Debentures will be issuable in denominations of $1,000 and integral multiples thereof. If the exchange results in an amount of Debentures that is not an integral multiple of $1,000, the amount in excess of the closest integral multiple of $1,000 will be paid in cash by the Company.

(b) The Company will mail to each record holder of the Preferred Stock written notice of its intention to exchange the Preferred Stock for the Debentures no less than 30 nor more than 60 days prior to the date of the exchange (the "Exchange Date"). The notice shall specify the Exchange Date, the place or places where certificates for shares of the Preferred Stock are to be surrendered for Debentures and shall state that dividends on Preferred Stock will cease to accrue on and after the Exchange Date.

(c) If the Company has caused the Debentures to be authenticated on or prior to the Exchange Date and has complied with the other provisions of this Section 10, then, notwithstanding that any certificates for shares of Preferred Stock have not been surrendered for exchange, on the Exchange Date dividends shall cease to accrue on the Preferred Stock and at the close of business on the Exchange Date the holders of the Preferred Stock shall cease to be stockholders with respect to the Preferred Stock and shall have no interest in or other claims against the Company by virtue thereof and shall have no voting or other rights with respect to the Preferred Stock, except the right to receive the Debentures issuable upon such exchange and the right to accumulated and unpaid dividends, without interest thereon, upon surrender (and endorsement, if required by the Company) of their certificates, and the shares evidenced thereby shall no longer be deemed outstanding for any purpose. The Company will cause the Debentures to be authenticated on or before the Exchange Date, and the Company will pay interest on the Debentures at the rate and on the dates specified in such Indenture from and after the Exchange Date.

(d) Notwithstanding the foregoing, if notice of exchange has been given pursuant to this Section 10 and any holder of shares of Preferred Stock shall, prior to the close of business on the Exchange Date, give written notice to the Company pursuant to Section 7 of the conversion of any or all of the shares held by the holder (accompanied by a certificate or certificates for such shares, duly endorsed or assigned to the Company), then the exchange shall not become effective as to the shares to be converted and the conversion shall become effective as provided in Section 7.

(e) The Debentures will be delivered to the persons entitled thereto upon surrender to the Company or its agent appointed for that purpose of the certificates for the shares of Preferred Stock being exchanged therefor.

(f) Notwithstanding the other provisions of this Section 10, if on the Exchange Date (i) the Company has not paid full cumulative dividends on the Preferred Stock (or set aside a sum therefor); (ii) the Debentures shall not be listed or approved for listing upon issuance on the Nasdaq National Market, the Nasdaq SmallCap Market, New York Stock Exchange, American Stock Exchange or another national securities exchange; or (iii) the exchange shall result in an Event of Default under the Indenture or an Event of Default under the Indenture shall have occurred and be continuing, the Company may not exchange the Preferred Stock for the Debentures and any notice previously given pursuant to this Section 10 shall be of no effect.

(g) Prior to the Exchange Date, the Company will comply with any applicable securities and blue sky laws with respect to the exchange of the Preferred Stock for the Debentures.

(h) Dividends with respect to the shares of Preferred Stock to be exchanged which are due on the quarterly Dividend Payment Date on which the exchange is effected will be mailed to holders in the regular course.

11. Record Holders. The Company and the Transfer Agent may deem and treat the record holder of any shares of Preferred Stock as the true and lawful owner thereof for all purposes and neither the Company nor the Transfer Agent shall be affected by any notice to the contrary.

12. Notice. Except as may otherwise be provided for herein, all notices referred to herein shall be in writing, and all notices hereunder shall be deemed to have been given upon receipt, in the case of a notice of conversion given to the Company as contemplated in Section 7(b) hereof, or, in all other cases, upon the earlier of receipt of such notice or three Business Days after the mailing of such notice if sent by registered mail (unless first-class mail shall be specifically permitted for such notice under the terms of this resolution) with postage prepaid, addressed, if to the Company, to its offices at 1124 Columbia Street, Suite 130, Seattle, WA 98104 (Attention: Secretary) or to an agent of the Company designated as permitted by this certificate, or, if to any holder of the Preferred Stock, to such holder at the address of such holder of the Preferred Stock as listed in the Company's stock records or to such other address as the Company or holder, as the case may be, shall have designated by notice similarly given.

13. Form of Certificates; Transfer.

(a) So long as the shares of Preferred Stock are eligible for book-entry settlement with the Depositary, or unless otherwise required by law, all shares of Preferred Stock that are so eligible may be represented by a Preferred Stock certificate in global form (the "Global Certificate") registered in the name of the Depositary or the nominee of the Depositary, except as otherwise specified below. The transfer, conversion and exchange of beneficial interests in the Global Certificate shall be effected through the Depositary in accordance with this Certificate and the procedures of the Depositary therefor.

Transfers of interests in a Global Certificate will be made in accordance with the standing instructions and procedures of the Depository and its participants. The Transfer Agent shall

make appropriate endorsements to reflect increases or decreases in the Global Certificate as set forth on the face of the Global Certificate to reflect any such transfers.

Except as provided below, beneficial owners of an interest in a Global Certificate shall not be entitled to have certificates registered in their names, will not receive or be entitled to receive physical delivery of certificates in definitive form and will not be considered holders of such Global Certificates.

No definitive Preferred Stock certificate, or portion thereof, in respect of which the Company or an Affiliate of the Company held any beneficial interest shall be included in a Global Certificate. The Transfer Agent shall issue Preferred Stock certificates in definitive form upon any transfer of a beneficial interest in any Global Certificate to the Company or any Affiliate of the Company.

(b) Any Global Certificate may be endorsed with or have incorporated in the text thereof such legends or recitals or changes not inconsistent with the provisions of this Certificate as may be required by the custodian, the Depositary, by the New York Stock Exchange or by the National Association of Securities Dealers, Inc. in order to comply with any applicable law or any regulation thereunder or with the rules and regulations of any securities exchange upon which the shares of Preferred Stock may be listed or traded or to conform with any usage with respect thereto, or to indicate any special limitations or restrictions to which any particular shares of Preferred Stock are subject.

(c) Notwithstanding any other provisions of this Certificate (other than the provisions set forth in this Section 13(c)), a Global Certificate may not be transferred as a whole except by the Depositary to a nominee of the Depositary or by a nominee of the Depositary to the Depositary or another nominee to a successor Depositary or a nominee of such successor Depositary.

The Depositary shall be a clearing agency registered under the Exchange Act. The Company initially appoints The Depository Trust Company to act as Depositary with respect to the Global Certificates. Initially, the Global Certificate shall be issued to the Depositary, registered in the name of Cede & Co., as the nominee of the Depositary, and deposited with a custodian for Cede & Co.

If at any time the Depositary for a Global Certificate notifies the Company that it is unwilling or unable to continue as Depositary for such Global Certificate, the Company may appoint a successor Depositary with respect to such Global Certificate. If a successor Depositary for the Preferred Stock is not appointed by the Company within 90 days after the Company receives such notice, the Company will execute, and the Transfer Agent will authenticate and deliver, Preferred Stock in certificated form, in an aggregate principal amount equal to the principal amount of the Global Certificate, in exchange for such Global Certificate.

Preferred Stock in definitive form issued in exchange for all or a part of a Global Certificate pursuant to this Section 13 shall be registered in such names and in such authorized denominations as the Depositary, pursuant to instructions from its direct or indirect participants or otherwise, shall instruct the Transfer Agent. Upon execution and authentication, the Transfer

Agent shall deliver such Preferred Stock in certificated form to the persons in whose names such Preferred Stock in definitive form are so registered.

At such time as all interests in a Global Certificate have been redeemed, converted, exchanged, repurchased or canceled for Preferred Stock in definitive form, or transferred to a transferee who receives Preferred Stock in definitive form, such Global Certificate shall be, upon receipt thereof, canceled by the Transfer Agent in accordance with standing procedures and instructions existing between the custodian and Depositary. At any time prior to such cancellation, if any interest in a Global Certificate is exchanged for Preferred Stock in certificated form, redeemed, converted, exchanged, repurchased by the Company or canceled, or transferred for part of a Global Certificate, the principal amount of such Global Certificate shall, in accordance with the standing procedures and instructions existing between the custodian and the Depositary, be reduced or increased, as the case may be, and an endorsement shall be made on such Global Certificate, by the Transfer Agent or the custodian, at the direction of the Transfer Agent, to reflect such reduction or increase.

(d) Any Preferred Stock or Common Stock issued upon the conversion or exchange of a Security that is purchased or owned by the Company or any Affiliate thereof may not be resold by the Company or such Affiliate unless registered under the Securities Act or resold pursuant to an exemption from the registration requirements of the Securities Act in a transaction which results in such Preferred Stock or Common Stock, as the case may be, no longer being "restricted securities" (as defined under Rule 144). Any Preferred Stock or Common Stock issued in definitive form to the Company or any Affiliate thereof shall be endorsed with or have incorporated in the text thereof such legends or recitals as necessary to set forth the foregoing restrictions.

14. Form of Notice of Conversion; Form of Assignment.

(a) The following is the form of Conversion Notice to be set forth on the reverse of the Preferred Stock certificate:

[FORM OF CONVERSION NOTICE]

CONVERSION NOTICE

To: _____

The undersigned registered owner of the Preferred Stock hereby irrevocably exercises the option to convert the Preferred Stock, or the portion hereof below designated, into shares of Common Stock in accordance with the terms of the Certificate of Designation, and directs that the shares issuable and deliverable upon such conversion, together with any shares issuable and deliverable or check in payment of any Make-Whole Dividend Payment, if any, and any check in payment for fractional shares and any Preferred Stock representing any unconverted amount of shares hereof, be issued and delivered to the registered holder hereof unless a different name has been indicated below. If shares or any portion of the Preferred Stock not converted are to be issued in the name of a person other than the undersigned, the undersigned will pay all transfer taxes payable with respect thereto.

Dated: _____

_____

_____
Signature(s)

Signature(s) must be guaranteed by an eligible Guarantor Institution (banks, stock brokers, savings and loan associations and credit unions) with membership in an approved signature guarantee medallion program pursuant to Securities and Exchange Commission Rule 17AD-15 if shares of Common Stock are to be issued, or Preferred Stock to be delivered, other than to and in the name of the registered holder.

Signature Guarantee

Fill in for registration of shares if to be issued, and Preferred Stock if to be delivered, other than to and in the name of the registered holder:

_____
(Name)

_____
(Street Address)

_____
(City, State and Zip Code)
Please print name and address

_____
Taxpayer

Number of shares to be converted (if less than all): _____

Social Security or Other Identification Number _____

(b) The following is the form of Assignment to be set forth on the reverse of the Preferred Stock certificate:

[FORM OF ASSIGNMENT]

For value received _____ hereby sell(s), assign(s) and transfer(s) unto _____ (Please insert social security or Taxpayer Identification Number of assignee) the Preferred Stock, and hereby irrevocably constitutes and appoints _____ attorney to transfer the said Preferred Stock on the books of the Company, with full power of substitution in the premises.

Unless the appropriate box below is checked, the undersigned confirms that such Preferred Stock is not being transferred to the Company or an "affiliate" of the Company as defined in Rule 144 under the Securities Act of 1933, as amended (an "Affiliate").

☐ The transferee is an Affiliate of the Company

☐ The transferee is the Company

Dated: _____

_____

_____
Signature(s)

Signature(s) must be guaranteed by an eligible Guarantor Institution (banks, stock brokers, savings and loan associations and credit unions) with membership in an approved signature guarantee medallion program pursuant to Securities and Exchange Commission Rule 17AD-15 if shares of Common Stock are to be issued, or Preferred Stock to be delivered, other than to and in the name of the registered holder.

Signature Guarantee

NOTICE: The signature on the conversion notice, or the assignment must correspond with the name as written upon the face of the Preferred Stock in every particular without alteration or enlargement or any change whatever.

IN WITNESS WHEREOF, the Company has caused this certificate to be signed and attested this _____ __, 2004.

XCYTE THERAPIES, INC.

By: _____
Name: Joanna S. Black
Title: Secretary

Attest:

_____
Name: Ronald J. Berenson, M.D.
Title: President and Chief Executive Officer

Exhibit 4.1

PREFERRED STOCK
[GRAPHIC]

CUSIP 98389F 40 8

NUMBER

SEE REVERSE FOR CERTAIN DEFINITIONS

INCORPORATED UNDER THE LAWS OF THE STATE OF DELAWARE

THIS CERTIFIES THAT

is the record holder of

FULLY PAID AND NONASSESSABLE SHARES OF % CONVERTIBLE EXCHANGEABLE PREFERRED STOCK, PAR VALUE $0.001 PER SHARE, OF

XCYTE THERAPIES, INC.

transferable on the books of the Corporation by the holder hereof in person or by duly authorized attorney upon surrender of this certificate properly endorsed. This certificate is not valid until countersigned by the Transfer Agent and Registrar.

WITNESS the facsimile seal of the Corporation and the facsimile signatures of its duly authorized officers.

Dated:

/s/ JOANNA S. BLACK
Secretary

[SEAL]

/s/ RONALD J. BERENSON
President and Chief Executive Officer

COUNTERSIGNED AND REGISTERED:
AMERICAN STOCK TRANSFER AND TRUST COMPANY
Transfer Agent and Registrar,

By: _____
Authorized Signature

XCYTE THERAPIES, INC.

THE CORPORATION WILL FURNISH WITHOUT CHARGE TO EACH STOCKHOLDER WHO SO REQUESTS A STATEMENT OF THE POWERS, DESIGNATIONS, PREFERENCES AND RELATIVE, PARTICIPATING, OPTIONAL OR OTHER SPECIAL RIGHTS OF EACH CLASS OF STOCK OR SERIES THEREOF OF THE CORPORATION, AND THE QUALIFICATIONS, LIMITATIONS OR RESTRICTIONS OF SUCH PREFERENCES AND/OR RIGHTS, INCLUDING, WITHOUT LIMITATION, A COPY OF THE CERTIFICATE OF DESIGNATIONS RELATED THERETO. SUCH REQUEST MAY BE MADE TO THE CORPORATION OR THE TRANSFER AGENT.

CONVERSION NOTICE

To:_____

The undersigned registered owner of the Preferred Stock hereby irrevocably exercises the option to convert the Preferred Stock, or the portion hereof below designated, into shares of Common Stock in accordance with the terms of the Certificate of Designations, and directs that the shares issuable and deliverable upon such conversion, together with any shares issuable and deliverable or check in payment of any Make-Whole Dividend Payment, if any, and any check in payment for fractional shares and any Preferred Stock representing any unconverted amount of shares hereof, be issued and delivered to the registered holder hereof unless a different name has been indicated below. If shares or any portion of the Preferred Stock not converted are to be issued in the name of a person other than the undersigned, the undersigned will pay all transfer taxes payable with respect thereto.

Dated: _____ _____

Signature(s)

_____ _____

Signature Guarantee

Signature(s) must be guaranteed by an eligible Guarantor Institution (banks, stock brokers, savings and loan associations and credit unions) with membership in an approved signature guarantee medallion program pursuant to Securities and Exchange Commission Rule 17Ad-15 if shares of Common Stock are to be issued, or Preferred Stock to be delivered, other than to and in the name of the registered holder.

Fill in for registration of shares if to be issued, and Preferred Stock if to be delivered, other than to and in the name of the registered holder:

_____

Name

_____

Street Address

_____

City, State and Zip Code

Number of Shares to be converted (if less than all):

_____

Social Security or other Taxpayer Identification Number

_____

ASSIGNMENT

For value received, _____ hereby sell(s), assign(s) and transfer(s) unto

_____

PLEASE INSERT SOCIAL SECURITY OR TAXPAYER IDENTIFICATION NUMBER OF ASSIGNEE

_____

the Preferred Stock, and hereby irrevocably constitutes and appoints_____

_____ attorney to transfer the said Preferred Stock on the books of the Corporation with full power of substitution in the premises.

Unless the appropriate box below is checked, the undersigned confirms that such Preferred Stock is not being transferred to the Corporation or an "affiliate" of the Company as defined in Rule 144 under the Securities Act of 1933, as amended (an "Affiliate").

☐ The transferee is an Affiliate of the Corporation

☐ The transferee is the Corporation

Dated: _____ _____

Signature(s)

Signature Guarantee:

_____ _____

NOTICE: The signature on the conversion notice, or the assignment must correspond with the name as written upon the face of the Preferred Stock in every particular without alteration or enlargement or any change whatever.

Signature(s) must be guaranteed by an eligible Guarantor Institution (banks, stock brokers, savings and loan associations and credit unions) with membership in an approved signature guarantee medallion program pursuant to Securities and Exchange Commission Rule 17Ad-15 if shares of Common Stock are to be issued, or Preferred Stock to be delivered, other than to and in the name of the registered holder.

Unless this certificate is presented by an authorized representative of The Depository Trust Company, a New York corporation ("DTC"), to Issuer or its agent for registration of transfer, exchange, or payment, and any certificate issued is registered in the name of Cede & Co. or in such other name as is requested by an authorized representative of DTC (and any payment is made to Cede & Co. or to such other entity as is requested by an authorized representative of DTC), ANY TRANSFER, PLEDGE, OR OTHER USE HEREOF FOR VALUE OR OTHERWISE BY OR TO ANY PERSON IS WRONGFUL in as much as the registered owner hereof, Cede & Co., has an interest herein.

The following abbreviations, when used in the inscription on the face of this certificate, shall be construed as though they were written out in full according to applicable laws or regulations:

TEN COM-	as tenants in common
TEN ENT-	as tenants by the entireties
JT TEN-	as joint tenants with right of survivorship and not as tenants in common

UNIF GIFT MIN ACT- _____Custodian_____
(Cust) (Minor)
under Uniform Gifts to Minors
Act _____
(State)

UNIF TRF MIN ACT - _____Custodian (until age_____)
(Cust)
_____under Uniform Transfers to Minors
(Minor)
Act _____
(State)

Additional abbreviations may also be used though not in the above list.

Exhibit 4.3

XCYTE THERAPIES, INC.

AND

U.S. BANK NATIONAL ASSOCIATION

as Trustee

INDENTURE

Dated as of _____, 2004

___% Convertible Subordinated Debentures

TABLE OF CONTENTS

CROSS REFERENCE SHEET*

Between

Provisions of Trust Indenture Act of 1939 and Indenture, dated as of _____, 2004, between Xcyte Therapies, Inc. and U.S. Bank National Association, as Trustee, providing for the ___% Convertible Subordinated Debentures:

Section of the Act	Section of Indenture
310(a)(1) and (2)	8.9
310(a)(3) and (4)	Inapplicable
310(b)	8.8 and 8.10(b) and (d)
310(c)	Inapplicable
311(a)	8.13
311(b)	8.13
311(c)	Inapplicable
312(a)	6.1 and 6.2(a)
312(b)	6.2(b)
312(c)	6.2(c)
313(a)	6.3(a)
313(b)(1)	Inapplicable
313(b)(2)	6.3(a)
313(c)	6.3(a)
313(d)	6.3(b)
314(a)	6.4
314(b)	Inapplicable
314(c)(1) and (2)	16.5
314(c)(3)	Inapplicable
314(d)	Inapplicable
314(e)	16.5
314(f)	Inapplicable
315(a), (c) and (d)	8.1
315(b)	7.8
315(e)	7.9
316(a)(1)	7.7
316(a)(2)	Not required
316(a)(last sentence)	9.4
316(b)	11.2
317(a)	7.2
317(b)	5.4 and 13.2
318(a)	16.8

INDENTURE, dated as of _____, 2004, between Xcyte Therapies, Inc., a Delaware corporation (hereinafter sometimes called the "Company", as more fully set forth in Section 1.1), and U.S. Bank National Association, a national banking association organized and existing under the laws of the United States, as trustee (hereinafter sometimes called the "Trustee", as more fully set forth in Section 1.1).

W I T N E S S E T H:

WHEREAS, for its lawful corporate purposes, the Company has duly authorized the issue of its ___% Convertible Subordinated Debentures (hereinafter sometimes called the "Debentures"), in an aggregate principal amount not to exceed $___,000,000 and, to provide the terms and conditions upon which the Debentures are to be authenticated, issued and delivered, the Company has duly authorized the execution and delivery of this Indenture; and

WHEREAS, the Debentures, the certificate of authentication to be borne by the Debentures, a form of assignment, and a form of conversion notice to be borne by the Debentures are to be substantially in the forms hereinafter provided for; and

WHEREAS, all acts and things necessary to make the Debentures, when executed by the Company and authenticated and delivered by the Trustee or a duly authorized authenticating agent, as in this Indenture provided, the valid, binding and legal obligations of the Company, and to constitute these presents a valid agreement according to its terms, have been done and performed, and the execution of this Indenture and the issue hereunder of the Debentures have in all respects been duly authorized.

NOW, THEREFORE, THIS INDENTURE WITNESSETH:

That in order to declare the terms and conditions upon which the Debentures are to be authenticated, issued and delivered, and in consideration of the premises and of the purchase and acceptance of the Debentures by the holders thereof, the Company covenants and agrees with the Trustee for the equal and proportionate benefit of the respective holders from time to time of the Debentures (except as otherwise provided below), as follows:

ARTICLE I

DEFINITIONS

Section 1.1 Definitions. Each of the terms defined in this Section 1.1 (except as herein otherwise expressly provided or unless the context otherwise requires) for all purposes of this Indenture and of any indenture supplemental hereto shall have the respective meanings specified in this Section 1.1. Each of the terms used in this Indenture, which are defined in the Trust Indenture Act or which are by reference therein defined in the Securities Act (except as herein otherwise expressly provided or unless the context otherwise requires) shall have the meanings assigned to such term in said Trust Indenture Act and in said Securities Act as in force at the date of the execution of this Indenture. The words "herein," "hereof," "hereunder," and words of similar import refer to this Indenture as a whole and not to any particular Article, Section or other Subdivision. The terms defined in this Article include the plural as well as the singular.

Affiliate. The term "Affiliate" of any specified person shall mean any other person directly or indirectly controlling or controlled by or under direct or indirect common control with such specified person. For the purposes of this definition, "control," when used with respect to any specified person means the power to direct or cause the direction of the management and policies of such person, directly or indirectly, whether through the ownership of voting securities, by contract or otherwise; and the terms "controlling" and "controlled" have meanings correlative to the foregoing.

Applicable Price. The term "Applicable Price" shall have the meaning specified in Section 15.11(b).

Automatic Conversion. The term "Automatic Conversion" shall have the meaning specified in Section 15.12(a).

Automatic Conversion Date. The term "Automatic Conversion Date" shall have the meaning specified in Section 15.12(a).

Automatic Conversion Notice. The term "Automatic Conversion Notice" shall have the meaning specified in Section 15.12(b).

Board of Directors. The term "Board of Directors" shall mean the Board of Directors of the Company or a committee of such Board duly authorized to act for it hereunder.

Board Resolution. The term "Board Resolution" shall mean a copy of a resolution certified by the Secretary or an Assistant Secretary of the Company to have been duly adopted by the Board of Directors and to be in full force and effect on the date of such certification, and delivered to the Trustee.

Business Day. The term "Business Day" shall mean each Monday, Tuesday, Wednesday, Thursday and Friday which is not a day on which the banking institutions in The City of New York or the city in which the Corporate Trust Office is located are authorized or obligated by law or executive order to close or be closed.

Commission. The term "Commission" shall mean the Securities and Exchange Commission.

Common Stock. The term "Common Stock" shall mean any stock of any class of the Company which has no preference in respect of dividends or of amounts payable in the event of any voluntary or involuntary liquidation, dissolution or winding up of the Company and which is not subject to redemption by the Company. Subject to the provisions of Section 15.6, however, shares issuable on conversion of Debentures shall include only shares of the class designated as common stock of the Company at the date of this Indenture or shares of any class or classes resulting from any reclassification or reclassifications thereof and which have no preference in respect of dividends or of amounts payable in the event of any voluntary or involuntary liquidation, dissolution or winding up of the Company and which are not subject to redemption by the Company; *provided that* if at any time there shall be more than one such resulting class, the shares of each such class then so issuable shall be substantially in the proportion which the

total number of shares of such class resulting from all such reclassifications bears to the total number of shares of all such classes resulting from all such reclassifications.

Common Stock Fundamental Change. The term "Common Stock Fundamental Change" shall have the meaning specified in Section 15.11(b).

Company. The term "Company" shall mean Xcyte Therapies, Inc., a Delaware corporation, and subject to the provisions of Article XII, shall include its successors and assigns.

Conversion Price. The term "Conversion Price" shall have the meaning specified in Section 15.4.

Corporate Trust Office. The term "Corporate Trust Office," or other similar term, shall mean the office of the Trustee at which at any particular time its corporate trust business shall be principally administered, which office is, at the date as of which this Indenture is dated, located at 1420 5th Avenue, 7th Floor, PD-WA-T7CT, Seattle, WA 98101, Attention: Carolyn Whalen (Xcyte Therapies, Inc., ___% Convertible Subordinated Debentures).

Custodian. The term "Custodian" shall mean U.S. Bank National Association, as custodian with respect to the Debentures in global form, or any successor entity thereto.

Debenture or Debentures. The terms "Debenture" or "Debentures" shall mean any Debenture or Debentures, as the case may be, authenticated and delivered under this Indenture.

Debentureholder; holder. The terms "Debentureholder" or "holder" as applied to any Debenture, or other similar terms (but excluding the term "beneficial holder"), shall mean any person in whose name at the time a particular Debenture is registered on the Debenture register.

Debenture register. The term "Debenture register" shall have the meaning specified in Section 2.5.

default. The term "default" shall mean any event that is, or after notice or passage of time, or both, would be, an Event of Default.

Depositary. The term "Depositary" shall mean, with respect to the Debentures issuable or issued in whole or in part in global form, the person specified in Section 2.5(d) as the Depositary with respect to such Debentures, until a successor shall have been appointed and become such pursuant to the applicable provisions of this Indenture, and thereafter, "Depositary" shall mean or include such successor.

Designated Senior Indebtedness. The term "Designated Senior Indebtedness" shall mean any particular Senior Indebtedness in which the instrument creating or evidencing the same or the assumption or guarantee thereof (or related agreements or documents to which the Company is a party) expressly provides that such Senior Indebtedness shall be "Designated Senior Indebtedness" for purposes of this Indenture (provided that such instrument, agreement or other document may place limitations and conditions on the right of such Senior Indebtedness to exercise the rights of Designated Senior Indebtedness).

Event of Default. The term "Event of Default" shall mean any event specified in Section 7.1 continued for the period of time, if any, and after the giving of notice, if any, therein designated.

Exchange Act. The term "Exchange Act" shall mean the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

Exchange Date. The term "Exchange Date" shall mean the date on which the Debentures are issued in exchange for all of the outstanding shares of Preferred Stock.

Fundamental Change. The term "Fundamental Change" shall have the meaning specified in Section 15.11(b).

Global Debenture. The term "Global Debenture" shall have the meaning specified in Section 2.5(b).

Indebtedness. The term "Indebtedness" shall mean, with respect to any person, all obligations, whether or not contingent, of such person (i) (a) for borrowed money, whether or not evidenced by a note, debenture, bond, or other written instrument, (b) evidenced by a note, debenture, bond or other written instrument, (c) under a lease required to be capitalized on the balance sheet of the lessee under generally accepted accounting principles or under any lease or related document (including a purchase agreement) that provides that the Company is contractually obligated to purchase or cause a third party to purchase and thereby guarantee a minimum residual value of the lease property to the lessor and the obligations of the Company under such lease or related document to purchase or to cause a third party to purchase such leased property, (d) in respect of letters of credit, bank guarantees or bankers' acceptances (including reimbursement obligations with respect to any of the foregoing), (e) with respect to Indebtedness secured by a mortgage, pledge, lien, encumbrance, charge or adverse claim affecting title in an encumbrance to which the property or assets of such person are subject, whether or not the obligation secured thereby shall have been assumed by or shall otherwise be such person's legal liability, (f) in respect of the balance of deferred and unpaid purchase price of any property or assets, (g) under interest rate or currency swap agreements, cap, floor and collar agreements, spot and forward contracts and similar agreements and arrangements; (ii) with respect to any obligation of others of the type described in the preceding clause (i) or under clause (iii) below assumed by or guaranteed in any manner by such person or in effect guaranteed by such person through an agreement to purchase (including, without limitation, "take or pay" and similar arrangements), contingent or otherwise (and the obligations of such person under any such assumptions, guarantees or other such arrangements); and (iii) any and all Indebtedness constituting deferrals, renewals, extensions, refinancings and refundings of, or amendments, modifications or supplements to, any of the foregoing.

Indenture. The term "Indenture" shall mean this instrument as originally executed or, if amended or supplemented as herein provided, as so amended or supplemented.

Make-Whole Interest Payment. The term "Make Whole Interest Payment" shall have the meaning specified in Section 15.13(a).

Non-Stock Fundamental Change. The term "Non-Stock Fundamental Change" shall have the meaning specified in Section 15.11(b).

Officers' Certificate. The term "Officers' Certificate", when used with respect to the Company, shall mean a certificate signed by (a) one of the President, the Chief Executive Officer, Executive or Senior Vice President or any Vice President (whether or not designated by a number or numbers or word added before or after the title "Vice President") and (b) by one of the Treasurer or any Assistant Treasurer, Secretary or any Assistant Secretary or Controller of the Company, which is delivered to the Trustee. Each such certificate shall include the statements provided for in Section 16.5 if and to the extent required by the provisions of such Section.

Opinion of Counsel. The term "Opinion of Counsel" shall mean an opinion in writing signed by legal counsel, who may be an employee of or counsel to the Company, or other counsel acceptable to the Trustee, which is delivered to the Trustee. Each such opinion shall include the statements provided for in Section 16.5 if and to the extent required by the provisions of such Section.

outstanding. The term "outstanding," when used with reference to Debentures, shall, subject to the provisions of Section 9.4, mean, as of any particular time, all Debentures authenticated and delivered by the Trustee under this Indenture, except

(a) Debentures theretofore canceled by the Trustee or delivered to the Trustee for cancellation;

(b) Debentures, or portions thereof, for the payment, or redemption of which monies in the necessary amount shall have been deposited in trust pursuant hereto with the Trustee or with any paying agent (other than the Company) or shall have been set aside and segregated in trust by the Company (if the Company shall act as its own paying agent); provided that if such Debentures are to be redeemed prior to the maturity thereof, notice of such redemption shall have been given as provided in Section 3.2, or provision satisfactory to the Trustee shall have been made for giving such notice;

(c) Debentures in lieu of which, or in substitution for which, other Debentures shall have been authenticated and delivered pursuant to the terms of Section 2.6 unless proof satisfactory to the Trustee is presented that any such Debentures are held by bona fide holders in due course; and

(d) Debentures converted into Common Stock pursuant to Article XV and Debentures deemed not outstanding pursuant to Section 3.2.

Payment Blockage Notice. The term "Payment Blockage Notice" has the meaning specified in Section 4.2.

Person. The term "person" shall mean a corporation, a limited liability company, an association, a partnership, an individual, a joint venture, a joint stock company, a trust, an unincorporated organization or a government or an agency or a political subdivision thereof.

Predecessor Debenture. The term "Predecessor Debenture" of any particular Debenture shall mean every previous Debenture evidencing all or a portion of the same debt as that evidenced by such particular Debenture; and, for the purposes of this definition, any Debenture authenticated and delivered under Section 2.6 in lieu of a lost, destroyed or stolen Debenture shall be deemed to evidence the same debt as the lost, destroyed or stolen Debenture that it replaces.

Preferred Stock. The term "Preferred Stock" shall mean the ___% Convertible Exchangeable Preferred Stock of the Company.

Purchaser Stock Price. The term "Purchaser Stock Price" shall have the meaning specified in Section 15.11(b).

Representative. The term "Representative" means the (a) indenture trustee or other trustee, agent or representative for any Senior Indebtedness or (b) with respect to any Senior Indebtedness that does not have any such trustee, agent or other representative, (i) in the case of such Senior Indebtedness issued pursuant to an agreement providing for voting arrangements as among the holders or owners of such Senior Indebtedness, any holder or owner of such Senior Indebtedness acting with the consent of the required persons necessary to bind such holders or owners of such Senior Indebtedness and (ii) in the case of all other such Senior Indebtedness, the holder or owner of such Senior Indebtedness.

Responsible Officer. The term "Responsible Officer", when used with respect to the Trustee, shall mean an officer of the Trustee assigned to the Corporate Trust Office, and any officer of the Trustee to whom such matter is referred to because of his, her or its knowledge of and familiarity with the particular subject.

Rule 144: The term "Rule 144" shall mean Rule 144 as promulgated under the Securities Act.

Securities Act. The term "Securities Act" means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

Senior Indebtedness. The term "Senior Indebtedness" means the principal of, premium, if any, and interest on any Indebtedness of the Company (including, without limitation, any interest accruing after the filing of a petition by or against the Company under any bankruptcy law, whether or not allowed as a claim after such filing in any proceeding under such bankruptcy law), whether outstanding on the date of this Indenture or thereafter created, incurred, assumed, guaranteed or in effect guaranteed by the Company (including all deferrals, renewals, extensions or refundings of, or amendments, modifications or supplements to the foregoing); provided, however, that Senior Indebtedness does not include (i) Indebtedness evidenced by the Debentures, (ii) any liability for federal, state, local or other taxes owed or owing by the Company, (iii) Indebtedness of the Company to any subsidiary of the Company, (iv) any trade payables of the Company incurred in the ordinary course of business, and (v) any indebtedness in which the instrument creating or evidencing the same or the assumption or guarantee thereof (or related agreements or documents to which the Company is a party) expressly provides that such

Indebtedness shall not be senior in right of payment to, or is *pari passu* with, or is subordinated or junior to, the Debentures.

Subsidiary. The term "Subsidiary" means a corporation more than 50% of the outstanding voting stock of which is owned, directly or indirectly, by the Company or by one or more other Subsidiaries, or by the Company and one or more other Subsidiaries. For the purposes of this definition, "voting stock" means stock which ordinarily has voting power for the election of directors, whether at all times or only so long as no senior class of stock has such voting power by reason of any contingency.

Trading Day. The term "Trading Day" has the meaning specified in Section 15.5(h)(5).

Trust Indenture Act. The term "Trust Indenture Act" shall mean the Trust Indenture Act of 1939, as amended, as it was in force at the date of execution of this Indenture, except as provided in Sections 11.3 and 15.6; provided, however, that in the event the Trust Indenture Act of 1939 is amended after the date hereof, the term "Trust Indenture Act" shall mean, to the extent required by such amendment, the Trust Indenture Act of 1939 as so amended.

Trustee. The term "Trustee" shall mean U.S. Bank National Association and its successors and any corporation resulting from or surviving any consolidation or merger to which it or its successors may be a party and any successor trustee at the time serving as successor trustee hereunder.

Underwriters. The term "Underwriters" shall mean Piper Jaffray & Co. and JMP Securities LLC.

The definitions of certain other terms are as specified in Article XV.

ARTICLE II

ISSUE, DESCRIPTION, EXECUTION, REGISTRATION AND EXCHANGE OF DEBENTURES

Section 2.1 Designation, Amount and Issue of Debentures. The Debentures shall be designated as "___% Convertible Subordinated Debentures." Debentures not to exceed the aggregate principal amount of $_____ (or $ _____ if the over-allotment option set forth in Section 7 of the Purchase Agreement dated _____, 2004 (as amended from time to time by the parties thereto) by and between the Company and the Underwriters is exercised in full) (except pursuant to Sections 2.5, 2.6, 3.3 and 15.2) upon the execution of this Indenture, or from time to time thereafter, may be executed by the Company and delivered to the Trustee for authentication, and the Trustee shall thereupon authenticate and deliver said Debentures upon the written order of the Company, signed by the Company's (a) President, Executive or Senior Vice President or any Vice President (whether or not designated by a number or numbers or word or words added before or after the title "Vice President") and (b) Treasurer or Assistant Treasurer or its Secretary or any Assistant Secretary, without any further action by the Company hereunder, provided, however that said Debentures may not be executed, delivered or authenticated unless and until (i) the Company may legally issue said Debentures in accordance with the Delaware General Corporation Law, as amended, and (ii) the

Trustee shall have received an Officer's Certificate and Opinion of Counsel in accordance with Section 16.5. The Debentures may only be issued upon the exchange of all outstanding Preferred Stock.

Section 2.2 Form of Debentures. The Debentures and the Trustee's certificate of authentication to be borne by such Debentures shall be substantially in the form set forth in Exhibit A, which is incorporated in and made a part of this Indenture.

Any of the Debentures may have such letters, numbers or other marks of identification and such notations, legends and endorsements as the officers executing the same may approve (execution thereof to be conclusive evidence of such approval) and as are not inconsistent with the provisions of this Indenture, or as may be required to comply with any law or with any rule or regulation made pursuant thereto or with any rule or regulation of any securities exchange or automated quotation system on which the Debentures may be listed or designated for issuance, or to conform to usage.

Any Global Debenture shall represent such of the outstanding Debentures as shall be specified therein and shall provide that it shall represent the aggregate amount of outstanding Debentures from time to time endorsed thereon and that the aggregate amount of outstanding Debentures represented thereby may from time to time be increased or reduced to reflect transfers or exchanges permitted hereby. Any endorsement of a Global Debenture to reflect the amount of any increase or decrease in the amount of outstanding Debentures represented thereby shall be made by the Trustee or the Custodian, at the direction of the Trustee, in such manner and upon instructions given by the holder of such Debentures in accordance with this Indenture. Payment of principal of and interest and premium, if any (including any redemption price), on any Global Debenture shall be made to the holder of such Debenture.

The terms and provisions contained in the form of Debenture attached as Exhibit A hereto shall constitute, and are hereby expressly made, a part of this Indenture and to the extent applicable, the Company and the Trustee, by their execution and delivery of this Indenture, expressly agree to such terms and provisions and to be bound thereby.

Section 2.3 Date and Denomination of Debentures; Maturity; Payments of Interest. The Debentures shall be issuable in registered form without coupons in denominations of $1,000 principal amount and integral multiples thereof. Every Debenture shall be dated the date of its authentication and, except as provided in this Section, shall bear interest, payable semiannually on _____ and _____, of each year, commencing on the first such date after the Exchange Date, from the most recent date to which interest has been paid or duly provided for, or if no interest has been paid or duly provided for on the Debentures, from the Exchange Date, until payment of the principal sum has been made or fully provided for. The Debentures will mature on the twenty-fifth year anniversary of the Exchange Date, unless earlier converted or redeemed. Notwithstanding the foregoing, when there is no existing default in the payment of interest on the Debentures, all Debentures authenticated by the Trustee after the close of business on the record date (as defined in this Section 2.3) for any interest payment date (_____ or _____, as the case may be) and prior to such interest payment date shall be dated the date of authentication but shall bear interest from such interest payment date, provided, however, that if and to the extent that the Company shall default in interest due on such interest

payment date then any such Debenture shall bear interest from the _____ or the _____, as the case may be, immediately preceding the date of such Debenture to which interest has been paid or duly provided for or, if no interest has been paid or duly provided for on the Debentures, from the Exchange Date.

The person in whose name any Debenture (or its Predecessor Debenture) is registered at the close of business on any record date with respect to any interest payment date (including any Debenture that is converted after the record date and on or before the interest payment date) shall be entitled to receive the interest payable on such interest payment date notwithstanding the cancellation of such Debenture upon any transfer, exchange or conversion subsequent to the record date and on or prior to such interest payment date. Interest may, at the option of the Company, be paid by check mailed to the address of such person on the registry kept for such purposes; provided that, with respect to any holder of Debentures with an aggregate principal amount equal to or in excess of $2,000,000, at the request of such holder in writing to the Company, interest on such holder's Debentures shall be paid by wire transfer in immediately available funds in accordance with the wire transfer instruction supplied by such holder to the Trustee and paying agent (if different from Trustee). Interest payable with respect to Debentures held in the form of a Global Debenture shall be paid to the Depositary by wire transfer in immediately available funds in accordance with the applicable procedures of the Depositary. The term "record date" with respect to any interest payment date shall mean the _____ or _____ preceding said _____ or _____.

Interest on the Debentures shall be computed on the basis of a 360-day year comprised of twelve 30-day months.

Any interest on any Debenture which is payable, but is not punctually paid or duly provided for, on any said _____ or _____ (herein called "Defaulted Interest") shall forthwith cease to be payable to the Debentureholder on the relevant record date by virtue of his, her or it having been such Debentureholder; and such Defaulted Interest shall be paid by the Company, at its election in each case, as provided in clause (1) or (2) below:

(1) The Company may elect to make payment of any Defaulted Interest to the persons in whose names the Debentures (or their respective Predecessor Debentures) are registered at the close of business on a special record date for the payment of such Defaulted Interest, which shall be fixed in the following manner. The Company shall notify the Trustee in writing of the amount of Defaulted Interest to be paid on each Debenture and the date of the payment (which shall be not less than twenty-five (25) days after the receipt by the Trustee of such notice, unless the Trustee shall consent to an earlier date), and at the same time the Company shall deposit with the Trustee an amount of money equal to the aggregate amount to be paid in respect of such Defaulted Interest or shall make arrangements satisfactory to the Trustee for such deposit prior to the date of the proposed payment, such money when deposited to be held in trust for the benefit of the persons entitled to such Defaulted Interest as in this clause provided. Thereupon the Trustee shall fix a special record date for the payment of such Defaulted Interest which shall be not more than fifteen (15) days and not less than ten (10) days prior to the date of the proposed payment and not less than ten (10) days after the receipt by the Trustee of the notice of the proposed payment. The Trustee shall promptly notify the Company of such special record date and, in the name and at the expense of the Company, shall cause

notice of the proposed payment of such Defaulted Interest and the special record date therefor to be mailed, first-class postage prepaid, to each Debentureholder as of such special record date at his, her or its address as it appears in the Debenture register, not less than ten (10) days prior to such special record date. Notice of the proposed payment of such Defaulted Interest and the special record date therefor having been so mailed, such Defaulted Interest shall be paid to the persons in whose names the Debentures (or their respective Predecessor Debentures) were registered at the close of business on such special record date and shall no longer be payable pursuant to the following clause (2).

(2) The Company may make payment of any Defaulted Interest in any other lawful manner not inconsistent with the requirements of any securities exchange or automated quotation system on which the Debentures may be listed or designated for issuance, and upon such notice as may be required by such exchange or automated quotation system, if, after notice given by the Company to the Trustee of the proposed payment pursuant to this clause, such manner of payment shall be deemed practicable by the Trustee.

Section 2.4 Execution of Debentures. The Debentures shall be signed in the name and on behalf of the Company by the facsimile signature of its President, its Chief Executive Officer, any of its Executive or Senior Vice Presidents, or any of its Vice Presidents (whether or not designated by a number or numbers or word or words added before or after the title "Vice President") and attested by the manual or facsimile signature of its Secretary or any of its Assistant Secretaries (which may be printed, engraved or otherwise reproduced thereon, by facsimile or otherwise). Only such Debentures as shall bear thereon a certificate of authentication substantially in the form set forth on the form of Debenture attached as Exhibit A hereto, manually executed by the Trustee (or an authenticating agent appointed by the Trustee as provided by Section 16.11), shall be entitled to the benefits of this Indenture or be valid or obligatory for any purpose. Such certificate by the Trustee (or such an authenticating agent) upon any Debenture executed by the Company shall be conclusive evidence that the Debenture so authenticated has been duly authenticated and delivered hereunder and that the holder is entitled to the benefits of this Indenture.

In case any officer of the Company who shall have signed any of the Debentures shall cease to be such officer before the Debentures so signed shall have been authenticated and delivered by the Trustee, or disposed of by the Company, such Debentures nevertheless may be authenticated and delivered or disposed of as though the person who signed such Debentures had not ceased to be such officer of the Company; and any Debenture may be signed on behalf of the Company by such persons as, at the actual date of the execution of such Debenture, shall be the proper officers of the Company, although at the date of the execution of this Indenture any such person was not such an officer.

Section 2.5 Exchange and Registration of Transfer of Debentures.

(a) The Company shall cause to be kept at the Corporate Trust Office a register (the register maintained in such office and in any other office or agency of the Company designated pursuant to Section 5.2 being herein sometimes collectively referred to as the "Debenture register") in which, subject to such reasonable regulations as it may prescribe, the Company shall provide for the registration of Debentures and of transfers of Debentures. Such

register shall be in written form or in any form capable of being converted into written form within a reasonable period of time. The Trustee is hereby initially appointed "Debenture registrar" for the purpose of registering Debentures and transfers of Debentures as herein provided. The Company may appoint one or more co-registrars in accordance with Section 5.2. There shall be only one Debenture register.

Upon surrender for registration of transfer of any Debenture to the Debenture registrar or any co-registrar, and satisfaction of the requirements for such transfer set forth in this Section 2.5, the Company shall execute, and the Trustee shall authenticate and deliver, in the name of the designated transferee or transferees, one or more new Debentures of any authorized denominations and of a like aggregate principal amount. Debentures may be exchanged for other Debentures of any authorized denominations and of a like aggregate principal amount, upon surrender of the Debentures to be exchanged at any such office or agency. Whenever any Debentures are so surrendered for exchange, the Company shall execute, and the Trustee shall authenticate and deliver, the Debentures which the Debentureholder making the exchange is entitled to receive, bearing registration numbers not contemporaneously outstanding.

All Debentures presented or surrendered for registration of transfer or for exchange shall (if so required by the Company, the Trustee, the Debenture registrar or any co-registrar) be duly endorsed, or be accompanied by a written instrument or instruments of transfer in form satisfactory to the Company and duly executed, by the Debentureholder thereof or his, her or its attorney duly authorized in writing.

No service charge shall be charged to the Debentureholder for any exchange or registration of transfer of Debentures, but the Company may require payment of a sum sufficient to cover any tax, assessments or other governmental charges that may be imposed in connection therewith.

None of the Company, the Trustee, the Debenture registrar or any co-registrar shall be required to exchange or register a transfer of (a) any Debentures for a period of fifteen (15) days next preceding any selection of Debentures to be redeemed or (b) any Debentures called for redemption or, if a portion of any Debenture is selected or called for redemption, such portion thereof selected or called for redemption or (c) any Debentures surrendered for conversion or, if a portion of any Debenture is surrendered for conversion, such portion thereof surrendered for conversion.

All Debentures issued upon any transfer or exchange of Debentures in accordance with this Indenture shall be the valid obligations of the Company, evidencing the same debt, and entitled to the same benefits under this Indenture as the Debentures surrendered upon such registration of transfer or exchange.

(b) So long as the Debentures are eligible for book-entry settlement with the Depositary, or unless otherwise required by law, all Debentures that are so eligible may be represented by a Debenture or Debentures in global form (the "Global Debenture" or "Global Debentures") registered in the name of the Depositary or the nominee of the Depositary, except as otherwise specified below. The transfer, conversion and exchange of beneficial interests in

the Global Debenture shall be effected through the Depositary in accordance with this Indenture and the procedures of the Depositary therefor.

Transfers of interests in a Global Debenture will be made in accordance with the standing instructions and procedures of the Depository and its participants. The Transfer Agent shall make appropriate endorsements to reflect increases or decreases in the Global Debenture as set forth on the face of the Global Debenture to reflect any such transfers.

Except as provided below, beneficial owners of an interest in a Global Debenture shall not be entitled to have certificates registered in their names, will not receive or be entitled to receive physical delivery of certificates in definitive form and will not be considered holders of such Global Debentures. No definitive Debenture, or portion thereof, in respect of which the Company or an Affiliate of the Company held any beneficial interest shall be included in a Global Debenture. The Trustee shall issue Debentures in definitive form upon any transfer of a beneficial interest in any Global Debenture to the Company or any Affiliate of the Company.

(c) Any Global Debenture may be endorsed with or have incorporated in the text thereof such legends or recitals or changes not inconsistent with the provisions of this Indenture as may be required by the Custodian, the Depositary, the New York Stock Exchange, the American Stock Exchange, the National Association of Securities Dealers, Inc. or any other exchange or automated quotation system in which the Debentures are then authorized for trading in order to comply with any applicable law or any regulation thereunder or with the rules and regulations of any securities exchange upon which the Debentures may be listed or traded or to conform with any usage with respect thereto, or to indicate any special limitations or restrictions to which any particular Debentures are subject.

(d) Notwithstanding any other provisions of this Indenture (other than the provisions set forth in this Section 2.5(d)), a Global Debenture may not be transferred as a whole except by the Depositary to a nominee of the Depositary or by a nominee of the Depositary to the Depositary or another nominee to a successor Depositary or a nominee of such successor Depositary.

The Depositary shall be a clearing agency registered under the Exchange Act. The Company initially appoints The Depository Trust Company to act as Depositary with respect to the Global Debentures. Initially, the Global Debenture shall be issued to the Depositary, registered in the name of Cede & Co., as the nominee of the Depositary, and deposited with the Custodian for Cede & Co.

If at any time the Depositary for a Global Debenture notifies the Company that it is unwilling or unable to continue as Depositary for such Global Debenture, the Company may appoint a successor Depositary with respect to such Global Debenture. If a successor Depositary for the Debentures is not appointed by the Company within 90 days after the Company receives such notice, the Company will execute, and the Trustee will authenticate and deliver, Debentures in certificated form, in an aggregate principal amount equal to the principal amount of the Global Debenture, in exchange for such Global Debenture. Debentures in definitive form issued in exchange for all or a part of a Global Debenture pursuant to this Section 2.5(d) shall be registered in such names and in such authorized denominations as the Depositary, pursuant to

instructions from its direct or indirect participants or otherwise, shall instruct the Trustee. Upon execution and authentication, the Trustee shall deliver such Debentures in certificated form to the persons in whose names such Debentures in definitive form are so registered.

At such time as all interests in a Global Debenture have been redeemed, converted, exchanged, repurchased or canceled for Debentures in definitive form, or transferred to a transferee who receives Debentures in definitive form, such Global Debenture shall be, upon receipt thereof, canceled by the Trustee in accordance with standing procedures and instructions existing between the Custodian and Depositary. At any time prior to such cancellation, if any interest in a Global Debenture is exchanged for Debentures in certificated form, redeemed, converted, exchanged, repurchased by the Company or canceled, or transferred for part of a Global Debenture, the principal amount of such Global Debenture shall, in accordance with the standing procedures and instructions existing between the Custodian and the Depositary, be reduced or increased, as the case may be, and an endorsement shall be made on such Global Debenture, by the Trustee or the Custodian, at the direction of the Trustee, to reflect such reduction or increase.

(e) Any Debenture or Common Stock issued upon the conversion or exchange of a Debenture that is purchased or owned by the Company or any Affiliate thereof may not be resold by the Company or such Affiliate unless registered under the Securities Act or resold pursuant to an exemption from the registration requirements of the Securities Act in a transaction which results in such Debenture or Common Stock, as the case may be, no longer being "restricted securities" (as defined under Rule 144). Any Debenture or Common Stock issued in definitive form to the Company or any Affiliate thereof shall be endorsed with or have incorporated in the text thereof such legends or recitals as necessary to set forth the foregoing restrictions.

Section 2.6 Mutilated, Destroyed, Lost or Stolen Debentures. In case any Debenture shall become mutilated or be destroyed, lost or stolen, the Company in its discretion may execute, and upon its request the Trustee or an authenticating agent appointed by the Trustee shall authenticate and deliver, a new Debenture, bearing a number not contemporaneously outstanding, in exchange and substitution for the mutilated Debenture, or in lieu of and in substitution for the Debenture so destroyed, lost or stolen. In every case the applicant for a substituted Debenture shall furnish to the Company, to the Trustee and, if applicable, to such authenticating agent such security or indemnity as may be required by them to save each of them harmless for any loss, liability, cost or expense caused by or connected with such substitution, and, in every case of destruction, loss or theft, the applicant shall also furnish to the Company, to the Trustee and, if applicable, to such authenticating agent evidence to their satisfaction of the destruction, loss or theft of such Debenture and of the ownership thereof.

The Trustee or such authenticating agent may authenticate any such substituted Debenture and deliver the same upon the receipt of such security or indemnity as the Trustee, the Company and, if applicable, such authenticating agent may require. Upon the issuance of any substituted Debenture, the Company may require the payment of a sum sufficient to cover any tax or other governmental charge that may be imposed in relation thereto and any other expenses connected therewith. In case any Debenture which has matured or is about to mature or has been called for redemption or is about to be converted into Common Stock shall become mutilated or

be destroyed, lost or stolen, the Company may, instead of issuing a substitute Debenture, pay or authorize the payment of or convert or authorize the conversion of the same (without surrender thereof except in the case of a mutilated Debenture), as the case may be, if the applicant for such payment or conversion shall furnish to the Company, to the Trustee and, if applicable, to such authenticating agent such security or indemnity as may be required by them to save each of them harmless for any loss, liability, cost or expense caused by or connected with such substitution, and, in case of destruction, loss or theft, evidence satisfactory to the Company, the Trustee and, if applicable, any paying agent or conversion agent of the destruction, loss or theft of such Debenture and of the ownership thereof.

Every substitute Debenture issued pursuant to the provisions of this Section 2.6 by virtue of the fact that any Debenture is destroyed, lost or stolen shall constitute an additional contractual obligation of the Company, whether or not the destroyed, lost or stolen Debenture shall be found at any time, and shall be entitled to all the benefits of (but shall be subject to all the limitations set forth in) this Indenture equally and proportionately with any and all other Debentures duly issued hereunder. To the extent permitted by law, all Debentures shall be held and owned upon the express condition that the foregoing provisions are exclusive with respect to the replacement or payment or conversion of mutilated, destroyed, lost or stolen Debentures and shall preclude any and all other rights or remedies notwithstanding any law or statute existing or hereafter enacted to the contrary with respect to the replacement or payment or conversion of negotiable instruments or other securities without their surrender.

Section 2.7 Temporary Debentures. Pending the preparation of definitive Debentures or any Global Debenture, the Company may execute and the Trustee or an authenticating agent appointed by the Trustee shall, upon written request of the Company, authenticate and deliver temporary Debentures (printed or lithographed). Temporary Debentures shall be issuable in any authorized denomination, and substantially in the form of the definitive Debentures but with such omissions, insertions and variations as may be appropriate for temporary Debentures, all as may be determined by the Company. Every such temporary Debenture shall be executed by the Company and authenticated by the Trustee or such authenticating agent upon the same conditions and in substantially the same manner, and with the same effect, as the definitive Debentures. Without unreasonable delay the Company will execute and deliver to the Trustee or such authenticating agent definitive Debentures and thereupon any or all temporary Debentures may be surrendered in exchange therefor, at each office or agency maintained by the Company pursuant to Section 5.2 and the Trustee or such authenticating agent shall authenticate and deliver in exchange for such temporary Debentures an equal aggregate principal amount of definitive Debentures. Such exchange shall be made by the Company at its own expense and without any charge therefor. Until so exchanged, the temporary Debentures shall in all respects be entitled to the same benefits and subject to the same limitations under this Indenture as definitive Debentures authenticated and delivered hereunder.

Section 2.8 Cancellation of Debentures Paid, Etc. All Debentures surrendered for the purpose of payment, redemption, conversion, exchange or registration of transfer, shall, if surrendered to the Company or any paying agent or any Debenture registrar or any conversion agent, be surrendered to the Trustee and promptly canceled by it, or, if surrendered to the Trustee, shall be promptly canceled by it, and no Debentures shall be issued in lieu thereof

except as expressly permitted by any of the provisions of this Indenture. Upon written instructions of the Company, the Trustee shall destroy canceled Debentures and, after such destruction, shall, if requested by the Company, deliver a certificate of such destruction to the Company. If the Company shall acquire any of the Debentures, such acquisition shall not operate as a redemption or satisfaction of the indebtedness represented by such Debentures unless and until the same are delivered to the Trustee for cancellation.

ARTICLE III

REDEMPTION OF DEBENTURES

Section 3.1 Redemption Prices. The Company may, at its option, redeem all or from time to time any part of the Debentures on any date prior to maturity, upon notice as set forth in Section 3.2, and at the optional redemption prices set forth in the form of Debenture attached as Exhibit A hereto, together with accrued interest, if any, to, but excluding, the date fixed for redemption, provided, however, that no such redemption shall be effected before _____, 2007.

Section 3.2 Notice of Redemption; Selection of Debentures. In case the Company shall desire to exercise the right to redeem all or, as the case may be, any part of the Debentures pursuant to Section 3.1, it shall fix a date for redemption, and it, or at its request (which must be received by the Trustee at least ten (10) Business Days prior to the date the Trustee is requested to give notice as described below unless a shorter period is agreed to by the Trustee), the Trustee in the name of and at the expense of the Company, shall mail or cause to be mailed a notice of such redemption at least twenty (20) and not more than sixty (60) days prior to the date fixed for redemption to the holders of Debentures so to be redeemed as a whole or in part at their last addresses as the same appear on the Debenture register (provided that if the Company shall give such notice, it shall also give such notice, and notice of the Debentures to be redeemed, to the Trustee). If fewer than all the Debentures are to be redeemed, the Company will give the Trustee written notice in the form of an Officers' Certificate not fewer than thirty-five (35) days (or such shorter period of time as may be acceptable to the Trustee) prior to the redemption date as to the aggregate principal amount of Debentures to be redeemed. Such mailing shall be by first class mail. The notice if mailed in the manner herein provided shall be conclusively presumed to have been duly given, whether or not the holder receives such notice. In any case, failure to give such notice by mail or any defect in the notice to the holder of any Debenture designated for redemption as a whole or in part shall not affect the validity of the proceedings for the redemption of any other Debenture.

Each such notice of redemption shall specify the aggregate principal amount of Debentures to be redeemed, the date fixed for redemption, the redemption price at which Debentures are to be redeemed, the CUSIP number or numbers for the Debentures to be redeemed, the place or places of payment, that payment will be made upon presentation and surrender of such Debentures, that interest accrued to, but excluding, the date fixed for redemption will be paid as specified in said notice, and that on and after said date interest thereon or on the portion thereof to be redeemed will cease to accrue. Such notice shall also state the current Conversion Price and the date on which the right to convert such Debentures or portions thereof into Common Stock will expire. If fewer than all the Debentures are to be redeemed, the

notice of redemption shall identify the Debentures to be redeemed. In case any Debenture is to be redeemed in part only, the notice of redemption shall state the portion of the principal amount thereof to be redeemed and shall state that on and after the date fixed for redemption, upon surrender of such Debenture, a new Debenture or Debentures in principal amount equal to the unredeemed portion thereof will be issued.

On or prior to the redemption date specified in the notice of redemption given as provided in this Section 3.2, the Company will deposit with the Trustee or with one or more paying agents (or, if the Company is acting as its own paying agent, set aside, segregate and hold in trust as provided in Section 5.4) an amount of money sufficient to redeem on the redemption date all the Debentures (or portions thereof) so called for redemption (other than those theretofore surrendered for conversion into Common Stock) at the appropriate redemption price, together with accrued interest to, but excluding, the date fixed for redemption; provided that if such payment is made on the redemption date it must be received by the Trustee or paying agent, as the case may be, by 10:00 a.m. New York City time, on such date. If any Debenture called for redemption is converted pursuant hereto, any money deposited with the Trustee or any paying agent or so segregated and held in trust for the redemption of such Debenture shall be paid to the Company upon its request, or, if then held by the Company shall be discharged from such trust.

If fewer than all the Debentures are to be redeemed, the Trustee shall select the Debentures or portions thereof to be redeemed (in principal amounts of $1,000 or integral multiples thereof), by lot or, in its sole discretion, on a pro rata basis. If any Debenture selected for partial redemption is converted in part after such selection, the converted portion of such Debenture shall be deemed (so far as may be) to be the portion to be selected for redemption. The Debentures (or portions thereof) so selected shall be deemed duly selected for redemption for all purposes hereof, notwithstanding that any such Debenture is converted as a whole or in part before the mailing of the notice of redemption.

Upon any redemption of less than all Debentures, the Company and the Trustee may (but need not) treat as outstanding any Debentures surrendered for conversion during the period of fifteen (15) days next preceding the mailing of a notice of redemption and may (but need not) treat as not outstanding any Debenture authenticated and delivered during such period in exchange for the unconverted portion of any Debenture converted in part during such period.

Section 3.3 Payment of Debentures Called for Redemption. If notice of redemption has been given as above provided, the Debentures or portion of Debentures with respect to which such notice has been given shall, unless converted into Common Stock pursuant to the terms hereof, become due and payable on the date and at the place or places stated in such notice at the applicable redemption price, together with interest accrued to, but excluding, the date fixed for redemption, and on and after said date (unless the Company shall default in the payment of such Debentures at the redemption price, together with interest accrued to, but excluding, said date) interest on the Debentures or portion of Debentures so called for redemption shall cease to accrue and such Debentures shall cease after the close of business on the Business Day next preceding the date fixed for redemption to be convertible into Common Stock and, except as provided in Sections 8.5 and 13.4, to be entitled to any benefit or security under this Indenture, and the holders thereof shall have no right in respect of such Debentures

except the right to receive the redemption price thereof and unpaid interest to, but excluding, the date fixed for redemption. On presentation and surrender of such Debentures at a place of payment in said notice specified, the said Debentures or the specified portions thereof to be redeemed shall be paid and redeemed by the Company at the applicable redemption price, together with interest accrued thereon to, but excluding, the date fixed for redemption; provided that, if the applicable redemption date is an interest payment date, the semi-annual payment of interest becoming due on such date shall be payable to the holders of such Debentures registered as such on the relevant record date subject to the terms and provisions of Section 2.3 hereof.

Upon presentation of any Debenture redeemed in part only, the Company shall execute and the Trustee shall authenticate and deliver to the holder thereof, at the expense of the Company, a new Debenture or Debentures, of authorized denominations, in principal amount equal to the unredeemed portion of the Debentures so presented.

Notwithstanding the foregoing, the Trustee shall not redeem any Debentures or mail any notice of optional redemption during the continuance of a default in payment of interest or premium on the Debentures or of any Event of Default of which, in the case of any Event of Default other than under Section 7.1(a) or (b), a Responsible Officer of the Trustee has knowledge. If any Debenture called for redemption shall not be so paid upon surrender thereof for redemption, the principal and premium, if any, shall, until paid or duly provided for, bear interest from the date fixed for redemption at the rate borne by the Debenture and such Debenture shall remain convertible into Common Stock until the principal and premium, if any, shall have been paid or duly provided for.

Section 3.4 Conversion Arrangement on Call for Redemption. In connection with any redemption of Debentures, the Company may arrange for the purchase and conversion of any Debentures by an agreement with one or more investment bankers or other purchasers to purchase such Debentures by paying to the Trustee in trust for the Debentureholders, on or before the date fixed for redemption, an amount not less than the applicable redemption price, together with interest accrued to the date fixed for redemption, of such Debentures. Notwithstanding anything to the contrary contained in this Article III, the obligation of the Company to pay the redemption price of such Debentures, together with interest accrued to, but excluding, the date fixed for redemption, shall be deemed to be satisfied and discharged to the extent such amount is so paid by such purchasers. If such an agreement is entered into, a copy of which will be filed with the Trustee prior to the date fixed for redemption, any Debentures not duly surrendered for conversion by the holders thereof may, at the option of the Company, be deemed, to the fullest extent permitted by law, acquired by such purchasers from such holders and (notwithstanding anything to the contrary contained in Article XV) surrendered by such purchasers for conversion, all as of immediately prior to the close of business on the date fixed for redemption (and the right to convert any such Debentures shall be deemed to have been extended through such time), subject to payment of the above amount as aforesaid. At the direction of the Company, the Trustee shall hold and dispose of any such amount paid to it in the same manner as it would monies deposited with it by the Company for the redemption of Debentures. Without the Trustee’s prior written consent, no arrangement between the Company and such purchasers for the purchase and conversion of any Debentures shall increase or otherwise affect any of the powers, duties, responsibilities or obligations of the Trustee as set forth in this Indenture, and the Company agrees to indemnify the Trustee from, and hold it

harmless against, any loss, liability or expense arising out of or in connection with any such arrangement for the purchase and conversion of any Debentures between the Company and such purchasers to which the Trustee has not consented in writing, including the costs and expenses incurred by the Trustee in the defense of any claim or liability arising out of or in connection with the exercise or performance of any of its powers, duties, responsibilities or obligations under this Indenture.

ARTICLE IV

SUBORDINATION OF DEBENTURES

Section 4.1 Agreement of Subordination. The Company covenants and agrees, and each holder of Debentures issued hereunder by his, her or its acceptance thereof likewise covenants and agrees, that all Debentures shall be issued subject to the provisions of this Article IV; and each person holding any Debenture, whether upon original issue or upon transfer, assignment or exchange thereof, accepts and agrees to be bound by such provisions.

The payment of the principal of, premium, if any, and interest on all Debentures (including, but not limited to, the redemption price with respect to the Debentures to be redeemed, as provided in this Indenture) issued hereunder shall, to the extent and in the manner hereinafter set forth, be subordinated and subject in right of payment to the prior payment in full in cash or other payment satisfactory to holders of Senior Indebtedness of all Senior Indebtedness.

No provision of this Article IV shall prevent the occurrence of any default or Event of Default hereunder.

Section 4.2 Payments to Debentureholders. No payment shall be made with respect to the principal of, or premium, if any, or interest on the Debentures (including, but not limited to, the redemption price with respect to the Debentures to be redeemed, as provided in this Indenture), except payments and distributions made by the Trustee as permitted by the first or second paragraph of Section 4.5, if:

(a) a default in the payment of principal, premium, if any, interest, or other obligations due on any Senior Indebtedness occurs and is continuing (or, in the case of Senior Indebtedness for which there is a period of grace, in the event of such a default that continues beyond the period of grace, if any, specified in the instrument or lease evidencing such Senior Indebtedness), unless and until such default shall have been cured or waived or shall have ceased to exist; or

(b) a default, other than a payment default, on a Designated Senior Indebtedness occurs and is continuing that then permits holders of such Designated Senior Indebtedness to accelerate its maturity and the Trustee receives a notice of the default (a “Payment Blockage Notice”) from the Company or holder or Representative of Designated Senior Indebtedness.

If the Trustee receives any Payment Blockage Notice pursuant to clause (b) above, no subsequent Payment Blockage Notice shall be effective for purposes of this Section unless and

until (A) at least 365 days shall have elapsed since the effectiveness of the immediately prior Payment Blockage Notice, and (B) all scheduled payments of principal, premium, if any, and interest on the Debentures that have come due have been paid in full in cash. No nonpayment default that existed or was continuing on the date of delivery of any Payment Blockage Notice to the Trustee shall be, or be made, the basis for a subsequent Payment Blockage Notice.

The Company may and shall resume payments on and distributions in respect of the Debentures upon the earlier of:

(1) the date upon which the default is cured or waived or ceases to exist, or

(2) in the case of a default referred to in clause (b) above, the earlier of (x) the date such default is cured or waived or ceases to exist and (y) 179 days pass after notice is received if the maturity of such Designated Senior Indebtedness has not been accelerated, unless this Article IV otherwise prohibits the payment or distribution at the time of such payment or distribution.

Upon any payment by the Company, or distribution of assets of the Company of any kind or character, whether in cash, property or securities, to creditors upon any dissolution or winding-up or total or partial liquidation or reorganization of the Company, whether voluntary or involuntary or in bankruptcy, insolvency, receivership or other proceedings, all amounts due or to become due upon all Senior Indebtedness shall first be paid in full, in cash or other payment satisfactory to the holders of Senior Indebtedness or payment thereof provided for in cash or other payment satisfactory to the holders of Senior Indebtedness, before any payment is made on account of the principal (and premium, if any) or interest on the Debentures (except payments made pursuant to Article XIII from monies deposited with the Trustee pursuant thereto prior to the happening of such dissolution, winding-up, liquidation or reorganization or bankruptcy, insolvency, receivership or other such proceedings); and upon any such dissolution or winding-up or liquidation or reorganization or bankruptcy, insolvency, receivership or other such proceedings, any payment by the Company, or distribution of assets of the Company of any kind or character, whether in cash, property or securities, to which the holders of the Debentures or the Trustee under this Indenture would be entitled, except for the provision of this Article IV, shall (except as aforesaid) be paid by the Company or by any receiver, trustee in bankruptcy, liquidating trustee, agent or other person making such payment or distribution, or by the holders of the Debentures or by the Trustee under this Indenture if received by them or it, directly to the holders of Senior Indebtedness (pro rata to such holders on the basis of the respective amounts of Senior Indebtedness held by such holders or as otherwise required by law or a court order) or their respective Representative or Representatives, as their respective interests may appear, to the extent necessary to pay all Senior Indebtedness in full in cash or other payment satisfactory to holders of Senior Indebtedness after giving effect to any concurrent payment or distribution to or for the holders of Senior Indebtedness, before any payment or distribution is made to the holders of the Debentures or to the Trustee under this Indenture.

In the event of the acceleration of the Debentures pursuant to Article VII, no payment or distribution shall be made to the Trustee or any holder of Debentures in respect of the principal of, premium, if any, or interest on the Debentures (including, but not limited to, the redemption

price with respect to the Debentures called for redemption in accordance with Section 3.2), except payments and distributions made by the Trustee as permitted by the first or second paragraph of Section 4.5, until all Senior Indebtedness has been paid in full in cash or other payment satisfactory to the holders of Senior Indebtedness or such acceleration is rescinded in accordance with the terms of this Indenture. If payment of the Debentures is accelerated pursuant to Article VII, the Company shall promptly notify holders of Senior Indebtedness of such acceleration.

In the event that, notwithstanding the foregoing, any payment or distribution of assets of the Company of any kind or character, whether in cash, property or securities (including, without limitation, by way of set-off or otherwise), prohibited by the foregoing, shall be received by the Trustee under this Indenture or by any holders of the Debentures before all Senior Indebtedness is paid in full in cash or other payment satisfactory to holders of Senior Indebtedness, or provision is made for in cash or other payment satisfactory to holders of Senior Indebtedness, such payment or distribution shall be held by the recipient or recipients in trust for the benefit of, and shall be paid over or delivered to, the holders of Senior Indebtedness or their respective Representative or Representatives, or to the trustee or trustees under any indenture pursuant to which any instruments evidencing any Senior Indebtedness may have been issued, as their respective interests may appear, as calculated by the Company, for application to the payment of all Senior Indebtedness remaining unpaid to the extent necessary to pay all Senior Indebtedness in full in cash or other payment satisfactory to the holders of Senior Indebtedness, after giving effect to any concurrent payment or distribution (or provision therefor) to or for the holders of such Senior Indebtedness.

For purposes of this Article IV, the words “cash, property or securities” shall not be deemed to include shares of stock of the Company as reorganized or readjusted, or securities of the Company or any other corporation provided for by a plan of reorganization or readjustment, the payment of which is subordinated (at least to the extent provided in this Article IV with respect to the Debentures) to the payment of all Senior Indebtedness which may at the time be outstanding; provided that (i) the Senior Indebtedness is assumed by the new corporation, if any, resulting from such reorganization or adjustment, and (ii) the rights of the holders of Senior Indebtedness (other than leases which are not assumed by the Company or by the new corporation, as the case may be) are not, without the consent of such holders, altered by such reorganization or readjustment. The consolidation of the Company with, or the merger of the Company into, another corporation or the liquidation or dissolution of the Company following the conveyance or transfer of its property as an entirety, or substantially as an entirety, to another corporation upon the terms and conditions provided for in Article XII shall not be deemed a dissolution, winding-up, liquidation or reorganization for the purposes of this Section 4.2 if such other corporation shall, as a part of such consolidation, merger, conveyance or transfer, comply with the conditions stated in Article XII.

Nothing in this Section 4.2 shall apply to claims of, or payments to, the Trustee under or pursuant to Section 8.6. This Section 4.2 shall be subject to the further provisions of Section 4.5.

Section 4.3 Subrogation of Debentures. Subject to the payment in full of all Senior Indebtedness, the rights of the holders of the Debentures shall be subrogated to the extent of the payments or distributions made to the holders of such Senior Indebtedness pursuant to the

provisions of this Article IV (equally and ratably with the holders of all indebtedness of the Company which by its express terms is subordinated to other indebtedness of the Company to substantially the same extent as the Debentures are subordinated and is entitled to like rights of subrogation) to the rights of the holders of Senior Indebtedness to receive payments or distributions of cash, property or securities of the Company applicable to the Senior Indebtedness until the principal of (and premium, if any) and interest on the Debentures shall be paid in full; and, for the purposes of such subrogation, no payments or distributions to the holders of the Senior Indebtedness of any cash, property or securities to which the holders of the Debentures or the Trustee would be entitled except for the provisions of this Article IV, and no payment over pursuant to the provisions of this Article IV, to or for the benefit of the holders of Senior Indebtedness by holders of the Debentures or the Trustee, shall, as between the Company, its creditors other than holders of Senior Indebtedness, and the holders of the Debentures, be deemed to be a payment by the Company to or on account of the Senior Indebtedness; and no payments or distributions of cash, property or securities to or for the benefit of the holders of the Debentures pursuant to the subrogation provisions of this Article IV, which would otherwise have been paid to the holders of Senior Indebtedness shall be deemed to be a payment by the Company to or for the account of the Debentures. It is understood that the provisions of this Article IV are and are intended solely for the purposes of defining the relative rights of the holders of the Debentures, on the one hand, and the holders of the Senior Indebtedness, on the other hand.

Nothing contained in this Article IV or elsewhere in this Indenture or in the Debentures is intended to or shall impair, as among the Company, its creditors other than the holders of Senior Indebtedness, and the holders of the Debentures, the obligation of the Company, which is absolute and unconditional, to pay to the holders of the Debentures the principal of (and premium, if any) and interest on the Debentures as and when the same shall become due and payable in accordance with their terms, or is intended to or shall affect the relative rights of the holders of the Debentures and creditors of the Company other than the holders of the Senior Indebtedness, nor shall anything herein or therein prevent the Trustee or the holder of any Debenture from exercising all remedies otherwise permitted by applicable law upon default under this Indenture, subject to the rights, if any, under this Article IV of the holders of Senior Indebtedness in respect of cash, property or securities of the Company received upon the exercise of any such remedy.

Upon any payment or distribution of assets of the Company referred to in this Article IV, the Trustee, subject to the provisions of Section 8.1, and the holders of the Debentures shall be entitled to rely upon any order or decree made by any court of competent jurisdiction in which such bankruptcy, dissolution, winding-up, liquidation or reorganization proceedings are pending, or a certificate of the receiver, trustee in bankruptcy, liquidating trustee, agent or other person making such payment or distribution, delivered to the Trustee or to the holders of the Debentures, for the purpose of ascertaining the persons entitled to participate in such distribution, the holders of the Senior Indebtedness and other indebtedness of the Company, the amount thereof or payable thereon, the amount or amounts paid or distributed thereon and all other facts pertinent thereto or to this Article IV.

Section 4.4 Authorization by Debentureholders. Each holder of a Debenture by his, her or its acceptance thereof authorizes and directs the Trustee on his, her or its behalf to take

such action as may be necessary or appropriate to effectuate the subordination provided in this Article IV and appoints the Trustee his, her or its attorney-in-fact for any and all such purposes.

Section 4.5 Notice to Trustee. The Company shall give prompt written notice in the form of an Officers' Certificate to a Responsible Officer of the Trustee and to any paying agent of any fact known to the Company which would prohibit the making of any payment of monies to or by the Trustee or any paying agent in respect of the Debentures pursuant to the provisions of this Article IV. Notwithstanding the provisions of this Article IV or any other provision of this Indenture, the Trustee shall not be charged with knowledge of the existence of any Senior Indebtedness or of any default or event of default with respect to any Senior Indebtedness or of any other facts which would prohibit the making of any payment of monies to or by the Trustee in respect of the Debentures pursuant to the provisions of this Article IV, unless and until a Responsible Officer of the Trustee shall have received written notice thereof at the Corporate Trust Office from the Company (in the form of an Officers' Certificate) or a holder or holders or Representative of Senior Indebtedness who shall have been certified by the Company or otherwise established to the reasonable satisfaction of the Trustee to be such holder or Representative; and before the receipt of any such written notice, the Trustee, subject to the provisions of Section 8.1, shall be entitled in all respects to assume that no such facts exist; provided that if on a date at least two (2) Business Days prior to the date upon which by the terms hereof any such monies may become payable for any purpose (including, without limitation, the payment of the principal of, or premium, if any, or interest on any Debenture), the Trustee shall not have received with respect to such monies the notice provided for in this Section 4.5, then, anything herein contained to the contrary notwithstanding, the Trustee shall have full power and authority to receive such monies and to apply the same to the purpose for which they were received, and shall not be affected by any notice to the contrary which may be received by it on or after such prior date.

Notwithstanding anything to the contrary hereinbefore set forth, nothing shall prevent (a) any payment by the Company or the Trustee to the Debentureholders of amounts in connection with a redemption of Debentures if (i) notice of such redemption has been given to the holders of Debentures pursuant to Article III prior to the receipt by the Trustee of written notice as aforesaid, and (ii) such notice of redemption is given not earlier than sixty (60) days before the redemption date, or (b) any payment by the Trustee to the Debentureholders of monies deposited with it pursuant to Section 13.1.

The Trustee, subject to the provisions of Section 8.1, shall be entitled to rely on the delivery to it of a written notice by a person representing himself, herself or itself to be a holder of Senior Indebtedness (or a Representative on behalf of such holder) to establish that such notice has been given by a holder of Senior Indebtedness or a Representative on behalf of any such holder or holders. In the event that the Trustee determines in good faith that further evidence is required with respect to the right of any person as a holder of Senior Indebtedness to participate in any payment or distribution pursuant to this Article IV, the Trustee may request such person to furnish evidence to the reasonable satisfaction of the Trustee as to the amount of Senior Indebtedness held by such person, the extent to which such person is entitled to participate in such payment or distribution and any other facts pertinent to the rights of such person under this Article IV, and if such evidence is not furnished the Trustee may defer any

payment to such person pending judicial determination as to the right of such person to receive such payment.

Section 4.6 Trustee's Relation to Senior Indebtedness. The Trustee and any agent of the Company or the Trustee in its individual capacity shall be entitled to all the rights set forth in this Article IV in respect of any Senior Indebtedness at any time held by it, to the same extent as any other holder of Senior Indebtedness, and nothing in Section 8.13 or elsewhere in this Indenture shall deprive the Trustee or any such agent of any of its rights as such holder. Nothing in this Article IV shall apply to claims of, or payments to, the Trustee under or pursuant to Section 8.6.

With respect to the holders of Senior Indebtedness, the Trustee undertakes to perform or to observe only such of its covenants and obligations as are specifically set forth in this Article IV, and no implied covenants or obligations with respect to the holders of Senior Indebtedness shall be read into this Indenture against the Trustee. The Trustee shall not be deemed to owe any fiduciary duty to the holders of Senior Indebtedness and, subject to the provisions of Sections 4.2, 4.5 and 8.1, the Trustee shall not be liable to any holder of Senior Indebtedness if it shall pay over or deliver to holders of Debentures, the Company or any other person money or assets to which any holder of Senior Indebtedness shall be entitled by virtue of this Article IV or otherwise.

Section 4.7 No Impairment of Subordination. No right of any present or future holder of any Senior Indebtedness to enforce subordination as herein provided shall at any time in any way be prejudiced or impaired by any act or failure to act on the part of the Company or by any act or failure to act, in good faith, by any such holder, or by any noncompliance by the Company with the terms, provisions and covenants of this Indenture, regardless of any knowledge thereof which any such holder may have or otherwise be charged with.

Section 4.8 Certain Conversions and Make-Whole Interest Payment in Common Stock Not Deemed Payment. For the purposes of this Article IV only, (1) the issuance and delivery of junior securities upon (i) conversion of Debentures in accordance with Article XV or (ii) the payment of any Make-Whole Interest Payment in Common Stock in accordance with Section 15.13 in the manner specified in such Section shall not be deemed to constitute a payment or distribution on account of the principal of (or premium, if any) or interest on Debentures or on account of the purchase or other acquisition of Debentures, and will therefor not be subject to the subordination provisions of Article IV and (2) the payment, issuance or delivery of cash (except in satisfaction of fractional shares pursuant to Section 15.3), property or securities (other than junior securities) upon conversion of a Debenture shall be deemed to constitute payment on account of the principal of such Debenture. For the purposes of this Section, the term "junior securities" means (a) shares of any stock of any class of the Company and (b) securities of the Company which are subordinated in right of payment to all Senior Indebtedness which may be outstanding at the time of issuance or delivery of such securities to substantially the same extent as, or to a greater extent than, the Debentures are so subordinated as provided in this Article. Nothing contained in this Article or elsewhere in this Indenture or in the Debentures is intended to or shall impair, as among the Company, its creditors other than holders of Senior Indebtedness and the holders of the Debentures, the right, which is absolute and

unconditional, of the holder of any Debenture to convert such Debenture in accordance with Article XV.

Section 4.9 Article Applicable to Paying Agents. If at any time any paying agent other than the Trustee shall have been appointed by the Company and be then acting hereunder, the term "Trustee" as used in this Article shall (unless the context otherwise requires) be construed as extending to and including such paying agent within its meaning as fully for all intents and purposes as if such paying agent were named in this Article in addition to or in place of the Trustee; provided, however, that the first paragraph of Section 4.5 shall not apply to the Company or any Affiliate of the Company if it or such Affiliate acts as paying agent.

Section 4.10 Senior Indebtedness Entitled to Rely. The holders of Senior Indebtedness (including, without limitation, Designated Senior Indebtedness) shall have the right to rely upon this Article IV, and no amendment or modification of the provisions contained herein shall diminish the rights of such holders unless such holders shall have agreed in writing thereto.

ARTICLE V

PARTICULAR COVENANTS OF THE COMPANY

Section 5.1 Payment of Principal, Premium and Interest. The Company covenants and agrees that it will duly and punctually pay or cause to be paid the principal of and premium, if any, and interest on each of the Debentures at the places, at the respective times and in the manner provided herein and in the Debentures.

Section 5.2 Maintenance of Office or Agency. The Company will maintain in the Borough of Manhattan, The City of New York, an office or agency where the Debentures may be surrendered for registration of transfer or exchange or for presentation for payment or for conversion or redemption and where notices and demands to or upon the Company in respect of the Debentures and this Indenture may be served. The Company will give prompt written notice to the Trustee of the location, and any change in the location, of such office or agency not designated or appointed by the Trustee. If at any time the Company shall fail to maintain any such required office or agency or shall fail to furnish the Trustee with the address thereof, such presentations, surrenders, notices and demands may be made or served at the Corporate Trust Office, or the office or agency of the Trustee or an Affiliate of the Trustee, in the Borough of Manhattan, The City of New York.

The Company may also from time to time designate one or more other offices or agencies where the Debentures may be presented or surrendered for any or all such purposes and may from time to time rescind such designations; provided that no such designation or rescission shall in any manner relieve the Company of its obligation to maintain an office or agency in the Borough of Manhattan, The City of New York, for such purposes. The Company will give prompt written notice to the Trustee of any such designation or rescission and of any change in the location of any such other office or agency.

The Company hereby initially designates the Trustee as paying agent, Debenture registrar, Custodian and conversion agent. The Corporate Trust Office and the office or agency of the Trustee in the Borough of Manhattan, The City of New York (which shall initially be U.S. Bank National Association located at 100 Wall Street, Suite 1600, EX-NY-WALL, New York, NY 10005) shall be considered as one such office or agency of the Company for each of the aforesaid purposes.

So long as the Trustee is the Debenture registrar, the Trustee agrees to mail, or cause to be mailed, the notices set forth in Section 8.10(a) and the third paragraph of Section 8.11.

Section 5.3 Appointments to Fill Vacancies in Trustee's Office. The Company, whenever necessary to avoid or fill a vacancy in the office of Trustee, will appoint, in the manner provided in Section 8.10, a Trustee, so that there shall at all times be a Trustee hereunder.

Section 5.4 Provisions as to Paying Agent.

(a) If the Company shall appoint a paying agent other than the Trustee, the Company will cause such paying agent to execute and deliver to the Trustee an instrument in which such agent shall agree with the Trustee, subject to the provisions of this Section 5.4:

(1) that it will hold all sums held by it as such agent for the payment of the principal of and premium, if any, or interest on the Debentures (whether such sums have been paid to it by the Company or by any other obligor on the Debentures) in trust for the benefit of the holders of the Debentures;

(2) that it will give the Trustee notice of any failure by the Company (or by any other obligor on the Debentures) to make any payment of the principal of and premium, if any, or interest on the Debentures when the same shall be due and payable; and

(3) that at any time during the continuance of an Event of Default, upon request of the Trustee, it will forthwith pay to the Trustee all sums so held in trust.

The Company shall, on or before each due date of the principal of, premium, if any, or interest on the Debentures, deposit with the paying agent a sum sufficient to pay such principal, premium, if any, or interest, and (unless such paying agent is the Trustee) the Company will promptly notify the Trustee of any failure to take such action, provided that if such deposit is made on the due date, such deposit must be received by the paying agent by 10:00 a.m., New York City time, on such date.

(b) If the Company shall act as its own paying agent, it will, on or before each due date of the principal of, premium, if any, or interest on the Debentures, set aside, segregate and hold in trust for the benefit of the holders of the Debentures a sum sufficient to pay such principal, premium, if any, or interest so becoming due and will notify the Trustee of any failure to take such action and of any failure by the Company (or any other obligor under the Debentures) to make any payment of the principal of, premium, if any, or interest on the Debentures when the same shall become due and payable.

(c) Anything in this Section 5.4 to the contrary notwithstanding, the Company may, at any time, for the purpose of obtaining a satisfaction and discharge of this Indenture, or for any other reason, pay or cause to be paid to the Trustee all sums held in trust by the Company or any paying agent hereunder as required by this Section 5.4, such sums to be held by the Trustee upon the trusts herein contained and upon such payment by the Company or any paying agent to the Trustee, the Company or such paying agent shall be released from all further liability with respect to such sums.

(d) Anything in this Section 5.4 to the contrary notwithstanding, the agreement to hold sums in trust as provided in this Section 5.4 is subject to Sections 13.3 and 13.4.

Section 5.5 Existence. Subject to Article XII, the Company will do or cause to be done all things necessary to preserve and keep in full force and effect its existence.

Section 5.6 Stay, Extension and Usury Laws. The Company covenants (to the extent that it may lawfully do so) that it shall not at any time insist upon, plead, or in any manner whatsoever claim or take the benefit or advantage of, any stay, extension or usury law or other law which would prohibit or forgive the Company from paying all or any portion of the principal of, premium, if any, or interest on the Debentures as contemplated herein, wherever enacted, now or at any time hereafter in force, or which may affect the covenants or the performance of this Indenture; and the Company (to the extent it may lawfully do so) hereby expressly waives all benefit or advantage of any such law, and covenants that it will not, by resort to any such law, hinder, delay or impede the execution of any power herein granted to the Trustee, but will suffer and permit the execution of every such power as though no such law has been enacted.

Section 5.7 Compliance Certificate. The Company shall deliver to the Trustee, within 120 days after the end of each fiscal year of the Company (beginning with the fiscal year in which the Exchange Date falls), an Officers' Certificate, stating whether or not to the best knowledge of the signers thereof the Company is in default in the performance and observance of any of the terms, provisions and conditions of this Indenture (without regard to any period of grace or requirement of notice provided hereunder) and, if the Company shall be in default, specifying all such defaults and the nature and status thereof of which they may have knowledge.

The Company will deliver to the Trustee, forthwith upon becoming aware of any default in the performance or observance of any covenant, agreement or condition contained in this Indenture, or any Event of Default, an Officers' Certificate specifying with particularity such default or Event of Default and further stating what action the Company has taken, is taking or proposes to take with respect thereto.

Any notice required to be given under this Section 5.9 shall be delivered to the Trustee at its Corporate Trust Office.

Section 5.8 Further Instruments and Acts. Upon request of the Trustee, the Company will execute and deliver such further instruments and do such further acts as may be reasonably necessary or proper to carry out more effectively the purposes of this Indenture.

ARTICLE VI

DEBENTUREHOLDERS' LISTS AND REPORTS BY THE COMPANY AND THE TRUSTEE

Section 6.1 Debentureholders' Lists. The Company covenants and agrees that it will furnish or cause to be furnished to the Trustee, semi-annually, not more than fifteen (15) days after each _____ and _____ in each year beginning with the immediately succeeding _____ or _____ after the Exchange Date, and at such other times as the Trustee may request in writing, within thirty (30) days after receipt by the Company of any such request (or such lesser time as the Trustee may reasonably request in order to enable it to timely provide any notice to be provided by it hereunder), a list in such form as the Trustee may reasonably require of the names and addresses of the holders of Debentures as of a date not more than fifteen (15) days (or such other date as the Trustee may reasonably request in order to so provide any such notices) prior to the time such information is furnished, except that no such list need be furnished so long as the Trustee is acting as Debenture registrar.

Section 6.2 Preservation and Disclosure of Lists.

(a) The Trustee shall preserve, in as current a form as is reasonably practicable, all information as to the names and addresses of the holders of Debentures contained in the most recent list furnished to it as provided in Section 6.1 or maintained by the Trustee in its capacity as Debenture registrar, if so acting. The Trustee may destroy any list furnished to it as provided in Section 6.1 upon receipt of a new list so furnished.

(b) The rights of Debentureholders to communicate with other holders of Debentures with respect to their rights under this Indenture or under the Debentures and the corresponding rights and duties of the Trustee, shall be as provided by the Trust Indenture Act.

(c) Every Debentureholder, by receiving and holding the same, agrees with the Company and the Trustee that neither the Company nor the Trustee nor any agent of either of them shall be held accountable by reason of any disclosure of information as to names and addresses of holders of Debentures made pursuant to the Trust Indenture Act.

Section 6.3 Reports by Trustee.

(a) Within 60 days after May 1 of each year commencing with the year in which the Exchange Date falls, the Trustee shall transmit to holders of Debentures such reports dated as of May 1 of the year in which such reports are made concerning the Trustee and its actions under this Indenture as may be required pursuant to Section 313 of the Trust Indenture Act at the times and in the manner provided pursuant thereto.

(b) A copy of such report shall, at the time of such transmission to holders of Debentures, be filed by the Trustee with each stock exchange or automated quotation system upon which the Debentures are listed, with the Commission and with the Company. The Company will notify the Trustee when the Debentures are listed on any stock exchange or automated quotation system and when any such listing is discontinued.

Section 6.4 Reports by Company.

(a) The Company (and any obligor upon the Debentures) shall file with the Trustee and the Commission, and transmit to holders of Debentures, such information, documents and other reports and such summaries thereof, as may be required pursuant to the Trust Indenture Act at the times and in the manner provided pursuant to such Act; provided that any such information, documents or reports required to be filed with the Commission pursuant to Section 13 or 15(d) of the Exchange Act shall be filed with the Trustee within 15 days after the same is so required to be filed with the Commission.

(b) The Company will deliver to the Trustee (a) as soon as available and in any event within ninety (90) days after the end of each fiscal year of the Company (i) a consolidated balance sheet of the Company and its subsidiaries as of the end of such fiscal year and the related consolidated statements of operations, stockholders' equity and cash flows for such fiscal year, all reported on by an independent public accountant of nationally recognized standing and (ii) a report containing a management's discussion and analysis of the financial condition and results of operations and a description of the business and properties of the Company and (b) as soon as available and in any event within forty-five (45) days after the end of each of the first three quarters of each fiscal year of the Company (i) an unaudited consolidated management's discussion and analysis of the financial condition and results of operations of the Company for such quarter; provided that the foregoing statements and reports shall not be required for any fiscal year or quarter, as the case may be, with respect to which the Company files or expects to file with the Trustee an annual report or quarterly report, as the case may be, pursuant to Section 6.4(a). The Trustee shall have no liability as regards the substance of the information provided by the Company or its agents pursuant to this Section 6.4.

ARTICLE VII

DEFAULTS AND REMEDIES

Section 7.1 Events of Default. In case one or more of the following Events of Default (whatever the reason for such Event of Default and whether it shall be voluntary or involuntary or be effected by operation of law or pursuant to any judgment, decree or order of any court or any order, rule or regulation of any administrative or governmental body) shall have occurred and be continuing:

(a) default in the payment of the principal of and premium, if any, on any of the Debentures as and when the same shall become due and payable either at maturity or in connection with any redemption, by declaration or otherwise, whether or not such payment is prohibited by the provisions of Article IV; or

(b) default in the payment of any installment of interest, upon any of the Debentures as and when the same shall become due and payable, and continuance of such default for a period of thirty (30) days, whether or not such payment is prohibited by the provisions of Article IV; or

(c) failure on the part of the Company duly to observe or perform any other of the covenants or agreements on the part of the Company in the Debentures or in this Indenture (other than a covenant or agreement a default in whose performance or whose breach is elsewhere in this Section specifically dealt with) continued for a period of forty-five (45) days after the date on which written notice of such failure, requiring the Company to remedy the same, shall have been given to the Company by the Trustee, or to the Company and a Responsible Officer of the Trustee by the holders of at least 25% in aggregate principal amount of the outstanding Debentures at the time outstanding determined in accordance with Section 9.4; or

(d) failure by the Company to make any payment at maturity, including any applicable grace period, in respect of Indebtedness, in an amount in excess of $5,000,000 or the equivalent thereof in any other currency or composite currency and such failure shall have continued for thirty (30) days after written notice thereof shall have been given to the Company by the Trustee or to the Company and a Responsible Officer of the Trustee or to the Company and a Responsible Officer of the Trustee by the holders of at least 25% in aggregate principal amount of the outstanding Debentures at the time outstanding determined in accordance with Section 9.4; or

(e) a default by the Company with respect to any Indebtedness which default results in the acceleration of Indebtedness in an amount in excess of $5,000,000 or the equivalent thereof in any other currency or composite currency without such Indebtedness having been discharged or such acceleration having been cured, waived, rescinded or annulled for a period of thirty (30) days after written notice thereof shall have been given to the Company by the Trustee or to the Company and a Responsible Officer of the Trustee by the holders of at least 25% in aggregate principal amount of the outstanding Debentures at the time outstanding determined in accordance with Section 9.4; or

(f) the Company shall commence a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law now or hereafter in effect or seeking the appointment of a trustee, receiver, liquidator, custodian or other similar official of it or any substantial part of its property, or shall consent to any such relief or to the appointment of or taking possession by any such official in an involuntary case or other proceeding commenced against it, or shall make a general assignment for the benefit of creditors, or shall fail generally to pay its debts as they become due; or

(g) an involuntary case or other proceeding shall be commenced against the Company seeking liquidation, reorganization or other relief with respect to it or its debts under any bankruptcy, insolvency or other similar law now or hereafter in effect or seeking the appointment of a trustee, receiver, liquidator, custodian or other similar official of it or any substantial part of its property, and such involuntary case or other proceeding shall remain undismissed and unstayed for a period of ninety (90) consecutive days;

then, and in each and every such case (other than an Event of Default specified in Section 7.1(f) or (g)), unless the principal of all of the Debentures shall have already become due and payable, either the Trustee or the holders of not less than 25% in aggregate principal amount of the

Debentures then outstanding hereunder determined in accordance with Section 9.4, by notice in writing to the Company (and to the Trustee if given by Debentureholders), may declare the principal of and premium, if any, on all the Debentures and the interest accrued thereon to be due and payable immediately, and upon any such declaration the same shall become and shall be immediately due and payable, anything in this Indenture or in the Debentures contained to the contrary notwithstanding. If an Event of Default specified in Section 7.1(f) or (g) occurs and is continuing, the principal of and premium, if any, on all the Debentures and the interest accrued thereon shall be immediately due and payable. This provision, however, is subject to the conditions that if, at any time after the principal of the Debentures shall have been so declared due and payable, and before any judgment or decree for the payment of the monies due shall have been obtained or entered as hereinafter provided, the Company shall pay or shall deposit with the Trustee a sum sufficient to pay all matured installments of interest upon all Debentures and the principal of and premium, if any, on any and all Debentures which shall have become due otherwise than by acceleration (with interest on overdue installments of interest (to the extent that payment of such interest is enforceable under applicable law) and on such principal and premium, if any, at the rate borne by the Debentures, to the date of such payment or deposit) and amounts due to the Trustee pursuant to Section 8.6, and if any and all defaults under this Indenture, other than the nonpayment of principal of and premium, if any, and accrued interest on Debentures which shall have become due by acceleration, shall have been cured or waived pursuant to Section 7.7, then and in every such case the holders of a majority in aggregate principal amount of the Debentures then outstanding, by written notice to the Company and to the Trustee, may waive all defaults or Events of Default and rescind and annul such declaration and its consequences; but no such waiver or rescission and annulment shall extend to or shall affect any subsequent default or Event of Default, or shall impair any right consequent thereon. The Company shall notify the Responsible Officer of the Trustee, promptly upon becoming aware thereof, of any Event of Default.

In case the Trustee shall have proceeded to enforce any right under this Indenture and such proceedings shall have been discontinued or abandoned because of such waiver or rescission and annulment or for any other reason or shall have been determined adversely to the Trustee, then and in every such case the Company, the holders of Debentures, and the Trustee shall be restored respectively to their several positions and rights hereunder, and all rights, remedies and powers of the Company, the holders of Debentures, and the Trustee shall continue as though no such proceeding had been instituted.

Section 7.2 Payments of Debentures on Default; Suit Therefor. The Company covenants that (a) in case default shall be made in the payment by the Company of any installment of interest upon any of the Debentures as and when the same shall become due and payable, and such default shall have continued for a period of thirty (30) days, or (b) in case default shall be made in the payment of the principal of or premium, if any, on any of the Debentures as and when the same shall have become due and payable, whether at maturity of the Debentures or in connection with any redemption, by declaration under this Indenture or otherwise, then, upon demand of the Trustee, the Company will pay to the Trustee, for the benefit of the holders of the Debentures, the whole amount that then shall have become due and payable on all such Debentures for principal and premium, if any, or interest, or both, as the case may be, with interest upon the overdue principal and premium, if any, and (to the extent that payment of such interest is enforceable under applicable law) upon the overdue installments of

interest at the rate borne by the Debentures; and, in addition thereto, such further amount as shall be sufficient to cover the costs and expenses of collection, including reasonable compensation to the Trustee, its agents, attorneys and counsel, and any expenses or liabilities incurred by the Trustee hereunder other than through its negligence or bad faith. Until such demand by the Trustee, the Company may pay the principal of and premium, if any, and interest on the Debentures to the registered holders, whether or not the Debentures are overdue.

In case the Company shall fail forthwith to pay such amounts upon such demand, the Trustee, in its own name and as trustee of an express trust, shall be entitled and empowered to institute any actions or proceedings at law or in equity for the collection of the sums so due and unpaid, and may prosecute any such action or proceeding to judgment or final decree, and may enforce any such judgment or final decree against the Company or any other obligor on the Debentures and collect in the manner provided by law out of the property of the Company or any other obligor on the Debentures wherever situated the monies adjudged or decreed to be payable.

In the case there shall be pending proceedings for the bankruptcy or for the reorganization of the Company or any other obligor on the Debentures under Title 11 of the United States Code, or any other applicable law, or in case a receiver, assignee or trustee in bankruptcy or reorganization, liquidator, sequestrator or similar official shall have been appointed for or taken possession of the Company or such other obligor, the property of the Company or such other obligor, or in the case of any other judicial proceedings relative to the Company or such other obligor upon the Debentures, or to the creditors or property of the Company or such other obligor, the Trustee, irrespective of whether the principal of the Debentures shall then be due and payable as therein expressed or by declaration or otherwise and irrespective of whether the Trustee shall have made any demand pursuant to the provisions of this Section 7.2, shall be entitled and empowered, by intervention in such proceedings or otherwise, to file and prove a claim or claims for the whole amount of principal, premium, if any, and interest owing and unpaid in respect of the Debentures, and, in case of any judicial proceedings, to file such proofs of claim and other papers or documents as may be necessary or advisable in order to have the claims of the Trustee and of the Debentureholders allowed in such judicial proceedings relative to the Company or any other obligor on the Debentures, its or their creditors, or its or their property, and to collect and receive any monies or other property payable or deliverable on any such claims, and to distribute the same after the deduction of any amounts due the Trustee under Section 8.6; and any receiver, assignee or trustee in bankruptcy or reorganization, liquidator, custodian or similar official is hereby authorized by each of the Debentureholders to make such payments to the Trustee, and, in the event that the Trustee shall consent to the making of such payments directly to the Debentureholders, to pay to the Trustee any amount due it for reasonable compensation, expenses, advances and disbursements, including counsel fees incurred by it up to the date of such distribution. To the extent that such payment of reasonable compensation, expenses, advances and disbursements out of the estate in any such proceedings shall be denied for any reason, payment of the same shall be secured by a lien on, and shall be paid out of, any and all distributions, dividends, monies, securities and other property which the holders of the Debentures may be entitled to receive in such proceedings, whether in liquidation or under any plan of reorganization or arrangement or otherwise.

Nothing herein contained shall be deemed to authorize the Trustee to authorize or consent to or adopt on behalf of any Debentureholder any plan of reorganization or arrangement affecting

the Debentures or the rights of any Debentureholder, or to authorize the Trustee to vote in respect of the claim of any Debentureholder in any such proceeding; provided, however, that the Trustee may, on behalf of the Debentureholders, vote for the election of a trustee in bankruptcy or similar official and may be a member of the creditor's committee established with respect to such bankruptcy.

All rights of action and of asserting claims under this Indenture, or under any of the Debentures, may be enforced by the Trustee without the possession of any of the Debentures, or the production thereof on any trial or other proceeding relative thereto, and any such suit or proceeding instituted by the Trustee shall be brought in its own name as trustee of an express trust, and any recovery of judgment shall, after provision for the payment of the reasonable compensation, expenses, disbursements and advances of the Trustee, its agents and counsel, be for the ratable benefit of the holders of the Debentures.

Section 7.3 Application of Monies Collected by Trustee. Any monies collected by the Trustee pursuant to this Article VII shall be applied in the order following, at the date or dates fixed by the Trustee for the distribution of such monies, upon presentation of the several Debentures, and stamping thereon the payment, if only partially paid, and upon surrender thereof, if fully paid:

First: To the payment of all amounts due the Trustee under Section 8.6;

Second: Subject to the provisions of Article IV, in case the principal of the outstanding Debentures shall not have become due and be unpaid, to the payment of interest on the Debentures in default in the order of the maturity of the installments of such interest, with interest (to the extent that such interest has been collected by the Trustee) upon the overdue installments of interest at the rate borne by the Debentures, such payments to be made ratably to the persons entitled thereto;

Third: Subject to the provisions of Article IV, in case the principal of the outstanding Debentures shall have become due, by declaration or otherwise, and be unpaid, to the payment of the whole amount then owing and unpaid upon the Debentures for principal and premium, if any, and interest, with interest on the overdue principal and premium, if any, and (to the extent that such interest has been collected by the Trustee) upon overdue installments of interest at the rate borne by the Debentures; and in case such monies shall be insufficient to pay in full the whole amounts so due and unpaid upon the Debentures, then to the payment of such principal and premium, if any, and interest without preference or priority of principal and premium, if any, over interest, or of interest over principal and premium, if any, or of any installment of interest over any other installment of interest, or of any Debenture over any other Debenture, ratably to the aggregate of such principal and premium, if any, and accrued and unpaid interest; and

Fourth: Subject to the provisions of Article IV, to the payment of the remainder, if any, to the Company or any other person lawfully entitled thereto.

Section 7.4 Proceedings by Debentureholder. No holder of any Debenture shall have any right by virtue of or by availing of any provision of this Indenture to institute any suit, action or proceeding in equity or at law upon or under or with respect to this Indenture, or for the

appointment of a receiver, trustee, liquidator, custodian or other similar official, or for any other remedy hereunder, unless such holder previously shall have given to the Trustee written notice of an Event of Default and of the continuance thereof, as hereinbefore provided, and unless also the holders of not less than 25% in aggregate principal amount of the Debentures then outstanding shall have made written request upon the Trustee to institute such action, suit or proceeding in its own name as Trustee hereunder and shall have offered to the Trustee such reasonable indemnity as it may require against the costs, expenses and liabilities to be incurred therein or thereby, and the Trustee for sixty (60) days after its receipt of such notice, request and offer of indemnity, shall have neglected or refused to institute any such action, suit or proceeding and no direction inconsistent with such written request shall have been given to the Trustee pursuant to Section 7.7; it being understood and intended that no one or more holders of Debentures shall have any right in any manner whatever by virtue of, or by availing of, any provision of this Indenture to affect, disturb or prejudice the rights of any other holders of Debentures, or to obtain or seek to obtain priority or preference over any other holders or to enforce any right under this Indenture, except in the manner herein provided and for the equal and ratable benefit of all the holders of Debentures.

Notwithstanding any other provision of this Indenture and any provision of any Debenture, the right of any holder of any Debenture to receive payment of the principal of and premium, if any, and interest on such Debenture, on or after the respective due dates expressed in such Debenture, or to institute suit for the enforcement of any such payment on or after such respective dates against the Company shall not be impaired or affected without the consent of such holder.

Anything in this Indenture or the Debentures to the contrary notwithstanding, the holder of any Debenture, without the consent of either the Trustee or the holder of any other Debenture, in his, her or its own behalf and for his, her or its own benefit, may enforce, and may institute and maintain any proceeding suitable to enforce, his, her or its rights of conversion as provided herein.

Section 7.5 Proceedings by Trustee. In case of an Event of Default, the Trustee may in its discretion proceed to protect and enforce the rights vested in it by this Indenture by such appropriate judicial proceedings as the Trustee shall deem most effectual to protect and enforce any of such rights, either by suit in equity or by action at law or by proceeding in bankruptcy or otherwise, whether for the specific enforcement of any covenant or agreement contained in this Indenture or in aid of the exercise of any power granted in this Indenture, or to enforce any other legal or equitable right vested in the Trustee by this Indenture or by law.

Section 7.6 Remedies Cumulative and Continuing. Except as provided in Section 2.6, all powers and remedies given by this Article VII to the Trustee or to the Debentureholders shall, to the extent permitted by law, be deemed cumulative and not exclusive of any thereof or of any other powers and remedies available to the Trustee or the holders of the Debentures, by judicial proceedings or otherwise, to enforce the performance or observance of the covenants and agreements contained in this Indenture, and no delay or omission of the Trustee or of any holder of any of the Debentures to exercise any right or power accruing upon any default or Event of Default occurring and continuing as aforesaid shall impair any such right or power, or shall be construed to be a waiver of any such default or any acquiescence therein; and, subject to the

provisions of Section 7.4, every power and remedy given by this Article VII or by law to the Trustee or to the Debentureholders may be exercised from time to time, and as often as shall be deemed expedient, by the Trustee or by the Debentureholders.

Section 7.7 Direction of Proceedings and Waiver of Defaults by Majority of Debentureholders. The holders of a majority in aggregate principal amount of the Debentures at the time outstanding determined in accordance with Section 9.4 shall have the right to direct the time, method, and place of conducting any proceeding for any remedy available to the Trustee or exercising any trust or power conferred on the Trustee; provided, however, that (a) such direction shall not be in conflict with any rule of law or with this Indenture, and (b) the Trustee may take any other action deemed proper by the Trustee which is not inconsistent with such direction. The holders of a majority in aggregate principal amount of the Debentures at the time outstanding determined in accordance with Section 9.4 may on behalf of the holders of all of the Debentures waive any past default or Event of Default hereunder and its consequences except (i) a default in the payment of interest or premium, if any, on, or the principal of, the Debentures, (ii) a failure by the Company to convert any Debentures into Common Stock or (iii) a default in respect of a covenant or provision hereof which under Article XI cannot be modified or amended without the consent of the holders of all Debentures then outstanding affected thereby. Upon any such waiver the Company, the Trustee and the holders of the Debentures shall be restored to their former positions and rights hereunder; but no such waiver shall extend to any subsequent or other default or Event of Default or impair any right consequent thereon. Whenever any default or Event of Default hereunder shall have been waived as permitted by this Section 7.7, said default or Event of Default shall for all purposes of the Debentures and this Indenture be deemed to have been cured and to be not continuing; but no such waiver shall extend to any subsequent or other default or Event of Default or impair any right consequent thereon.

Section 7.8 Notice of Defaults. The Trustee shall, within ninety (90) days after the occurrence of a default, mail to all Debentureholders, as the names and addresses of such holders appear upon the Debenture register, notice of all defaults known to a Responsible Officer, unless such defaults shall have been cured or waived before the giving of such notice; and provided that, except in the case of default in the payment of the principal of, or premium, if any, or interest on any of the Debentures, the Trustee shall be protected in withholding such notice if and so long as a trust committee of directors and/or Responsible Officers of the Trustee in good faith determines that the withholding of such notice is in the best interests of the Debentureholders.

Section 7.9 Undertaking to Pay Costs. All parties to this Indenture agree, and each holder of any Debenture by his, her or its acceptance thereof shall be deemed to have agreed, that any court may, in its discretion, require, in any suit for the enforcement of any right or remedy under this Indenture, or in any suit against the Trustee for any action taken or omitted by it as Trustee, the filing by any party litigant in such suit of an undertaking to pay the costs of such suit and that such court may in its discretion assess reasonable costs, including reasonable attorneys' fees, against any party litigant in such suit, having due regard to the merits and good faith of the claims or defenses made by such party litigant; provided that the provisions of this Section 7.9 shall not apply to any suit instituted by the Trustee, to any suit instituted by any Debentureholder, or group of Debentureholders, holding in the aggregate more than 10% in principal amount of the Debentures at the time outstanding determined in accordance with

Section 9.4, or to any suit instituted by any Debentureholder for the enforcement of the payment of the principal of or premium, if any, or interest on any Debenture (including, but not limited to, the redemption price with respect to the Debentures being redeemed, as provided in this Indenture) on or after the due date expressed in such Debenture or to any suit for the enforcement of the right to convert any Debenture in accordance with the provisions of Article XV.

Section 7.10 Delay or Omission Not Waiver. No delay or omission of the Trustee or of any holder of any Debenture to exercise any right or remedy accruing upon any Event of Default shall impair any such right or remedy or constitute a waiver of any such Event of Default or any acquiescence therein. Every right and remedy given by this Article or by law to the Trustee or to the holders of Debentures may be exercised from time to time, and as often as may be deemed expedient, by the Trustee or by the holders of Debentures, as the case may be.

ARTICLE VIII

CONCERNING THE TRUSTEE

Section 8.1 Duties and Responsibilities of Trustee. The Trustee, prior to the occurrence of an Event of Default and after the curing of all Events of Default which may have occurred, undertakes to perform such duties and only such duties as are specifically set forth in this Indenture. In case an Event of Default has occurred (which has not been cured or waived) the Trustee shall exercise such of the rights and powers vested in it by this Indenture, and use the same degree of care and skill in their exercise, as a prudent person would exercise or use under the circumstances in the conduct of such person's own affairs.

No provision of this Indenture shall be construed to relieve the Trustee from liability for its own negligent action, its own negligent failure to act or its own willful misconduct, except that

(a) prior to the occurrence of an Event of Default and after the curing or waiving of all Events of Default which may have occurred:

(1) the duties and obligations of the Trustee shall be determined solely by the express provisions of this Indenture and the Trust Indenture Act, and the Trustee shall not be liable except for the performance of such duties and obligations as are specifically set forth in this Indenture and no implied covenants or obligations shall be read into this Indenture and the Trust Indenture Act against the Trustee; and

(2) in the absence of bad faith on the part of the Trustee, the Trustee may conclusively rely, as to the truth of the statements and the correctness of the opinions expressed therein, upon any certificates or opinions furnished to the Trustee and conforming to the requirements of this Indenture; but, in the case of any such certificates or opinions which by any provisions hereof are specifically required to be furnished to the Trustee, the Trustee shall be under a duty to examine the same to determine whether or not they conform to the requirements of this Indenture;

(b) the Trustee shall not be liable for any error of judgment made in good faith by a Responsible Officer or Officers of the Trustee, unless it shall be proved that the Trustee was negligent in ascertaining the pertinent facts;

(c) the Trustee shall not be liable to any Debentureholder with respect to any action taken or omitted to be taken by it in good faith in accordance with the direction of the holders of not less than a majority in principal amount of the Debentures at the time outstanding determined as provided in Section 9.4 relating to the time, method and place of conducting any proceeding for any remedy available to the Trustee, or exercising any trust or power conferred upon the Trustee, under this Indenture; and

(d) whether or not therein provided, every provision of this Indenture relating to the conduct or affecting the liability of, or affording protection to, the Trustee shall be subject to the provisions of this Section.

None of the provisions contained in this Indenture shall require the Trustee to expend or risk its own funds or otherwise incur personal financial liability in the performance of any of its duties or in the exercise of any of its rights or powers, if there is reasonable ground for believing that the repayment of such funds or adequate indemnity against such risk or liability is not reasonably assured to it.

Section 8.2 Reliance on Documents, Opinions, Etc. Except as otherwise provided in Section 8.1:

(a) the Trustee may rely and shall be protected in acting upon any resolution, certificate, statement, instrument, opinion, report, notice, request, consent, order, bond, Debenture, coupon or other paper or document believed by it in good faith to be genuine and to have been signed or presented by the proper party or parties;

(b) any request, direction, order or demand of the Company mentioned herein shall be sufficiently evidenced by an Officers' Certificate (unless other evidence in respect thereof be herein specifically prescribed); and any resolution of the Board of Directors may be evidenced to the Trustee by a copy thereof certified by the Secretary or an Assistant Secretary of the Company;

(c) the Trustee may consult with counsel and any advice or Opinion of Counsel shall be full and complete authorization and protection in respect of any action taken or omitted by it hereunder in good faith and in accordance with such advice or Opinion of Counsel;

(d) the Trustee shall be under no obligation to exercise any of the rights or powers vested in it by this Indenture at the request, order or direction of any of the Debentureholders pursuant to the provisions of this Indenture, unless such Debentureholders shall have offered to the Trustee reasonable security or indemnity against the costs, expenses and liabilities which may be incurred therein or thereby;

(e) the Trustee shall not be bound to make any investigation into the facts or matters stated in any resolution, certificate, statement, instrument, opinion, report, notice, request, direction, consent, order, bond, debenture or other paper or document, but the Trustee, in

its discretion, may make such further inquiry or investigation into such facts or matters as it may see fit, and, if the Trustee shall determine to make such further inquiry or investigation, it shall be entitled to examine the books, records and premises of the Company, personally or by agent or attorney; provided, however, that if the payment within a reasonable time to the Trustee of the costs, expenses or liabilities likely to be incurred by it in the making of such investigation is, in the opinion of the Trustee, not reasonably assured to the Trustee by the security afforded to it by the terms of this Indenture, the Trustee may require reasonable indemnity from the Debentureholders against such expenses or liability as a condition to so proceeding; the reasonable expenses of every such examination shall be paid by the Company or, if paid by the Trustee or any predecessor Trustee, shall be repaid by the Company upon demand; and

(f) the Trustee may execute any of the trusts or powers hereunder or perform any duties hereunder either directly or by or through agents or attorneys and the Trustee shall not be responsible for any misconduct or negligence on the part of any agent or attorney appointed by it with due care hereunder.

In no event shall the Trustee be liable for any consequential loss or damage of any kind whatsoever (including but not limited to lost profits), even if the Trustee has been advised of the likelihood of such loss or damage and regardless of the form of action.

Section 8.3 No Responsibility for Recitals, Etc. The recitals contained herein and in the Debentures (except in the Trustee's certificate of authentication) shall be taken as the statements of the Company, and the Trustee assumes no responsibility for the correctness of the same. The Trustee makes no representations as to the validity or sufficiency of this Indenture or of the Debentures. The Trustee shall not be accountable for the use or application by the Company of any Debentures or the proceeds of any Debentures authenticated and delivered by the Trustee in conformity with the provisions of this Indenture.

Section 8.4 Trustee, Paying Agents, Conversion Agents or Registrar May Own Debentures. The Trustee, any paying agent, any conversion agent or Debenture registrar, in its individual or any other capacity, may become the owner or pledgee of Debentures with the same rights it would have if it were not Trustee, paying agent, conversion agent or Debenture registrar.

Section 8.5 Monies to Be Held in Trust. Subject to the provisions of Section 13.4, all monies received by the Trustee shall, until used or applied as herein provided, be held in trust for the purposes for which they were received. Money held by the Trustee in trust hereunder need not be segregated from other funds except to the extent required by law. The Trustee shall be under no liability for interest on any money received by it hereunder except as may be agreed from time to time by the Company and the Trustee.

Section 8.6 Compensation and Expenses of Trustee. The Company covenants and agrees to pay to the Trustee from time to time, and the Trustee shall be entitled to, reasonable compensation for all services rendered by it hereunder in any capacity (which shall not be limited by any provision of law in regard to the compensation of a trustee of an express trust), and the Company will pay or reimburse the Trustee upon its request for all reasonable expenses, disbursements and advances reasonably incurred or made by the Trustee in accordance with any of the provisions of this Indenture (including the reasonable compensation and the expenses and

disbursements of its counsel and of all persons not regularly in its employ) except any such expense, disbursement or advance as may arise from its negligence or willful misconduct. The Company also covenants to indemnify the Trustee in any capacity under this Indenture and its agents and any authenticating agent for, and to hold them harmless against, any loss, liability or expense incurred without negligence or willful misconduct on the part of the Trustee or such agent or authenticating agent, as the case may be, and arising out of or in connection with the acceptance or administration of this trust or in any other capacity hereunder, including the costs and expenses of defending themselves against any claim of liability in the premises. The obligations of the Company under this Section 8.6 to compensate or indemnify the Trustee and to pay or reimburse the Trustee for expenses, disbursements and advances shall be secured by a lien prior to that of the Debentures upon all property and funds held or collected by the Trustee as such, except funds held in trust herewith for the benefit of the holders of particular Debentures prior to the date of the accrual of such unpaid compensation or indemnifiable claim. The obligation of the Company under this Section shall survive the satisfaction and discharge of this Indenture.

When the Trustee and its agents and any authenticating agent incur expenses or render services after an Event of Default specified in Section 7.1(f) or (g) occurs, the expenses and the compensation for the services are intended to constitute expenses of administration under any bankruptcy, insolvency or similar laws.

Section 8.7 Officers' Certificate as Evidence. Except as otherwise provided in Section 8.1 or Section 8.2, whenever in the administration of the provisions of this Indenture the Trustee shall deem it necessary or desirable that a matter be proved or established prior to taking or omitting any action hereunder, such matter (unless other evidence in respect thereof be herein specifically prescribed) may, in the absence of negligence, willful misconduct, recklessness and bad faith on the part of the Trustee, be deemed to be conclusively proved and established by an Officers' Certificate delivered to the Trustee, and such Officers' Certificate, in the absence of negligence, willful misconduct, recklessness and bad faith on the part of the Trustee, shall be full warrant to the Trustee for any action taken or omitted by it under the provisions of this Indenture upon the faith thereof.

Section 8.8 Conflicting Interests of Trustee.

(a) If the Trustee has or shall acquire a conflicting interest within the meaning of the Trust Indenture Act, the Trustee shall either eliminate such interest or resign, to the extent and in the manner provided by, and subject to the provisions of, the Trust Indenture Act and this Indenture.

(b) In the event that the Trustee shall fail to comply with Subsection (a) of this Section 8.8, the Trustee shall transmit notice of such failure to the holders of Debentures to the extent and in the manner provided by, and subject to, the provisions of the Trust Indenture Act.

Section 8.9 Eligibility of Trustee. There shall at all times be a Trustee hereunder which shall be a person that is eligible pursuant to the Trust Indenture Act to act as such and has a combined capital and surplus (together with its corporate parent) of at least $50,000,000. If such person publishes reports of condition at least annually, pursuant to law or to the

requirements of any supervising or examining authority, then for the purposes of this Section, the combined capital and surplus of such person shall be deemed to be its combined capital and surplus as set forth in its most recent report of condition so published. If at any time the Trustee shall cease to be eligible in accordance with the provisions of this Section, it shall resign immediately in the manner and with the effect hereinafter specified in this Article.

Section 8.10 Resignation or Removal of Trustee.

(a) The Trustee may at any time resign by giving written notice of such resignation to the Company and by mailing notice thereof to the holders of Debentures at their addresses as they shall appear on the Debenture register. Upon receiving such notice of resignation, the Company shall promptly appoint a successor trustee by written instrument, in duplicate, executed by order of the Board of Directors, one copy of which instrument shall be delivered to the resigning Trustee and one copy to the successor trustee. If no successor trustee shall have been so appointed and have accepted appointment sixty (60) days after the mailing of such notice of resignation to the Debentureholders, the resigning Trustee may petition any court of competent jurisdiction for the appointment of a successor trustee, or any Debentureholder who has been a bona fide holder of a Debenture or Debentures for at least six months may, subject to the provisions of Section 7.9, on behalf of himself, herself or itself and all others similarly situated, petition any such court for the appointment of a successor trustee. Such court may thereupon, after such notice, if any, as it may deem proper and prescribe, appoint a successor trustee.

(b) In case at any time any of the following shall occur:

(1) the Trustee shall fail to comply with Section 8.8(a) after written request therefor by the Company or by any Debentureholder who has been a bona fide holder of a Debenture or Debentures for at least six months, or

(2) the Trustee shall cease to be eligible in accordance with the provisions of Section 8.9 and shall fail to resign after written request therefor by the Company or by any such Debentureholder, or

(3) the Trustee shall become incapable of acting, or shall be adjudged bankrupt or insolvent, or a receiver of the Trustee or of its property shall be appointed, or any public officer shall take charge or control of the Trustee or of its property or affairs for the purpose of rehabilitation, conservation or liquidation,

then, in any such case, the Company may remove the Trustee and appoint a successor trustee by written instrument, in duplicate, executed by order of the Board of Directors, one copy of which instrument shall be delivered to the Trustee so removed and one copy to the successor trustee, or, subject to the provisions of Section 7.9, any Debentureholder who has been a bona fide holder of a Debenture or Debentures for at least six months may, on behalf of himself, herself or itself and all others similarly situated, petition any court of competent jurisdiction for the removal of the Trustee and the appointment of a successor trustee. Such court may thereupon, after such notice, if any, as it may deem proper and prescribe, remove the Trustee and appoint a successor trustee.

(c) The holders of a majority in aggregate principal amount of the Debentures at the time outstanding may at any time remove the Trustee and nominate a successor trustee which shall be deemed appointed as successor trustee unless within ten (10) days after notice to the Company of such nomination the Company objects thereto, in which case the Trustee so removed or any Debentureholder, upon the terms and conditions and otherwise as in Section 8.10(a) provided, may petition any court of competent jurisdiction for an appointment of a successor trustee.

(d) Any resignation or removal of the Trustee and appointment of a successor trustee pursuant to any of the provisions of this Section 8.10 shall become effective upon acceptance of appointment by the successor trustee as provided in Section 8.11.

Section 8.11 Acceptance by Successor Trustee. Any successor trustee appointed as provided in Section 8.10 shall execute, acknowledge and deliver to the Company and to its predecessor trustee an instrument accepting such appointment hereunder, and thereupon the resignation or removal of the predecessor trustee shall become effective and such successor trustee, without any further act, deed or conveyance, shall become vested with all the rights, powers, duties and obligations of its predecessor hereunder, with like effect as if originally named as trustee herein; but, nevertheless, on the written request of the Company or of the successor trustee, the trustee ceasing to act shall, upon payment of any amounts then due it pursuant to the provisions of Section 8.6, execute and deliver an instrument transferring to such successor trustee all the rights and powers of the trustee so ceasing to act. Upon request of any such successor trustee, the Company shall execute any and all instruments in writing for more fully and certainly vesting in and confirming to such successor trustee all such rights and powers. Any trustee ceasing to act shall, nevertheless, retain a lien upon all property and funds held or collected by such trustee as such, except for funds held in trust for the benefit of holders of particular Debentures, to secure any amounts then due it pursuant to the provisions of Section 8.6.

No successor trustee shall accept appointment as provided in this Section 8.11 unless at the time of such acceptance such successor trustee shall be qualified under the provisions of Section 8.8 and be eligible under the provisions of Section 8.9.

Upon acceptance of appointment by a successor trustee as provided in this Section 8.11, each of the Company and the former trustee shall mail or cause to be mailed notice of the succession of such trustee hereunder to the holders of Debentures at their addresses as they shall appear on the Debenture register. If the Company fails to mail such notice within ten (10) days after acceptance of appointment by the successor trustee, the successor trustee shall cause such notice to be mailed at the expense of the Company.

Section 8.12 Succession by Merger, Etc. Any corporation or other entity into which the Trustee may be merged or converted or with which it may be consolidated, or any corporation resulting from any merger, conversion or consolidation to which the Trustee shall be a party, or any corporation or other entity succeeding to all or substantially all of the corporate trust business of the Trustee (including the trust created hereunder), shall be the successor to the Trustee hereunder without the execution or filing of any paper or any further act on the part of any of the parties hereto, provided that in the case of any corporation succeeding to all or

substantially all of the trust business of the Trustee such corporation shall be qualified under the provisions of Section 8.8 and eligible under the provisions of Section 8.9.

In case at the time such successor to the Trustee shall succeed to the trusts created by this Indenture, any of the Debentures shall have been authenticated but not delivered, any such successor to the Trustee may adopt the certificate of authentication of any predecessor trustee or authenticating agent appointed by such predecessor trustee, and deliver such Debentures so authenticated; and in case at that time any of the Debentures shall not have been authenticated, any successor to the Trustee or an authenticating agent appointed by such successor trustee may authenticate such Debentures either in the name of any predecessor trustee hereunder or in the name of the successor trustee; and in all such cases such certificates shall have the full force which it is anywhere in the Debentures or in this Indenture provided that the certificate of the Trustee shall have; provided, however, that the right to adopt the certificate of authentication of any predecessor Trustee or to authenticate Debentures in the name of any predecessor Trustee shall apply only to its successor or successors by merger, conversion or consolidation.

Section 8.13 Limitation on Rights of Trustee as Creditor. If and when the Trustee shall be or become a creditor of the Company (or any other obligor upon the Debentures and the Trust Indenture Act is applicable hereto), the Trustee shall be subject to the provisions of Section 311(a) of the Trust Indenture Act or, if applicable, Section 311(b) of the Trust Indenture Act regarding the collection of the claims against the Company (or any such other obligor).

ARTICLE IX

CONCERNING THE DEBENTUREHOLDERS

Section 9.1 Action by Debentureholders. Whenever in this Indenture it is provided that the holders of a specified percentage in aggregate principal amount of the Debentures may take any action (including the making of any demand or request, the giving of any notice, consent or waiver or the taking of any other action), the fact that at the time of taking any such action, the holders of such specified percentage have joined therein may be evidenced (a) by any instrument or any number of instruments of similar tenor executed by Debentureholders in person or by agent or proxy appointed in writing, or (b) by the record of the holders of Debentures voting in favor thereof at any meeting of Debentureholders duly called and held in accordance with the provisions of Article X, or (c) by a combination of such instrument or instruments and any such record of such a meeting of Debentureholders. Whenever the Company or the Trustee solicits the taking of any action by the holders of the Debentures, the Company or the Trustee may fix in advance of such solicitation, a date as the record date for determining holders entitled to take such action. The record date shall be not more than fifteen (15) days prior to the date of commencement of solicitation of such action.

Section 9.2 Proof of Execution by Debentureholders. Subject to the provisions of Sections 8.1, 8.2 and 10.5, proof of the execution of any instrument by a Debentureholder or his, her or its agent or proxy shall be sufficient if made in accordance with such reasonable rules and regulations as may be prescribed by the Trustee or in such manner as shall be satisfactory to the Trustee. The holding of Debentures shall be proved by the Debenture register or by a certificate

of the Debenture registrar. The record of any Debentureholders' meeting shall be proved in the manner provided in Section 10.6.

Section 9.3 Who Are Deemed Absolute Owners. The Company, the Trustee, any paying agent, any conversion agent and any Debenture registrar may deem the person in whose name such Debenture shall be registered upon the Debenture register to be, and may treat him, her or it as, the absolute owner of such Debenture (whether or not such Debenture shall be overdue and notwithstanding any notation of ownership or other writing thereon) for the purpose of receiving payment of or on account of the principal of, premium, if any, and interest on such Debenture, for conversion of such Debenture and for all other purposes; and neither the Company nor the Trustee nor any paying agent nor any conversion agent nor any Debenture registrar shall be affected by any notice to the contrary. All such payments so made to any holder for the time being, or upon his, her or its order, shall be valid, and, to the extent of the sum or sums so paid, effectual to satisfy and discharge the liability for monies payable upon any such Debenture.

Section 9.4 Company-Owned Debentures Disregarded. In determining whether the holders of the requisite aggregate principal amount of Debentures have concurred in any direction, consent, waiver or other action under this Indenture, Debentures which are owned by the Company or any other obligor on the Debentures or by any Affiliate of the Company or any other obligor on the Debentures shall be disregarded and deemed not to be outstanding for the purpose of any such determination; provided that for the purposes of determining whether the Trustee shall be protected in relying on any such direction, consent, waiver or other action only Debentures which a Responsible Officer of the Trustee knows are so owned shall be so disregarded. Debentures so owned which have been pledged in good faith may be regarded as outstanding for the purposes of this Section 9.4 if the pledgee shall establish to the satisfaction of the Trustee the pledgee's right to vote such Debentures and that the pledgee is not the Company, any other obligor on the Debentures or an Affiliate of the Company or any such other obligor. In the case of a dispute as to such right, any decision by the Trustee taken upon the advice of counsel shall be full protection to the Trustee. Upon request of the Trustee, the Company shall furnish to the Trustee promptly an Officers' Certificate listing and identifying all Debentures, if any, known by the Company to be owned or held by or for the account of any of the above described persons; and, subject to Section 8.1, the Trustee shall be entitled to accept such Officers' Certificate as conclusive evidence of the facts therein set forth and of the fact that all Debentures not listed therein are outstanding for the purpose of any such determination.

Section 9.5 Revocation of Consents; Future Holders Bound. At any time prior to (but not after) the evidencing to the Trustee, as provided in Section 9.1, of the taking of any action by the holders of the percentage in aggregate principal amount of the Debentures specified in this Indenture in connection with such action, any holder of a Debenture which is shown by the evidence to be included in the Debentures the holders of which have consented to such action may, by filing written notice with the Trustee at its Corporate Trust Office and upon proof of holding as provided in Section 9.2, revoke such action so far as concerns such Debenture. Except as aforesaid, any such action taken by the holder of any Debenture shall be conclusive and binding upon such holder and upon all future holders and owners of such Debenture and of any Debentures issued in exchange or substitution therefor, irrespective of whether any notation

in regard thereto is made upon such Debenture or any Debenture issued in exchange or substitution therefor.

ARTICLE X

DEBENTUREHOLDERS' MEETINGS

Section 10.1 Purpose of Meetings. A meeting of Debentureholders may be called at any time and from time to time pursuant to the provisions of this Article X for any of the following purposes:

(1) to give any notice to the Company or to the Trustee or to give any directions to the Trustee permitted under this Indenture, or to consent to the waiving of any default or Event of Default hereunder and its consequences, or to take any other action authorized to be taken by Debentureholders pursuant to any of the provisions of Article VII;

(2) to remove the Trustee and nominate a successor trustee pursuant to the provisions of Article VIII;

(3) to consent to the execution of an indenture or indentures supplemental hereto pursuant to the provisions of Section 11.2;

(4) to take any other action authorized to be taken by or on behalf of the holders of any specified aggregate principal amount of the Debentures under any other provision of this Indenture or under applicable law; or

(5) to take any other action authorized by this Indenture or under applicable law.

Section 10.2 Call of Meetings by Trustee. The Trustee may at any time call a meeting of Debentureholders to take any action specified in Section 10.1, to be held at such time and at such place in the Borough of Manhattan, The City of New York, as the Trustee shall determine. Notice of every meeting of the Debentureholders, setting forth the time and the place of such meeting and in general terms the action proposed to be taken at such meeting and the establishment of any record date pursuant to Section 9.1, shall be mailed to holders of Debentures at their addresses as they shall appear on the Debenture register. Such notice shall also be mailed to the Company. Such notices shall be mailed not less than twenty (20) nor more than ninety (90) days prior to the date fixed for the meeting.

Any meeting of Debentureholders shall be valid without notice if the holders of all Debentures then outstanding are present in person or by proxy or if notice is waived before or after the meeting by the holders of all Debentures outstanding, and if the Company and the Trustee are either present by duly authorized representatives or have, before or after the meeting, waived notice.

Section 10.3 Call of Meetings by Company or Debentureholders. In case at any time the Company, pursuant to a resolution of its Board of Directors, or the holders of at least 10% in aggregate principal amount of the Debentures then outstanding, shall have requested the

Trustee to call a meeting of Debentureholders, by written request setting forth in reasonable detail the action proposed to be taken at the meeting, and the Trustee shall not have mailed the notice of such meeting within twenty (20) days after receipt of such request, then the Company or such Debentureholders may determine the time and the place for such meeting and may call such meeting to take any action authorized in Section 10.1, by mailing notice thereof as provided in Section 10.2.

Section 10.4 Qualifications for Voting. To be entitled to vote at any meeting of Debentureholders a person shall (a) be a holder of one or more Debentures on the record date pertaining to such meeting or (b) be a person appointed by an instrument in writing as proxy by a holder of one or more Debentures. The only persons who shall be entitled to be present or to speak at any meeting of Debentureholders shall be the persons entitled to vote at such meeting and their counsel and any representatives of the Trustee and its counsel and any representatives of the Company and its counsel.

Section 10.5 Regulations. Notwithstanding any other provisions of this Indenture, the Trustee may make such reasonable regulations as it may deem advisable for any meeting of Debentureholders, in regard to proof of the holding of Debentures and of the appointment of proxies, and in regard to the appointment and duties of inspectors of votes, the submission and examination of proxies, certificates and other evidence of the right to vote, and such other matters concerning the conduct of the meeting as it shall think fit.

The Trustee shall, by an instrument in writing, appoint a temporary chairman of the meeting, unless the meeting shall have been called by the Company or by Debentureholders as provided in Section 10.3, in which case the Company or the Debentureholders calling the meeting, as the case may be, shall in like manner appoint a temporary chairman. A permanent chairman and a permanent secretary of the meeting shall be elected by vote of the holders of a majority in principal amount of the Debentures represented at the meeting and entitled to vote at the meeting.

Subject to the provisions of Section 9.4, at any meeting each Debentureholder or proxyholder shall be entitled to one vote for each $1,000 principal amount of Debentures held or represented by him, her or it; provided, however, that no vote shall be cast or counted at any meeting in respect of any Debenture challenged as not outstanding and ruled by the chairman of the meeting to be not outstanding. The chairman of the meeting shall have no right to vote other than by virtue of Debentures held by him, her or it or instruments in writing as aforesaid duly designating him, her or it as the proxy to vote on behalf of other Debentureholders. Any meeting of Debentureholders duly called pursuant to the provisions of Section 10.2 or 10.3 may be adjourned from time to time by the holders of a majority of the aggregate principal amount of Debentures represented at the meeting, whether or not constituting a quorum, and the meeting may be held as so adjourned without further notice.

Section 10.6 Voting. The vote upon any resolution submitted to any meeting of Debentureholders shall be by written ballot on which shall be subscribed the signatures of the holders of Debentures or of their representatives by proxy and the principal amount of the Debentures held or represented by them. The permanent chairman of the meeting shall appoint two inspectors of votes who shall count all votes cast at the meeting for or against any resolution

and who shall make and file with the secretary of the meeting their verified written reports in duplicate of all votes cast at the meeting. A record in duplicate of the proceedings of each meeting of Debentureholders shall be prepared by the secretary of the meeting and there shall be attached to said record the original reports of the inspectors of votes on any vote by ballot taken thereat and affidavits by one or more persons having knowledge of the facts setting forth a copy of the notice of the meeting and showing that said notice was mailed as provided in Section 10.2. The record shall show the principal amount of the Debentures voting in favor of or against any resolution. The record shall be signed and verified by the affidavits of the permanent chairman and secretary of the meeting and one of the duplicates shall be delivered to the Company and the other to the Trustee to be preserved by the Trustee, the latter to have attached thereto the ballots voted at the meeting.

Any record so signed and verified shall be conclusive evidence of the matters therein stated.

Section 10.7 No Delay of Rights by Meeting. Nothing in this Article X contained shall be deemed or construed to authorize or permit, by reason of any call of a meeting of Debentureholders or any rights expressly or impliedly conferred hereunder to make such call, any hindrance or delay in the exercise of any right or rights conferred upon or reserved to the Trustee or to the Debentureholders under any of the provisions of this Indenture or of the Debentures.

ARTICLE XI

SUPPLEMENTAL INDENTURES

Section 11.1 Supplemental Indentures Without Consent of Debentureholders. The Company, when authorized by the resolutions of the Board of Directors, and the Trustee may from time to time and at any time enter into an indenture or indentures supplemental hereto for one or more of the following purposes:

(a) to make provision with respect to the conversion rights of the holders of Debentures pursuant to the requirements of Section 15.6;

(b) subject to Article IV, to convey, transfer, assign, mortgage or pledge to the Trustee as security for the Debentures, any property or assets;

(c) to evidence the succession of another corporation to the Company, or successive successions, and the assumption by the successor corporation of the covenants, agreements and obligations of the Company pursuant to Article XII;

(d) to add to the covenants of the Company such further covenants, restrictions or conditions as the Board of Directors and the Trustee shall consider to be for the benefit of the holders of Debentures, and to make the occurrence, or the occurrence and continuance, of a default in any such additional covenants, restrictions or conditions a default or an Event of Default permitting the enforcement of all or any of the several remedies provided in this Indenture as herein set forth; provided, however, that in respect of any such additional covenant, restriction or condition such supplemental indenture may provide for a particular

period of grace after default (which period may be shorter or longer than that allowed in the case of other defaults) or may provide for an immediate enforcement upon such default or may limit the remedies available to the Trustee upon such default;

(e) to provide for the issuance under this Indenture of Debentures in coupon form (including Debentures registrable as to principal only) and to provide for exchange of such Debentures with the Debentures issued hereunder in fully registered form and to make all appropriate changes for such purpose;

(f) to cure any ambiguity or to correct or supplement any provision contained herein or in any supplemental indenture which may be defective or inconsistent with any other provision contained herein or in any supplemental indenture, or to make such other provisions in regard to matters or questions arising under this Indenture which shall not materially adversely affect the interests of the holders of the Debentures;

(g) to evidence and provide for the acceptance of appointment hereunder by a successor Trustee with respect to the Debentures; or

(h) to modify, eliminate or add to the provisions of this Indenture to such extent as shall be necessary to effect the qualifications of this Indenture under the Trust Indenture Act, or under any similar federal statute hereafter enacted.

The Trustee is hereby authorized to join with the Company in the execution of any such supplemental indenture, to make any further appropriate agreements and stipulations which may be therein contained and to accept the conveyance, transfer and assignment of any property thereunder, but the Trustee shall not be obligated to, but may in its discretion, enter into any supplemental indenture which affects the Trustee's own rights, duties or immunities under this Indenture or otherwise.

Any supplemental indenture authorized by the provisions of this Section 11.1 may be executed by the Company and the Trustee without the consent of the holders of any of the Debentures at the time outstanding, notwithstanding any of the provisions of Section 11.2.

Section 11.2 Supplemental Indentures with Consent of Debentureholders. With the consent (evidenced as provided in Article IX) of the holders of not less than a majority in aggregate principal amount of the Debentures at the time outstanding (determined in accordance with Section 9.4), the Company, when authorized by the resolutions of the Board of Directors, and the Trustee may from time to time and at any time enter into an indenture or indentures supplemental hereto for the purpose of adding any provisions to or changing in any manner or eliminating any of the provisions of this Indenture or any supplemental indenture or of modifying in any manner the rights of the holders of the Debentures; provided, however, that no such supplemental indenture shall (i) extend the fixed maturity of any Debenture, or reduce the rate or extend the time of payment of interest thereon, or reduce the principal amount thereof or premium, if any, thereon, or reduce any amount payable on redemption thereof, or impair or adversely affect the right of any Debentureholder to institute suit for the payment thereof, or make the principal thereof or interest or premium, if any, thereon payable in any coin or currency other than that provided in the Debentures, or change or impair the right to convert the

Debentures into Common Stock subject to the terms set forth herein in any respect adverse to the holder thereof, including Section 15.6, or modify the provisions of this Indenture with respect to the subordination of the Debentures in a manner adverse to the Debentureholders, without the consent of the holder of each Debenture so affected, or (ii) reduce the aforesaid percentage of Debentures, the holders of which are required to consent to any such supplemental indenture, without the consent of the holders of all Debentures then outstanding or reduce the percentage of Debentures, the holders of which are required to consent to any waiver or modify any of the provisions of this Section or Section 7.7, except to increase any such percentage or to provide that certain of the provisions of this Indenture cannot be modified or waived without the consent of the holder of each outstanding Debenture.

Up to and prior to the close of business on the Exchange Date, only the holders of shares of Preferred Stock shall be entitled to vote on any amendments or supplements to this Indenture as provided above.

Upon the request of the Company, accompanied by a copy of the resolutions of the Board of Directors certified by its Secretary or Assistant Secretary authorizing the execution of any such supplemental indenture, and upon the filing with the Trustee of evidence of the consent of Debentureholders as aforesaid, the Trustee shall join with the Company in the execution of such supplemental indenture unless such supplemental indenture affects the Trustee's own rights, duties or immunities under this Indenture or otherwise, in which case the Trustee may in is discretion, but shall not be obligated to, enter into such supplemental indenture.

It shall not be necessary for the consent of the Debentureholders under this Section 11.2 to approve the particular form of any proposed supplemental indenture, but it shall be sufficient if such consent shall approve the substance thereof.

Section 11.3 Effect of Supplemental Indentures. Any supplemental indenture executed pursuant to the provisions of this Article XI shall comply with the Trust Indenture Act, as then in effect. Upon the execution of any supplemental indenture pursuant to the provisions of this Article XI, this Indenture shall be and be deemed to be modified and amended in accordance therewith and the respective rights, limitation of rights, obligations, duties and immunities under this Indenture of the Trustee, the Company and the holders of Debentures shall thereafter be determined, exercised and enforced hereunder subject in all respects to such modifications and amendments and all the terms and conditions of any such supplemental indenture shall be and be deemed to be part of the terms and conditions of this Indenture for any and all purposes.

Section 11.4 Notation on Debentures. Debentures authenticated and delivered after the execution of any supplemental indenture pursuant to the provisions of this Article XI may bear a notation in form approved by the Trustee as to any matter provided for in such supplemental indenture. If the Company or the Trustee shall so determine, new Debentures so modified as to conform, in the opinion of the Trustee and the Board of Directors, to any modification of this Indenture contained in any such supplemental indenture may, at the Company's expense, be prepared and executed by the Company, authenticated by the Trustee (or an authenticating agent duly appointed by the Trustee pursuant to Section 16.11) and delivered in

exchange for the Debentures then outstanding, upon surrender of such Debentures then outstanding.

Section 11.5 Evidence of Compliance of Supplemental Indenture to Be Furnished Trustee. The Trustee, subject to the provisions of Sections 8.1 and 8.2, may receive an Officers' Certificate and an Opinion of Counsel as conclusive evidence that any supplemental indenture executed pursuant hereto complies with the requirements of this Article XI.

ARTICLE XII

MERGER, SALE OR CONSOLIDATION

Section 12.1 Limitation on Merger, Sale or Consolidation. The Company shall not consolidate with or merge with or into another person or sell, lease, convey or transfer all or substantially all of its assets (computed on a consolidated basis), whether in a single transaction or a series of related transactions, to another person or group of affiliated persons, unless (i) either (A) in the case of a consolidation or merger, the Company is the surviving entity or (B) the resulting, surviving or transferee entity is a corporation organized under the laws of the United States, any state thereof or the District of Columbia and expressly assumes by supplemental indenture all of the obligations of the Company in connection with the Debentures and the Indenture; (ii) no default or Event of Default shall exist or shall occur immediately before or after giving effect on a pro forma basis to such transaction; and (iii) the Company has delivered to the Trustee an Officers' Certificate and an Opinion of Counsel, each stating that such consolidation, merger, sale, lease, conveyance or transfer and, if a supplemental indenture is required, such supplemental indenture comply with the Indenture and that all conditions precedent relating to such transactions have been satisfied.

Section 12.2 Successor Corporation to Be Substituted. In case of any such consolidation, merger, sale, conveyance or lease and upon the assumption by the successor corporation, by supplemental indenture, executed and delivered to the Trustee and satisfactory in form to the Trustee, of the due and punctual payment of the principal of and premium, if any, and interest on all of the Debentures and the due and punctual performance of all of the covenants and conditions of this Indenture to be performed by the Company, such successor corporation shall succeed to and be substituted for the Company, with the same effect as if it had been named herein as the party of the first part. Such successor corporation thereupon may cause to be signed, and may issue either in its own name or in the name of Xcyte Therapies, Inc. any or all of the Debentures issuable hereunder which theretofore shall not have been signed by the Company and delivered to the Trustee; and, upon the order of such successor corporation instead of the Company and subject to all the terms, conditions and limitations in this Indenture prescribed, the Trustee shall authenticate and shall deliver, or cause to be authenticated and delivered, any Debentures which previously shall have been signed and delivered by the officers of the Company to the Trustee for authentication, and any Debentures which such successor corporation thereafter shall cause to be signed and delivered to the Trustee for that purpose. All the Debentures so issued shall in all respects have the same legal rank and benefit under this Indenture as the Debentures theretofore or thereafter issued in accordance with the terms of this Indenture as though all of such Debentures had been issued at the date of the execution hereof. In the event of any such consolidation, merger, sale or conveyance (but not in the event of such

lease), the person named as the "Company" in the first paragraph of this Indenture, or any successor which shall thereafter have become such in the manner prescribed in this Article XII and which shall have transferred its rights and obligations hereunder to another successor in the manner prescribed in this Article XII, may be dissolved, wound up and liquidated at any time thereafter and such person shall be released from its liabilities as obligor and maker of the Debentures and from its obligations under this Indenture.

In case of any such consolidation, merger, sale, conveyance or lease, such changes in phraseology and form (but not in substance) may be made in the Debentures thereafter to be issued as may be appropriate.

ARTICLE XIII

SATISFACTION AND DISCHARGE OF INDENTURE

Section 13.1 Discharge of Indenture. When (a) the Company shall deliver to the Trustee for cancellation all Debentures theretofore authenticated (other than any Debentures which have been destroyed, lost or stolen and in lieu of or in substitution for which other Debentures shall have been authenticated and delivered) and not theretofore canceled, or (b) all the Debentures not theretofore canceled or delivered to the Trustee for cancellation shall have become due and payable, or are by their terms to become due and payable within one year or are to be called for redemption within one year under arrangements satisfactory to the Trustee for the giving of notice of redemption, and the Company shall irrevocably deposit with the Trustee, in trust, funds sufficient to pay at maturity or upon redemption of all of the Debentures (other than any Debentures which shall have been mutilated, destroyed, lost or stolen and in lieu of or in substitution for which other Debentures shall have been authenticated and delivered) not theretofore canceled or delivered to the Trustee for cancellation, including principal and premium, if any, and interest due or to become due to such date of maturity or redemption date, as the case may be, and if in either case the Company shall also pay or cause to be paid all other sums payable hereunder by the Company, then this Indenture shall cease to be of further effect (except as to (i) remaining rights of registration of transfer, substitution and exchange and conversion of Debentures and maintenance of an office therefor, (ii) rights hereunder of Debentureholders to receive payments of principal of and premium, if any, and interest on, the Debentures and the other rights, duties and obligations of Debentureholders, as beneficiaries hereof with respect to the amounts, if any, so deposited with the Trustee and (iii) the rights, obligations and immunities of the Trustee hereunder), and the Trustee, on demand of the Company accompanied by an Officers' Certificate and an Opinion of Counsel as required by Section 16.5 and at the cost and expense of the Company, shall execute proper instruments acknowledging satisfaction of and discharging this Indenture; the Company, however, hereby agreeing to reimburse the Trustee for any costs or expenses thereafter reasonably and properly incurred by the Trustee and to compensate the Trustee for any services thereafter reasonably and properly rendered by the Trustee in connection with this Indenture or the Debentures.

Section 13.2 Deposited Monies to Be Held in Trust by Trustee. Subject to Section 13.4, all monies deposited with the Trustee pursuant to Section 13.1 shall be held in trust and applied by it to the payment, notwithstanding the provisions of Article IV, either directly or through any paying agent (including the Company if acting as its own paying agent), to the

holders of the particular Debentures for the payment or redemption of which such monies have been deposited with the Trustee, of all sums due and to become due thereon for principal and interest and premium, if any.

Section 13.3 Paying Agent to Repay Monies Held. Upon the satisfaction and discharge of this Indenture, all monies then held by any paying agent of the Debentures (other than the Trustee) shall, upon demand of the Company, be repaid to it or paid to the Trustee, and thereupon such paying agent shall be released from all further liability with respect to such monies.

Section 13.4 Return of Unclaimed Monies. Subject to the requirements of applicable law, any monies deposited with or paid to the Trustee for payment of the principal of, premium, if any, or interest on Debentures and not applied but remaining unclaimed by the holders of Debentures for two years after the date upon which the principal of, premium, if any, or interest on such Debentures, as the case may be, shall have become due and payable, shall be repaid to the Company by the Trustee on demand and all liability of the Trustee shall thereupon cease with respect to such monies; and the holder of any of the Debentures shall thereafter look only to the Company for any payment which such holder may be entitled to collect unless an applicable abandoned property law designates another person.

Section 13.5 Reinstatement. If (i) the Trustee or the paying agent is unable to apply any money in accordance with Section 13.2 by reason of any order or judgment of any court or governmental authority enjoining, restraining or otherwise prohibiting such application and (ii) the holders of at least a majority in principal amount of the then outstanding Debentures so request by written notice to the Trustee, the Company's obligations under this Indenture and the Debentures shall be revived and reinstated as though no deposit had occurred pursuant to Section 13.1 until such time as the Trustee or the paying agent is permitted to apply all such money in accordance with Section 13.2; provided, however, that if the Company makes any payment of interest on or principal of any Debenture following the reinstatement of its obligations, the Company shall be subrogated to the rights of the holders of such Debentures to receive such payment from the money held by the Trustee or paying agent.

ARTICLE XIV

IMMUNITY OF INCORPORATORS, STOCKHOLDERS, OFFICERS AND DIRECTORS

Section 14.1 Indenture and Debentures Solely Corporate Obligations. No recourse for the payment of the principal of or premium, if any, or interest on any Debenture, or for any claim based thereon or otherwise in respect thereof, and no recourse under or upon any obligation, covenant or agreement of the Company in this Indenture or in any supplemental indenture or in any Debenture, or because of the creation of any indebtedness represented thereby, shall be had against any incorporator, stockholder, employee, agent, officer or director or subsidiary, as such, past, present or future, of the Company or of any successor corporation, either directly or through the Company or any successor corporation, whether by virtue of any constitution, statute or rule of law, or by the enforcement of any assessment or penalty or otherwise; it being expressly understood that all such liability is hereby expressly waived and

released as a condition of, and as a consideration for, the execution of this Indenture and the issue of the Debentures.

ARTICLE XV

CONVERSION OF DEBENTURES

Section 15.1 Holder's Right to Convert. Subject to and upon compliance with the provisions of this Indenture, the holder of any Debenture shall have, at his, her or its option, the right, at any time on or prior to the close of business on the twenty-fifth anniversary of the Exchange Date (except that, with respect to any Debenture or portion of a Debenture which shall be called for redemption, such right shall terminate, except as provided in the fourth paragraph of Section 15.2, at the close of business on the Business Day immediately preceding the date fixed for redemption of such Debenture or portion of a Debenture unless the Company shall default in payment due upon redemption thereof) to convert the principal amount of any such Debenture, or any portion of such principal amount which is $1,000 or an integral multiple thereof, into that number of fully paid and non-assessable shares of Common Stock (as such shares shall then be constituted) obtained by dividing the principal amount of the Debenture or portion thereof surrendered for conversion by the Conversion Price in effect at such time, by surrender of the Debenture so to be converted in whole or in part in the manner provided in Section 15.2. A holder of Debentures is not entitled to any rights of a holder of Common Stock until such holder has converted his, her or its Debentures to Common Stock, and only to the extent such Debentures are deemed to have been converted to Common Stock under this Article XV. In the event that the holder elects to convert some of all of its Debentures to Common Stock on or prior to _____, 2007, the Company will pay the Make-Whole Interest Payment upon satisfaction of the requirements for conversion set forth in this Section 15.1 pursuant to the terms in Section 15.13.

Section 15.2 Exercise of Conversion Privilege; Issuance of Common Stock on Conversion; No Adjustment for Interest or Dividends. In order to exercise the conversion privilege with respect to any Debenture, the holder of any such Debenture to be converted in whole or in part shall surrender such Debenture, duly endorsed, at an office or agency maintained by the Company pursuant to Section 5.2, accompanied by the funds, if any, required by the last paragraph of this Section 15.2, and shall give written notice of conversion in the form provided on the Debentures (or such other notice which is acceptable to the Company) to the office or agency that the holder elects to convert such Debenture or such portion thereof specified in said notice. Such notice shall also state the name or names (with address) in which the certificate or certificates for shares of Common Stock which shall be issuable on such conversion shall be issued, and shall be accompanied by transfer taxes, if required pursuant to Section 15.7. Each such Debenture surrendered for conversion shall, unless the shares issuable on conversion are to be issued in the same name as the registration of such Debenture, be duly endorsed by, or be accompanied by instruments of transfer in form satisfactory to the Company duly executed by, the holder or his, her or its duly authorized attorney.

In order to exercise the conversion privilege with respect to any interest in a Global Debenture, the beneficial holder must complete the appropriate instruction form for conversion pursuant to the Depositary's book-entry conversion program, deliver by book-entry delivery an

interest in such Global Debenture, furnish appropriate endorsements and transfer documents if required by the Company or the Trustee or conversion agent, and pay the funds, if any, required by the penultimate paragraph of this Section 15.2 and any transfer taxes, if required pursuant to Section 15.7.

As promptly as practicable after satisfaction of the requirements for conversion set forth above, the Company shall issue and shall deliver to such holder or, if shares issuable on conversion are to be issued in a name other than that of the Debentureholder (as if such transfer were a transfer of the Debenture or Debentures (or portion thereof) so converted), to such other person, at the office or agency maintained by the Company for such purpose pursuant to Section 5.2, a certificate or certificates for the number of full shares of Common Stock issuable upon the conversion of such Debenture or portion thereof in accordance with the provisions of this Article, the payment (in appropriate form) of the Make-Whole Interest Payment, if any, payable upon such conversion, and a check or cash in respect of any fractional interest in respect of a share of Common Stock arising upon such conversion, as provided in Section 15.3 (which payment, if any, shall be paid no later than five Business Days after satisfaction of the requirements for conversion set forth above). In case any Debenture of a denomination greater than $1,000 shall be surrendered for partial conversion, and subject to Section 2.3, the Company shall execute and the Trustee shall authenticate and deliver to the holder of the Debenture so surrendered, without charge to him, her or it, a new Debenture or Debentures in authorized denominations in an aggregate principal amount equal to the unconverted portion of the surrendered Debenture.

Each conversion pursuant to Section 15.1 shall be deemed to have been effected as to any such Debenture (or portion thereof) on the date on which the requirements set forth above in this Section 15.2 have been satisfied as to such Debenture (or portion thereof), and the person in whose name any certificate or certificates for shares of Common Stock shall be issuable upon such conversion shall be deemed to have become on said date the holder of record of the shares represented thereby; provided, however, that if any such surrender occurs on any date when the stock transfer books of the Company shall be closed, the conversion shall be effected on the next succeeding day on which such stock transfer books are open, and the person in whose name the certificates are to be issued shall be the record holder thereof for all purposes, but such conversion shall be at the Conversion Price in effect on the date upon which such Debenture shall be surrendered.

Upon the conversion of an interest in a Global Debenture, the Trustee, or the Custodian at the direction of the Trustee, shall make a notation on such Global Debenture as to the reduction in the principal amount represented thereby.

Any Debenture or portion thereof surrendered for conversion during the period from the close of business on the record date for any interest payment date through the close of business on the Business Day next preceding such interest payment date shall (unless (a) such Debenture or portion thereof being converted shall have been called for redemption and a notice of redemption has been sent to the holders of the Debentures pursuant to Section 3.2 or (b) the Company has elected to automatically convert such Debenture or portion thereof and has issued an Automatic Conversion Notice in accordance with Section 15.12) be accompanied by payment, in New York Clearing House funds or other funds acceptable to the Company, of an amount

equal to the interest otherwise payable on such interest payment date on the principal amount being converted; provided, however, that no such payment need be made if there shall exist at the time of conversion a default in the payment of interest on the Debentures. The Trustee shall not be required to accept for conversion any Debentures not accompanied by any payment required by the preceding sentence. Except as provided above in this Section 15.2 or Section 15.13, no adjustment shall be made for interest accrued on any Debenture converted or for dividends on any shares issued upon the conversion of such Debenture as provided in this Article.

Section 15.3 Cash Payments in Lieu of Fractional Shares. No fractional shares of Common Stock or scrip representing fractional shares shall be issued upon conversion of Debentures (whether pursuant to Section 15.1 or Section 15.12). If more than one Debenture shall be surrendered for conversion at one time by the same holder, the number of full shares which shall be issuable upon conversion shall be computed on the basis of the aggregate principal amount of the Debentures (or specified portions thereof to the extent permitted hereby) so surrendered for conversion. If any fractional share of stock otherwise would be issuable upon the conversion of any Debenture or Debentures, the Company shall make an adjustment therefor in cash at the current market value thereof to the holder of Debentures. The current market value of a share of Common Stock shall be the Closing Price on the first Trading Day immediately preceding the day on which the Debentures (or specified portions thereof) are deemed to have been converted and such Closing Price shall be determined as provided in Section 15.5(h).

Section 15.4 Conversion Price. The conversion price shall be as specified in the form of Debenture (herein called the "Conversion Price") attached as Exhibit A hereto, subject to adjustment as provided in this Article XV.

Section 15.5 Adjustment of Conversion Price. The Conversion Price shall be adjusted from time to time by the Company as follows:

(a) In case the Company shall hereafter pay a dividend or make a distribution to all holders of the outstanding Common Stock in shares of Common Stock, the Conversion Price in effect at the opening of business on the date following the date fixed for the determination of stockholders entitled to receive such dividend or other distribution shall be reduced by multiplying such Conversion Price by a fraction of which the numerator shall be the number of shares of Common Stock outstanding at the close of business on the Record Date (as defined in Section 15.5(h)) fixed for such determination and the denominator shall be the sum of such number of shares and the total number of shares constituting such dividend or other distribution, such reduction to become effective immediately prior to the opening of business on the day following the Record Date. If any dividend or distribution of the type described in this Section 15.5(a) is declared but not so paid or made, the Conversion Price shall again be adjusted to the Conversion Price which would then be in effect if such dividend or distribution had not been declared.

(b) In case the Company shall issue rights or warrants to all holders of its outstanding shares of Common Stock entitling them (for a period expiring within forty-five (45) days after the date fixed for the determination of stockholders entitled to receive such rights or warrants) to subscribe for or purchase shares of Common Stock at a price per share less than the

Current Market Price (as defined in Section 15.5(h)) on the Record Date fixed for the determination of stockholders entitled to receive such rights or warrants, the Conversion Price shall be adjusted so that the same shall equal the price determined by multiplying the Conversion Price in effect at the opening of business on the date after such Record Date by a fraction of which the numerator shall be the number of shares of Common Stock outstanding at the close of business on the Record Date plus the number of shares which the aggregate offering price of the total number of shares so offered would purchase at such Current Market Price, and of which the denominator shall be the number of shares of Common Stock outstanding on the close of business on the Record Date plus the total number of additional shares of Common Stock so offered for subscription or purchase. Such adjustment shall become effective immediately after the opening of business on the day following the Record Date fixed for determination of stockholders entitled to receive such rights or warrants. To the extent that shares of Common Stock are not delivered pursuant to such rights or warrants, upon the expiration or termination of such rights or warrants the Conversion Price shall be readjusted to the Conversion Price which would then be in effect had the adjustments made upon the issuance of such rights or warrants been made on the basis of delivery of only the number of shares of Common Stock actually delivered. In the event that such rights or warrants are not so issued, the Conversion Price shall again be adjusted to be the Conversion Price which would then be in effect if such date fixed for the determination of stockholders entitled to receive such rights or warrants had not been fixed. In determining whether any rights or warrants entitle the holders to subscribe for or purchase shares of Common Stock at less than the Current Market Price, and in determining the aggregate offering price of such shares of Common Stock, there shall be taken into account any consideration received for such rights or warrants, the value of such consideration, if other than cash, to be determined by the Board of Directors.

(c) In case the outstanding shares of Common Stock shall be subdivided into a greater number of shares of Common Stock, the Conversion Price in effect at the opening of business on the day following the day upon which such subdivision becomes effective shall be proportionately reduced, and conversely, in case outstanding shares of Common Stock shall be combined into a smaller number of shares of Common Stock, the Conversion Price in effect at the opening of business on the day following the day upon which such combination becomes effective shall be proportionately increased, such reduction or increase, as the case may be, to become effective immediately after the opening of business on the day following the day upon which such subdivision or combination becomes effective.

(d) In case the Company shall, by dividend or otherwise, distribute to all holders of its Common Stock shares of any class of capital stock of the Company (other than any dividends or distributions to which Section 15.5(a) applies) or evidences of its indebtedness, cash or other assets (including securities, but excluding (1) any rights or warrants referred to in Section 15.5(b) or (2) dividends and distributions paid exclusively in cash (the foregoing hereinafter in this Section 15.5(d) called the “Securities”)), then, in each such case, the Conversion Price shall be reduced so that the same shall be equal to the price determined by multiplying the Conversion Price in effect immediately prior to the close of business on the Record Date (as defined in Section 15.5(h)) with respect to such distribution by a fraction of which the numerator shall be the Current Market Price (determined as provided in Section 15.5(h)) on such date less the fair market value (as determined by the Board of Directors, whose determination shall be conclusive and described in a Board Resolution) on such date of the

portion of the Securities so distributed applicable to one share of Common Stock and the denominator shall be such Current Market Price, such reduction to become effective immediately prior to the opening of business on the day following the Record Date; provided, however, that in the event the then fair market value (as so determined) of the portion of the Securities so distributed applicable to one share of Common Stock is equal to or greater than the Current Market Price on the Record Date, in lieu of the foregoing adjustment, adequate provision shall be made so that each Debentureholder shall have the right to receive upon conversion of a Debenture (or any portion thereof) the amount of Securities such holder would have received had such holder converted such Debenture (or portion thereof) immediately prior to such Record Date. In the event that such dividend or distribution is not so paid or made, the Conversion Price shall again be adjusted to be the Conversion Price which would then be in effect if such dividend or distribution had not been declared. If the Board of Directors determines the fair market value of any distribution for purposes of this Section 15.5(d) by reference to the actual or when issued trading market for any securities comprising all or part of such distribution, it must in doing so consider the prices in such market over the same period (the "Reference Period") used in computing the Current Market Price pursuant to Section 15.5(h) to the extent possible, unless the Board of Directors in a board resolution determines in good faith that determining the fair market value during the Reference Period would not be in the best interest of the Debentureholder.

For purposes of this Section 15.5(d) and Sections 15.5(a) and (b), any dividend or distribution to which this Section 15.5(d) is applicable that also includes shares of Common Stock to which 15.5(a) applies, or rights or warrants to subscribe for or purchase shares of Common Stock to which Section 15.5(b) applies (or both), shall be deemed instead to be (1) a dividend or distribution of the evidences of indebtedness, assets, shares of capital stock, rights or warrants other than such shares of Common Stock to which 15.5(a) applies or rights or warrants to which Section 15.5(b) applies (and any Conversion Price reduction required by this Section 15.5(d) with respect to such dividend or distribution shall then be made) immediately followed by (2) a dividend or distribution of such shares of Common Stock or such rights or warrants (and any further Conversion Price reduction required by Sections 15.5(a) and (b) with respect to such dividend or distribution shall then be made, except (A) the Record Date of such dividend or distribution shall be substituted as "the date fixed for the determination of stockholders entitled to receive such dividend or other distribution", "Record Date fixed for such determination" and "Record Date" within the meaning of Section 15.5(a) and as "the date fixed for the determination of stockholders entitled to receive such rights or warrants", "the Record Date fixed for the determination of the stockholders entitled to receive such rights or warrants" and "such Record Date" within the meaning of Section 15.5(b) and (B) any shares of Common Stock included in such dividend or distribution shall not be deemed "outstanding at the close of business on the date fixed for such determination" within the meaning of Section 15.5(a).

In the event that the Company implements a stockholders' rights plan (a "New Rights Plan") or amends any existing stockholders' rights plan (as amended, an "Amended Rights Plan" and together with any New Rights Plan, a "Rights Plan"), such Rights Plan shall provide that upon conversion of the Debentures the holders will receive, in addition to the Common Stock issuable upon such conversion, the rights under such Rights Plan (notwithstanding the occurrence of an event causing such rights to separate from the Common Stock at or prior to the time of conversion). Any distribution of rights or warrants pursuant to the Rights Plan complying with the requirements set forth in the immediately preceding sentence of this

paragraph shall not constitute a distribution of rights or warrants for purposes of this Section 15.5(d). Rights or warrants distributed by the Company to all holders of Common Stock entitling the holders thereof to subscribe for or purchase shares of the Company's capital stock (either initially or under certain circumstances), which rights or warrants, until the occurrence of a specified event or events ("Trigger Event"): (i) are deemed to be transferred with such shares of Common Stock; (ii) are not exercisable; and (iii) are also issued in respect of future issuances of Common Stock, shall be deemed not to have been distributed for purposes of this Section 15.5(d) (and no adjustment to the Conversion Price under this Section 15.5(d) will be required) until the occurrence of the earliest Trigger Event. If such right or warrant is subject to subsequent events, upon the occurrence of which such right or warrant shall become exercisable to purchase different securities, evidences of indebtedness or other assets or entitle the holder to purchase a different number or amount of the foregoing or to purchase any of the foregoing at a different purchase price, then the occurrence of each such event shall be deemed to be the date of issuance and record date with respect to a new right or warrant (and a termination or expiration of the existing right or warrant without exercise by the holder thereof). In addition, in the event of any distribution (or deemed distribution) of rights or warrants, or any Trigger Event or other event (of the type described in the preceding sentence) with respect thereto, that resulted in an adjustment to the Conversion Price under this Section 15.5(d), (1) in the case of any such rights or warrants which shall all have been redeemed or repurchased without exercise by any holders thereof, the Conversion Price shall be readjusted upon such final redemption or repurchase to give effect to such distribution or Trigger Event, as the case may be, as though it were a cash distribution, equal to the per share redemption or repurchase price received by a holder of Common Stock with respect to such rights or warrants (assuming such holder had retained such rights or warrants), made to all holders of Common Stock as of the date of such redemption or repurchase, and (2) in the case of such rights or warrants all of which shall have expired or been terminated without exercise, the Conversion Price shall be readjusted as if such rights and warrants had never been issued.

(e) In case the Company shall, by dividend or otherwise, distribute to all holders of its Common Stock cash (excluding any cash that is distributed upon a merger or consolidation to which Section 15.6 applies or as part of a distribution referred to in Section 15.5(d)), then, immediately after the close of business on the Record Date with respect to such distribution, the Conversion Price shall be reduced so that the same shall equal the price determined by multiplying the Conversion Price in effect immediately prior to the close of business on such Record Date by a fraction (i) the numerator of which shall be equal to the Current Market Price on the Record Date less an amount equal to the quotient of (x) the amount of such distribution and (y) the number of shares of Common Stock outstanding on the Record Date and (ii) the denominator of which shall be equal to the Current Market Price on such date, provided, however, that in the event the portion of the cash so distributed applicable to one share of Common Stock is equal to or greater than the Current Market Price of the Common Stock on the Record Date, in lieu of the foregoing adjustment, adequate provision shall be made so that each Debentureholder shall have the right to receive upon conversion of a Debenture (or any portion thereof) the amount of cash such holder would have received had such holder converted such Debenture (or portion thereof) immediately prior to such Record Date. In the event that such dividend or distribution is not so paid or made, the Conversion Price shall again be adjusted to be the Conversion Price which would then be in effect if such dividend or distribution had not been declared. Any cash distribution to all holders of Common Stock as to which the Company

makes the election permitted by Section 15.5(n) and as to which the Company has complied with the requirements of such Section shall be treated as not having been made for all purposes of this Section 15.5(e).

(f) In case a tender offer made by the Company or of any Subsidiary for all or any portion of the Common Stock shall expire and such tender offer (as amended upon the expiration thereof) shall require the payment of consideration to stockholders (based on the acceptance (up to any maximum specified in the terms of the tender offer) of Purchased Shares (as defined below)) then, immediately prior to the opening of business on the day after the date upon which occurred the last time tenders could have been made pursuant to such tender offer (the "Expiration Time"), the Conversion Price shall be adjusted so that the same shall equal the price determined by multiplying the Conversion Price in effect immediately prior to close of business on the date of the Expiration Time by a fraction of which the numerator shall be the number of shares of Common Stock outstanding (including any tendered shares) on the Expiration Time multiplied by the Current Market Price of the Common Stock on the Trading Day next succeeding the Expiration Time and the denominator shall be the sum of (x) the fair market value (as determined by the Board of Directors, whose determination shall be conclusive and described in a Board Resolution) of the aggregate consideration payable to stockholders based on the acceptance (up to any maximum specified in the terms of the tender offer) of all shares validly tendered and not withdrawn as of the Expiration Time (the shares deemed so accepted, up to any such maximum, being referred to as the "Purchased Shares") and (y) the product of the number of shares of Common Stock outstanding (less any Purchased Shares) at the Expiration Time and the Current Market Price of the Common Stock on the Trading Day next succeeding the Expiration Time, such reduction (if any) to become effective immediately prior to the opening of business on the day following the Expiration Time. In the event that the Company is obligated to purchase shares pursuant to any such tender offer, but the Company is permanently prevented by applicable law from effecting any such purchases or all such purchases are rescinded, the Conversion Price shall again be adjusted to be the Conversion Price which would then be in effect if such tender offer had not been made. If the application of this Section 15.5(f) to any tender offer would result in an increase in the Conversion Price, no adjustment shall be made for such tender offer under this Section 15.5(f).

(g) In case of a tender or exchange offer made by a person other than the Company or any Subsidiary for an amount which increases the offeror's ownership of Common Stock to more than 25% of the Common Stock outstanding and shall involve the payment by such person of consideration per share of Common Stock having a fair market value (as determined by the Board of Directors, whose determination shall be conclusive, and described in a resolution of the Board of Directors at the last time (the "Tender Expiration Time") tenders or exchanges may be made pursuant to such tender or exchange offer (as it shall have been amended)) that exceeds the Current Market Price of the Common Stock on the Trading Day next succeeding the Tender Expiration Time, and with respect to which, as of the Tender Expiration Time the Board of Directors is not recommending rejection of the offer, the Conversion Price shall be reduced so that the same shall equal the price determined by multiplying the Conversion Price in effect immediately prior to the Tender Expiration Time by a fraction of which the numerator shall be the number of shares of Common Stock outstanding (including any tendered or exchanged shares) on the Tender Expiration Time multiplied by the Current Market Price of the Common Stock on the Trading Day next succeeding the Tender Expiration Time and the

denominator shall be the sum of (x) the fair market value (determined as aforesaid) of the aggregate consideration payable to stockholders based on the acceptance (up to any maximum specified in the terms of the tender or exchange offer) of all shares validly tendered or exchanged and not withdrawn as of the Tender Expiration Time (the shares deemed so accepted, up to any such maximum, being referred to as the "Tender Purchased Shares") and (y) the product of the number of shares of Common Stock outstanding (less any Tender Purchased Shares) on the Tender Expiration Time and the Current Market Price of the Common Stock on the Trading Day next succeeding the Tender Expiration Time, such reduction to become effective immediately prior to the opening of business on the day following the Tender Expiration Time. In the event that such person is obligated to purchase shares pursuant to any such tender or exchange offer, but such person is permanently prevented by applicable law from effecting any such purchases or all such purchases are rescinded, the Conversion Price shall again be adjusted to be the Conversion Price which would then be in effect if such tender or exchange offer had not been made. Notwithstanding the foregoing, the adjustment described in this Section 15.5(g) shall not be made if, as of the Tender Expiration Time, the offering documents with respect to such offer disclose a plan or intention to cause the Company to engage in any transaction described in Article XII.

(h) For purposes of this Section 15.5, the following terms shall have the meaning indicated:

(1) "Closing Price" with respect to any securities on any day shall mean the closing sale price regular way on such day or, in case no such sale takes place on such day, the average of the reported closing bid and asked prices, regular way, in each case on the Nasdaq National Market or New York Stock Exchange, as applicable, or, if such security is not listed or admitted to trading on such Nasdaq National Market or New York Stock Exchange, on the principal national security exchange or quotation system on which such security is quoted or listed or admitted to trading, or, if not quoted or listed or admitted to trading on any national securities exchange or quotation system, the average of the closing bid and asked prices of such security on the over-the-counter market on the day in question as reported by the National Quotation Bureau Incorporated, or a similar generally accepted reporting service, or if not so available, in such manner as furnished by any New York Stock Exchange member firm selected from time to time by the Board of Directors for that purpose, or a price determined in good faith by the Board of Directors, whose determination shall be conclusive and described in a Board Resolution.

(2) "Current Market Price" shall mean the lesser of (a) the Closing Price per share of Common Stock on the date in question and (b) the average of the daily Closing Prices per share of Common Stock for the ten (10) consecutive Trading Days immediately prior to the date in question; provided, however, that (1) if the "ex" date (as hereinafter defined) for any event (other than the issuance or distribution or Fundamental Change requiring such computation) that requires an adjustment to the Conversion Price pursuant to Section 15.5(a), (b), (c), (d), (e), (f) or (g) occurs during such ten (10) consecutive Trading Days, the Closing Price for each Trading Day prior to the "ex" date for such other event shall be adjusted by multiplying such Closing Price by the same fraction by which the Conversion Price is so required to be adjusted as a result of such other event, (2) if the "ex" date for any event (other than the issuance or distribution or Fundamental Change requiring such computation) that

requires an adjustment to the Conversion Price pursuant to Section 15.5(a), (b), (c), (d), (e), (f) or (g) occurs on or after the "ex" date for the issuance or distribution or Fundamental Change requiring such computation and prior to the day in question, the Closing Price for each Trading Day on and after the "ex" date for such other event shall be adjusted by multiplying such Closing Price by the reciprocal of the fraction by which the Conversion Price is so required to be adjusted as a result of such other event, and (3) if the "ex" date for the issuance, distribution or Fundamental Change requiring such computation is prior to the day in question, after taking into account any adjustment required pursuant to clause (1) or (2) of this proviso, the Closing Price for each Trading Day on or after such "ex" date shall be adjusted by adding thereto the amount of any cash and the fair market value (as determined by the Board of Directors in a manner consistent with any determination of such value for purposes of Section 15.5(d), (f) or (g), whose determination shall be conclusive and described in a Board Resolution) of the evidences of indebtedness, shares of capital stock or assets being distributed applicable to one share of Common Stock as of the close of business on the day before such "ex" date.

For purposes of any computation under Sections 15.5(f) or (g), the Current Market Price of the Common Stock on any date shall be deemed to be the average of the daily Closing Prices per share of Common Stock for such day and the next two succeeding Trading Days; provided, however, that if the "ex" date for any event (other than the tender offer requiring such computation) that requires an adjustment to the Conversion Price pursuant to Section 15.5(a), (b), (c), (d), (e), (f) or (g) occurs on or after the Expiration Time or the Tender Expiration Time, as the case may be, for the tender or exchange offer requiring such computation and prior to the day in question, the Closing Price for each Trading Day on and after the "ex" date for such other event shall be adjusted by multiplying such Closing Price by the reciprocal of the fraction by which the Conversion Price is so required to be adjusted as a result of such other event. For purposes of this paragraph, the term "ex" date, (1) when used with respect to any issuance or distribution or Fundamental Change, means the first date on which the Common Stock trades regular way on the relevant exchange or in the relevant market from which the Closing Price was obtained without the right to receive such issuance or distribution, (2) when used with respect to any subdivision or combination of shares of Common Stock, means the first date on which the Common Stock trades regular way on such exchange or in such market after the time at which such subdivision or combination becomes effective, and (3) when used with respect to any tender or exchange offer means the first date on which the Common Stock trades regular way on such exchange or in such market after the Expiration Time or Tender Expiration Time, as the case may be, of such offer. Notwithstanding the foregoing, whenever successive adjustments to the Conversion Price are called for pursuant to this Section 15.5, such adjustments shall be made to the Current Market Price as may be necessary or appropriate to effectuate the intent of this Section 15.5 and to avoid unjust or inequitable results as determined in good faith by the Board of Directors.

(3) "fair market value" shall mean the amount which a willing buyer would pay a willing seller in an arm's length transaction.

(4) "Record Date" shall mean, with respect to any dividend, distribution or other transaction or event in which the holders of Common Stock have the right to receive any cash, securities or other property or in which the Common Stock (or other applicable security) is exchanged for or converted into any combination of cash, securities or other

property, the date fixed for determination of stockholders entitled to receive such cash, securities or other property (whether such date is fixed by the Board of Directors or by statute, contract or otherwise).

(5) "Trading Day" shall mean (x) if the applicable security is quoted on the Nasdaq National Market, a day on which trades may be made thereon or (y) if the applicable security is listed or admitted for trading on the New York Stock Exchange or another national security exchange, a day on which the New York Stock Exchange or another national security exchange is open for business or (z) if the applicable security is not so listed, admitted for trading or quoted, any day other than a Saturday or Sunday or a day on which banking institutions in the State of New York are authorized or obligated by law or executive order to close.

(i) The Company may make such reductions in the Conversion Price, in addition to those required by Sections 15.5(a), (b), (c), (d), (e), (f) and (g), as the Board of Directors considers to be advisable to avoid or diminish any income tax to holders of Common Stock or rights to purchase Common stock resulting from any dividend or distribution of stock (or rights to acquire stock) or from any event treated as such for income tax purposes. To the extent permitted by applicable law, the Company from time to time may reduce the Conversion Price by any amount for any period of time if the period is at least twenty (20) days, the reduction is irrevocable during the period and the Board of Directors shall have made a determination that such reduction would be in the best interests of the Company, which determination shall be conclusive and described in a Board Resolution. Whenever the Conversion Price is reduced pursuant to the preceding sentence, the Company shall mail to the holder of each Debenture at his, her or its last address appearing on the Debenture register provided for in Section 2.5 a notice of the reduction at least fifteen (15) days prior to the date the reduced Conversion Price takes effect, and such notice shall state the reduced Conversion Price and the period during which it will be in effect.

(j) No adjustment in the Conversion Price shall be required unless such adjustment would require an increase or decrease of at least 1% in such price; provided, however, that any adjustments which by reason of this Section 15.5(j) are not required to be made shall be carried forward and taken into account in any subsequent adjustment. All calculations under this Article XV shall be made by the Company and shall be made to the nearest cent or to the nearest one hundredth of a share, as the case may be. No adjustment need be made for a change in the par value or no par value of the Common Stock.

(k) Whenever the Conversion Price is adjusted as herein provided, the Company shall promptly file with the Trustee and any conversion agent other than the Trustee an Officers' Certificate setting forth the Conversion Price after such adjustment and setting forth a brief statement of the facts requiring such adjustment. Unless and until a Responsible Officer of the Trustee shall have received such Officers' Certificate, the Trustee shall not be deemed to have knowledge of any adjustment of the Conversion Price and may assume without inquiry that the last Conversion Price of which it has knowledge remains in effect. Promptly after delivery of such certificate, the Company shall prepare a notice of such adjustment of the Conversion Price setting forth the adjusted Conversion Price and the date on which each adjustment becomes effective and shall mail such notice of such adjustment of the Conversion Price to the holder of

each Debenture at his, her or its last address appearing on the Debenture register provided for in Section 2.5, within twenty (20) days of the effective date of such adjustment. Failure to deliver such notice shall not affect the legality or validity of any such adjustment.

(l) In any case in which this Section 15.5 provides that an adjustment shall become effective immediately after a Record Date for an event, the Company may defer until the occurrence of such event (i) issuing to the holder of any Debenture converted after such Record Date and before the occurrence of such event the additional shares of Common Stock issuable upon such conversion by reason of the adjustment required by such event over and above the Common Stock issuable upon such conversion before giving effect to such adjustment and (ii) paying to such holder any amount in cash in lieu of any fraction pursuant to Section 15.3.

(m) For purposes of this Section 15.5, the number of shares of Common Stock at any time outstanding shall not include shares held in the treasury of the Company but shall include shares issuable in respect of scrip certificates issued in lieu of fractions of shares of Common Stock. The Company will not pay any dividend or make any distribution on shares of Common Stock held in the treasury of the Company.

(n) In lieu of making any adjustment to the Conversion Price pursuant to Section 15.5(e), the Company may elect to reserve an amount of cash for distribution to the holders of the Debentures upon the conversion of the Debentures so that any such holder converting Debentures will receive upon such conversion, in addition to the shares of Common Stock and other items to which such holder is entitled, the full amount of cash which such holder would have received if such holder had, immediately prior to the Record Date for such distribution of cash, converted its Debentures into Common Stock, together with any interest accrued with respect to such amount, in accordance with this Section 15.5(n). The Company may make such election by providing an Officers' Certificate to the Trustee to such effect on or prior to the payment date for any such distribution and depositing with the Trustee on or prior to such date an amount of cash equal to the aggregate amount the holders of the Debentures would have received if such holders had, immediately prior to the Record Date for such distribution, converted all of the Debentures into Common Stock. Any such funds so deposited by the Company with the Trustee shall be invested by the Trustee in marketable obligations issued or fully guaranteed by the United States government with a maturity not more than three (3) months from the date of issuance. Upon conversion of Debentures by a holder, the holder will be entitled to receive, in addition to the Common Stock issuable upon conversion, an amount of cash equal to the amount such holder would have received if such holder had, immediately prior to the Record Date for such distribution, converted its Debenture into Common Stock, along with such holder's pro rata share of any accrued interest earned as a consequence of the investment of such funds. Promptly after making an election pursuant to this Section 15.5(n), the Company shall give or shall cause to be given notice to all Debentureholders of such election, which notice shall state the amount of cash per $1,000 principal amount of Debentures such holders shall be entitled to receive (excluding interest) upon conversion of the Debentures as a consequence of the Company having made such election.

Section 15.6 Reclassification, Consolidation, Merger or Sale. If any transaction shall occur (including, without limitation (a) any recapitalization or reclassification of shares of Common Stock (other than a change in par value, or from par value to no par value, or from no

par value to par value, or as a result of a subdivision or combination of Common Stock), (b) any consolidation of the Company with, or merger of the Company into, any other person, or any merger of another person into the Company (other than a merger that does not result in a reclassification, conversion, exchange or cancellation of Common Stock), (c) any sale, transfer or lease of all or substantially all of the assets of the Company or (d) any compulsory share exchange) pursuant to which either shares of Common Stock shall be converted into the right to receive other securities, cash or other property, or, in the case of a sale or transfer of all or substantially all of the assets of the Company, the holders of Common Stock shall be entitled to receive other securities, cash or other property, then the Company, or such successor or purchasing corporation, as the case may be, shall, as a condition precedent to such recapitalization, reclassification, change, consolidation, merger, sale, transfer or share exchange, execute and deliver to the Trustee a supplemental indenture providing that the holder of each Debenture then outstanding shall have the right thereafter, to convert such Debenture only into: (x) in the case of any such transaction that does not constitute a Common Stock Fundamental Change (as defined in Section 15.11(b)) and subject to funds being legally available for such purpose under applicable law at the time of such conversion, the kind and amount of the securities, cash or other property that would have been receivable upon such recapitalization, reclassification, consolidation, merger, sale, transfer or share exchange by a holder of the number of shares of Common Stock issuable upon conversion of such Debentures immediately prior to such recapitalization, reclassification, consolidation, merger, sale, transfer or share exchange, after giving effect, in the case of any Non-Stock Fundamental Change (as defined in Section 15.11(b)), to any adjustment in the Conversion Price in accordance with Section 15.11(a)(i) and (y) in the case of any such transaction that constitutes a Common Stock Fundamental Change, common stock of the kind received by holders of Common Stock as a result of such Common Stock Fundamental Change in an amount determined in accordance with Section 15.11(a)(ii). Such supplemental indenture shall provide for adjustments that, for events subsequent to the effective date of such supplemental indenture shall be as nearly equivalent as may be practicable to the relevant adjustments provided for in this Article XV. If, in the case of any such consolidation, merger, transfer or lease, the capital stock and other securities and assets (including cash) receivable thereupon by a holder of Common stock includes shares of capital stock or other securities or assets of a corporation other than the successor or purchasing corporation, as the case may be, in such consolidation, merger, transfer or lease, then such supplemental indenture shall also be executed by such other corporation and shall contain such additional provisions to protect the interests of the holders as the Board of Directors shall reasonably consider necessary by reason of the foregoing.

The above provisions of this Section shall similarly apply to successive recapitalizations, consolidations, mergers, sales, transfers or share exchanges.

In the event the Company shall execute a supplemental indenture pursuant to this Section 15.6, the Company shall promptly file with the Trustee an Officers' Certificate briefly stating the reasons therefor, the kind or amount of shares of capital stock or securities or assets (including cash) receivable by holders upon the conversion of their Debentures after any such recapitalization, reclassification, change, consolidation, merger, sale, transfer or share exchange and any adjustment to be made with respect thereto.

Section 15.7 Taxes on Shares Issued. The issue of stock certificates on conversions of Debentures shall be made without charge to the holders of such shares for any issuance tax in respect thereof imposed by the government of the United States or any political subdivision thereof or other cost incurred by the Company in connection with such conversion and/or the issuance of such shares. The Company shall not, however, be required to pay any tax which may be payable in respect of any transfer involved in the issue and delivery of stock in any name other than that of the holder of any Debenture converted, and the Company shall not be required to issue or deliver any such stock certificate unless and until the person or persons requesting the issue thereof shall have paid to the Company the amount of such tax or shall have established to the satisfaction of the Company that such tax has been paid.

Section 15.8 Reservation of Shares; Shares to Be Fully Paid; Listing of Common Stock. The Company shall provide, free from preemptive rights, out of its authorized but unissued shares or shares held in treasury, sufficient shares to provide for the conversion of the Debentures from time to time as such Debentures are presented for conversion, and no Debenture shall be issued unless such sufficient number of shares has been reserved and are available for issuance upon conversion of Debentures under this Article XV.

The Company covenants that it will at all times reserve and keep available, free from preemptive rights, out of the aggregate of its authorized but unissued shares of Common Stock or its issued shares of Common Stock held in its treasury, or both, a sufficient number of shares of Common Stock for the purpose of effecting conversions of the Debentures not theretofore converted into Common Stock. For purposes of this reservation of Common Stock, the number of shares of Common Stock which shall be deliverable upon the conversion of all outstanding Debentures shall be computed as if at the time of computation all outstanding Debentures were held by a single holder. The issuance of shares of Common Stock upon conversion of the Debentures is authorized in all respects.

Before taking any action which would cause an adjustment reducing the Conversion Price below the then par value, if any, of the shares of Common Stock issuable upon conversion of the Debentures, the Company will take all corporate action which may, in the opinion of its counsel, be necessary in order that the Company may validly and legally issue shares of such Common Stock at such adjusted Conversion Price.

The Company covenants that all shares of Common Stock issued upon conversion of Debentures will be fully paid and non-assessable by the Company and free from all taxes, liens and charges with respect to the issue thereof. The Company covenants that if any shares of Common Stock to be provided for the purpose of conversion of Debentures hereunder require registration with or approval of any governmental authority under any Federal or State law before such shares may be validly issued upon conversion, the Company will in good faith and as expeditiously as possible endeavor to secure such registration or approval, as the case may be.

The Company further covenants that if at any time the Common Stock shall be listed on the Nasdaq National Market or any other national securities exchange or automated quotation system the Company will, if permitted by the rules of such exchange or automated quotation system, list and keep listed, so long as the Common Stock shall be so listed on such exchange or automated quotation system, all Common Stock issuable upon conversion of the Debentures.

Section 15.9 Responsibility of Trustee. Except as otherwise expressly provided for in this Article XV, the Company is solely responsible for performing the duties and responsibilities contained in this Article XV. The Trustee and any other conversion agent shall not at any time be under any duty or responsibility to any holder of Debentures to determine whether any facts exist which may require any adjustment of the Conversion Price, or with respect to the nature or extent or calculation of any such adjustment when made, or with respect to the method employed, or herein or in any supplemental indenture provided to be employed, in making the same. The Trustee and any other conversion agent shall not be accountable with respect to the validity or value (or the kind or amount) of any shares of Common Stock, or of any securities or property, which may at any time be issued or delivered upon the conversion of any Debenture; and the Trustee and any other conversion agent make no representations with respect thereto. Subject to the provisions of Section 8.1, neither the Trustee nor any conversion agent shall be responsible for any failure of the Company to issue, transfer or deliver any shares of Common Stock or stock certificates or other securities or property or cash upon the surrender of any Debenture for the purpose of conversion or to comply with any of the duties, responsibilities or covenants of the Company contained in this Article. Without limiting the generality of the foregoing, neither the Trustee nor any conversion agent shall be under any responsibility to determine the correctness of any provisions contained in any supplemental indenture entered into pursuant to Section 15.6 relating either to the kind or amount of shares of stock or securities or property (including cash) receivable by Debentureholders upon the conversion of their Debentures after any event referred to in such Section 15.6 or to any adjustment to be made with respect thereto, but, subject to the provisions of Section 8.1, may accept as conclusive evidence of the correctness of any such provisions, and shall be protected in relying upon, the Officers' Certificate (which the Company shall be obligated to file with the Trustee prior to the execution of any such supplemental indenture) with respect thereto.

Section 15.10 Notice to Holders Prior to Certain Actions. In case:

(a) the Company shall declare a dividend (or any other distribution) on its Common Stock (that would require an adjustment in the Conversion Price pursuant to Section 15.5); or

(b) the Company shall authorize the granting to the holders of its Common Stock of rights or warrants to subscribe for or purchase any share of any class or any other rights or warrants; or

(c) of any reclassification of the Common Stock of the Company (other than a subdivision or combination of its outstanding Common Stock, or a change in par value, or from par value to no par value, or from no par value to par value), or of any consolidation or merger to which the Company is a party and for which approval of any stockholders of the Company is required, or of the sale or transfer of all or substantially all of the assets of the Company; or

(d) of the voluntary or involuntary dissolution, liquidation or winding-up of the Company;

the Company shall cause to be filed with the Trustee and to be mailed to each holder of Debentures at his, her or its address appearing on the Debenture register, provided for in

Section 2.5 of this Indenture, as promptly as possible but in any event at least fifteen days prior to the applicable date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution or rights or warrants, or, if a record is not to be taken, the date as of which the holders of Common Stock of record to be entitled to such dividend, distribution or rights are to be determined, or (y) the date on which such reclassification, consolidation, merger, sale, transfer, dissolution, liquidation or winding-up is expected to become effective or occur, and the date as of which it is expected that holders of Common Stock of record shall be entitled to exchange their Common Stock for securities or other property deliverable upon such reclassification, consolidation, merger, sale, transfer, dissolution, liquidation or winding-up. Failure to give such notice, or any defect therein, shall not affect the legality or validity of such dividend, distribution, reclassification, consolidation, merger, sale, transfer, dissolution, liquidation or winding-up.

Section 15.11 Adjustments to Conversion Price in the Event of a Fundamental Change.

(a) Notwithstanding any other provision in this Article XV to the contrary, if any Fundamental Change (as defined below) occurs, then the Conversion Price in effect will be adjusted immediately following such Fundamental Change as described below. In addition, in the event of a Common Stock Fundamental Change, each Debenture shall be convertible solely into common stock of the kind received by holders of Common Stock as a result of such Common Stock Fundamental Change.

For purposes of calculating any adjustment to be made pursuant to this Section 15.11 in the event of a Fundamental Change, immediately following such Fundamental Change (and for such purposes a Fundamental Change shall be deemed to occur on the earlier of (a) the occurrence of such Fundamental Change, and (b) the date, if any, fixed for determination of stockholders entitled to receive the cash, securities, property or other assets distributable in such Fundamental Change to holders of the Common Stock):

(i) in the case of a Non-Stock Fundamental Change, the Conversion Price of the Debentures immediately following such Non-Stock Fundamental Change shall be the lower of (A) the Conversion Price in effect immediately prior to such Non-Stock Fundamental Change, but after giving effect to any other prior adjustments effected pursuant to this Article XV and (B) the product of (1) the Applicable Price (as defined in Section 15.11(b)) and (2) a fraction, the numerator of which is $1000 and the denominator of which is (x) the amount of the redemption price for each $1,000 principal amount of Debentures if the redemption date were the date of such Non-Stock Fundamental Change (or if the date of such Non-Stock Fundamental Change falls within the period commencing on the first date of original issuance of the Debentures and through _____, 2005 or the twelve-month period commencing _____, 2005, the product of _____% or _____%, respectively, times $1000) plus (y) any accrued interest and unpaid interest thereon to, but excluding, the date of such Non-Stock Fundamental Change; and

(ii) in the case of a Common Stock Fundamental Change, the Conversion Price of the Debentures immediately following such Common Stock Fundamental Change shall be the Conversion Price in effect immediately prior to such Common Stock

Fundamental Change, but after giving effect to any other prior adjustments effected pursuant to Section 15.5 multiplied by a fraction, the numerator of which is the Purchaser Stock Price (as defined in Section 15.11(b)) and the denominator of which is the Applicable Price; provided, however, that in the event of a Common Stock Fundamental Change in which (A) 100% of the value of the consideration received by a holder of Common Stock is common stock of the successor, acquiror or other third party (and cash, if any, paid with respect to any fractional interests in such common stock resulting from such Common Stock Fundamental Change) and (B) all of the Common Stock shall have been exchanged for, converted into or acquired for, common stock of the successor, acquiror or other third party (and any cash with respect to fractional interests), the Conversion Price immediately following such Common Stock Fundamental Change shall be the Conversion Price in effect immediately prior to such Common Stock Fundamental Change multiplied by a fraction, the numerator of which is one (1) and the denominator of which is the number of shares of common stock of the successor, acquiror or other third party received by a holder of one share of Company Common Stock as a result of such Common Stock Fundamental Change.

(b) For purposes of this Section 15.11, the following terms shall have the meaning indicated:

(i) "Applicable Price" means (i) in the event of a Non-Stock Fundamental Change in which the holders of Common Stock receive only cash, the amount of cash received by a holder of one share of Common Stock and (ii) in the event of any other Fundamental Change, the average of the daily Closing Price (determined as provided in Section 15.5(h)(1)) for one share of Common Stock during the 10 Trading Days (determined as provided in Section 15.5(h)(5)) immediately prior to the record date for the determination of the holders of Common Stock entitled to receive cash, securities, property or other assets in connection with such Fundamental Change or, if there is no such record date, prior to the date upon which the holders of Common Stock shall have the right to receive such cash, securities, property or other assets. The Closing Price on any Trading Day may be subject to adjustment as provided in Section 15.5(h)(1).

(ii) "Common Stock Fundamental Change" means any Fundamental Change in which more than 50% of the value (as determined in good faith by the Board of Directors) of the consideration received by holders of Common Stock consists of common stock that, for the 10 Trading Days immediately prior to such Fundamental Change, has been admitted for listing or admitted for listing subject to notice of issuance on a national securities exchange or quoted on Nasdaq National Market, provided, however, that a Fundamental Change shall not be a Common Stock Fundamental Change unless either (i) the Company continues to exist after the occurrence of such Fundamental Change and the outstanding Debentures continue to exist as outstanding Debentures or (ii) not later than the occurrence of such Fundamental Change, the outstanding Debentures are converted into or exchanged for debentures have terms substantially similar (but no less favorable) to those of the Debentures.

(iii) "Fundamental Change" means the occurrence of any transaction or event or series of transactions or events pursuant to which all or substantially all of the Common Stock shall be exchanged for, converted into, acquired for or shall constitute solely the right to receive cash, securities, property or other assets (whether by means of an exchange offer,

liquidation, tender offer, consolidation, merger, combination, reclassification, recapitalization or otherwise); provided, however, in the case of any such series of transactions or events, for purposes of adjustment of the Conversion Price, such Fundamental Change shall be deemed to have occurred when substantially all of the Common Stock shall have been exchanged for, converted into or acquired for, or shall constitute solely the right to receive, such cash, securities, property or other assets, but the adjustment shall be based upon the consideration that the holders of the Common Stock received in the transaction or event as a result of which more than 50% of the Common Stock shall have been exchanged for, converted into or acquired for, or shall constitute solely the right to receive, such cash, securities, property or other assets.

(iv) "Non-Stock Fundamental Change" means any Fundamental Change other than a Common Stock Fundamental Change.

(v) "Purchaser Stock Price" means, with respect to any Common Stock Fundamental Change, the average of the daily Closing Price for one share of the common stock received by holders of the Common Stock in such Common Stock Fundamental Change during the 10 Trading Days immediately prior to the date fixed for the determination of the holders of the Common Stock entitled to receive such common stock or, if there is no such date, prior to the date upon which the holders of the Common Stock shall have the right to receive such common stock.

Section 15.12 Automatic Conversion by the Company.

(a) The Company may elect to automatically convert all or any portion of the Debentures (an "Automatic Conversion") at any time prior to maturity if the Closing Price of the Company's Common Stock has exceeded 150% of the Conversion Price for at least 20 Trading Days during a 30-day Trading Day period, ending within five Trading Days prior to the date of the Automatic Conversion Notice. If fewer than all the outstanding Debentures are to be converted in connection with any Automatic Conversion, Debentures to be converted shall be selected by the Trustee from outstanding Debentures by lot or pro rata (as near as may be) or by any other equitable method determined by the Trustee in its sole discretion. In the event that the Automatic Conversion Date occurs on or prior to _____, 2007, the Company will pay the Make-Whole Interest Payment on the Automatic Conversion Date.

(b) In case the Company shall desire to exercise the right to convert the Debentures, in whole or in part, pursuant to this Section 15.12, it shall fix a date for the Automatic Conversion (the "Automatic Conversion Date"), and it, or at its request (which must be received by the Trustee at least ten (10) Business Days prior to the date the Trustee is requested to give notice as described below unless a shorter period is agreed to by the Trustee), the Trustee in the name of and at the expense of the Company, shall give notice of such Automatic Conversion (the "Automatic Conversion Notice") at least twenty (20) and not more than thirty (30) days prior to the Automatic Conversion Date to the holders of the Debentures so to be converted at their addresses shown in the Debenture register (*provided that* if the Company shall give such Automatic Conversion Notice, it shall also give such Automatic Conversion Notice, and notice of the Debentures to be converted, to the Trustee).

(c) Each Automatic Conversion Notice shall specify:

(1) the Debentures to be converted,

(2) the Automatic Conversion Date,

(3) the amount of the Make-Whole Interest Payment, if any, that shall be paid by the Company, the portion of such Make-Whole Interest Payment, if any, that shall be paid in cash, the portion of such Make-Whole Interest Payment, if any, that shall be paid by delivery of shares of Common Stock,

(4) the place or places where such Debentures are to be surrendered for conversion and accrued and unpaid Make-Whole Interest Payment, if any, and

(5) the Conversion Price then in effect.

(d) If the Automatic Conversion Notice has been given as above provided, on and after the Automatic Conversion Date (unless the Company shall default in the payment of the Make-Whole Interest Payment, if any), interest on such Debentures so converted shall cease to accrue and such Debentures shall be deemed no longer outstanding and the holders thereof shall have no right in respect of such Debentures except the right to receive the shares of Common Stock issuable upon conversion of the Debentures so converted and the Make-Whole Interest Payment, if any, due on such Debentures along with any cash in respect of any fractional shares of Common Stock arising from such conversion as provided in this Article XV. All Debentures subject to the Automatic Conversion shall be delivered to the Trustee to be canceled at the direction of the Trustee, which shall dispose of the same as provided in Section 2.8 hereof. On presentation and surrender of the Debentures as specified in said Automatic Conversion Notice, the Company shall issue and shall deliver a certificate or certificates for the number of full shares of Common Stock issuable upon conversion of the Debentures so converted and shall pay the Make-Whole Interest Payment, if any, due on such Debentures along with any cash in respect of any fractional shares of Common Stock arising from such conversion as provided in this Article XV (which payment, if any, shall be paid no later than five (5) Business Days after the presentation and surrender of the Debentures so converted). Notwithstanding the failure to present and surrender the Debentures as specified in the Automatic Conversion Notice, the effective date of the conversion of any Debentures subject to any Automatic Conversion that complies with this Section 15.12 shall be the Automatic Conversion Date.

(e) Notwithstanding the other provisions of this Section 15.12, in the event that on a proposed Automatic Conversion Date on or after _____, 2007, the conversion shall result in an Event of Default or an Event of Default shall have occurred and be continuing, the Company may not convert the Debentures pursuant to this Section 15.12 and any Automatic Conversion Notice previously given pursuant to this Section 15.12 shall be of no effect.

(f) If any of the foregoing provisions or other provisions of this Section 15.12 are inconsistent with applicable law at the time of such Automatic Conversion, such law shall govern.

Section 15.13 Make-Whole Interest Payment. Upon any conversion of the Debentures (whether pursuant to Section 15.1 or Section 15.12) prior to _____, 2007, the Company shall make a payment (the "Make-Whole Interest Payment") with respect to the Debentures so

converted in an amount equal to the total value of the aggregate amount of interest that would have accrued and become payable on the Debentures from the Exchange Date through and including _____, 2007, less any interest actually paid with respect to such Debentures prior to the date upon which such conversion becomes effective. The Company shall calculate the amount of the Make-Whole Interest Payment. The Company may elect to pay the Make-Whole Interest Payment or any portion thereof (i) in cash or, (ii) by delivering shares of Common Stock. In the event of an Automatic Conversion pursuant to Section 15.12 or a voluntary conversion pursuant to Section 15.1 on or following the date of an Automatic Conversion Notice (unless and until such Automatic Conversion Notice shall be deemed to have no effect), the number of shares to be delivered in the event the Company shall elect to make the Make-Whole Interest Payment (or any portion thereof) in shares of Common Stock shall be equal to (x) the Make-Whole Interest Payment (or any portion thereof that the Company elects to pay in shares of Common Stock) divided by (y) 150% of the Conversion Price (as adjusted pursuant to this Section 15) in effect on the effective date of such conversion. In all other circumstances in which the Company is required to make the Make-Whole Interest Payment and elects to make the Make-Whole Interest Payment (or any portion thereof) in shares of Common Stock, the number of shares of Common Stock to be delivered shall be equal to the greater of (1) (A) the Make-Whole Interest Payment (or any portion thereof that the Company elects to pay in shares of Common Stock) divided by (B) 95% of the average of the Closing Price per share of Common Stock for the two consecutive Trading Days immediately preceding and including the first Trading Day prior to the effective date of such conversion; or (2) (A) the Make-Whole Interest Payment (or any portion thereof that the Company elects to pay in shares of Common Stock) divided by (B) $_____. All shares of Common Stock which may be issued upon payment of the Make-Whole Interest Payment (or any portion thereof) will be issued out of the Company's authorized but unissued Common Stock and will, upon issue, be duly and validly issued and fully paid and nonassessable and free of any preemptive or similar rights.

Section 15.14 Notification to Trustee. If the Company is obligated to pay any Make-Whole Interest Payment upon conversion of the Debentures pursuant to Section 15.1 or Section 15.12, it shall deliver to the Trustee a certificate setting forth (i) the amount of interest actually paid or provided for by the Company with respect to the affected Debentures prior to the conversion date applicable in Section 15.1 or the Automatic Conversion Date, and (ii) if such Make-Whole Interest Payment upon conversion is payable in Common Stock, the number of shares of Common Stock which is equal to the Make-Whole Interest Payment. Unless and until the Trustee shall receive such certificate, it shall not be charged with knowledge of the facts required by this Section 15.14 to be set forth therein. In no event will the Trustee be required to inquire into or verify the information required to be set forth in such certificate, other than the amount of interest actually paid by the Trustee as paying agent with respect to the affected Debentures. The Trustee need not inquire into or confirm any amount of interest "provided for" by the Company, unless such amount has actually been delivered to the Trustee as paying agent and is being held by the Trustee as paying agent pending distribution to the affected holders.

ARTICLE XVI

MISCELLANEOUS PROVISIONS

Section 16.1 Provisions Binding on Company's Successors. All the covenants, stipulations, promises and agreements of the Company in this Indenture contained shall bind its successors and assigns whether so expressed or not.

Section 16.2 Official Acts by Successor Corporation. Any act or proceeding by any provision of this Indenture authorized or required to be done or performed by any board, committee or officer of the Company shall and may be done and performed with like force and effect by the like board, committee or officer of any corporation that shall at the time be the lawful sole successor of the Company.

Section 16.3 Addresses for Notices, Etc. Any notice or demand which by any provision of this Indenture is required or permitted to be given or served by the Trustee or by the holders of Debentures on the Company shall be deemed to have been sufficiently given or made, for all purposes if given or served by being deposited postage prepaid by registered or certified mail in a post office letter box addressed (until another address is filed by the Company with the Trustee) to 1124 Columbia Street, Suite 130, Seattle, Washington 98104 Attention: Secretary or to an agent of the Company designated as permitted by this Indenture. Any notice, direction, request or demand hereunder to or upon the Trustee shall be deemed to have been sufficiently given or made, for all purposes, if given or served by being deposited postage prepaid by registered or certified mail in a post office letter box addressed to the Corporate Trust Office, which office is, at the date as of which this Indenture is dated, located at 1420 5th Avenue, 7th Floor, PD-WA-T7CT, Seattle, WA 98101, Attention: Corporate Trust Department (Xcyte Therapies, Inc. _____% Convertible Subordinated Debentures).

The Trustee, by notice to the Company, may designate additional or different addresses for subsequent notices or communications.

Any notice or communication mailed to a Debentureholder shall be mailed to him, her or it by first class mail, postage prepaid, at his, her or its address as it appears on the Debenture register and shall be sufficiently given to him, her or it if so mailed within the time prescribed.

Failure to mail a notice or communication to a Debentureholder or any defect in it shall not affect its sufficiency with respect to other Debentureholders. If a notice or communication is mailed in the manner provided above, it is duly given, whether or not the addressee receives it.

Section 16.4 Governing Law. This Indenture and each Debenture shall be deemed to be a contract made under the laws of New York, and for all purposes shall be construed in accordance with the laws of New York, without regard to the conflict of laws provisions thereof.

Section 16.5 Evidence of Compliance with Conditions Precedent; Certificates to Trustee. Upon any application or demand by the Company to the Trustee to take any action under any of the provisions of this Indenture, including those actions set forth in Section 314(c) of the Trust Indenture Act, the Company shall furnish to the Trustee an Officers' Certificate stating that all conditions precedent, if any, provided for in this Indenture relating to the

proposed action have been complied with, and an Opinion of Counsel stating that, in the opinion of such counsel, all such conditions precedent have been complied with.

Each certificate or opinion provided for by or on behalf of the Company in this Indenture and delivered to the Trustee with respect to compliance with a condition or covenant provided for in this Indenture shall include (1) a statement that the person making such certificate or opinion has read such covenant or condition; (2) a brief statement as to the nature and scope of the examination or investigation upon which the statement or opinion contained in such certificate or opinion is based; (3) a statement that, in the opinion of such person, he has made such examination or investigation as is necessary to enable him, her or it to express an informed opinion as to whether or not such covenant or condition has been complied with; and (4) a statement as to whether or not, in the opinion of such person, such condition or covenant has been complied with. Section 16.6 Legal Holidays. In any case where the date of maturity of interest on or principal of the Debentures or the date fixed for redemption of any Debenture will not be a Business Day, then payment of such interest on or principal of the Debentures need not be made on such date, but may be made on the next succeeding Business Day with the same force and effect as if made on the date of maturity or the date fixed for redemption, and no interest shall accrue for the period from and after such date.

Section 16.6 No Security Interest Created. Nothing in this Indenture or in the Debentures, expressed or implied, shall be construed to constitute a security interest under the Uniform Commercial Code or similar legislation, as now or hereafter enacted and in effect, in any jurisdiction.

Section 16.7 Trust Indenture Act. If any provision hereof limits, qualifies or conflicts with a provision of the Trust Indenture Act that is required under the Trust Indenture Act to be a part of and govern this Indenture, the latter provision shall control. If any provision of this Indenture modifies or excludes any provision of the Trust Indenture Act that may be so modified or excluded, the latter provision shall be deemed to apply to this Indenture as so modified or to be excluded, as the case may be. Until such time as this Indenture shall be qualified under the Trust Indenture Act, this Indenture, the Company and the Trustee shall be deemed for all purposes hereof to be subject to and governed by the Trust Indenture Act to the same extent as would be the case if this Indenture were so qualified on the date hereof.

Section 16.8 Benefits of Indenture. Nothing in this Indenture or in the Debentures, expressed or implied, shall give to any person, other than the parties hereto, any paying agent, any conversion agent, any authenticating agent, any Debenture registrar and their successors hereunder, the holders of Debentures and the holders of Senior Indebtedness, any benefit or any legal or equitable right, remedy or claim under this Indenture.

Section 16.9 Table of Contents, Headings, Etc. The table of contents and the titles and headings of the articles and sections of this Indenture have been inserted for convenience of reference only, are not to be considered a part hereof, and shall in no way modify or restrict any of the terms or provisions hereof.

Section 16.10 Authenticating Agent. The Trustee may appoint an authenticating agent which shall be authorized to act on its behalf and subject to its direction in the authentication and

delivery of Debentures in connection with the original issuance thereof and transfers and exchanges of Debentures hereunder, including under Sections 2.4, 2.5, 2.6, 2.7 and 3.3, as fully to all intents and purposes as though the authenticating agent had been expressly authorized by this Indenture and those Sections to authenticate and deliver Debentures. For all purposes of this Indenture, the authentication and delivery of Debentures by the authenticating agent shall be deemed to be authentication and delivery of such Debentures "by the Trustee" and a certificate of authentication executed on behalf of the Trustee by an authenticating agent shall be deemed to satisfy any requirement hereunder or in the Debentures for the Trustee's certificate of authentication. Such authenticating agent shall at all times be a person eligible to serve as trustee hereunder pursuant to Section 8.9.

Any corporation into which any authenticating agent may be merged or converted or with which it may be consolidated, or any corporation resulting from any merger, consolidation or conversion to which any authenticating agent shall be a party, or any corporation succeeding to the corporate trust business of any authenticating agent, shall be the successor of the authenticating agent hereunder, if such successor corporation is otherwise eligible under this Section, without the execution or filing of any paper or any further act on the part of the parties hereto or the authenticating agent or such successor corporation.

Any authenticating agent may at any time resign by giving written notice of resignation to the Trustee and to the Company. The Trustee may at any time terminate the agency of any authenticating agent by giving written notice of termination to such authenticating agent and to the Company. Upon receiving such a notice of resignation or upon such a termination, or in case at any time any authenticating agent shall cease to be eligible under this Section, the Trustee shall promptly appoint a successor authenticating agent (which may be the Trustee), shall give written notice of such appointment to the Company and shall mail notice of such appointment to all holders of Debentures as the names and addresses of such holders appear on the Debenture register.

The Trustee agrees to pay to the authenticating agent from time to time reasonable compensation for its services (to the extent pre-approved by the Company in writing), and the Trustee shall be entitled to be reimbursed for such pre-approved payments, subject to Section 8.6.

The provisions of Sections 8.2, 8.3, 8.4, 9.3 and this Section 16.11 shall be applicable to any authenticating agent.

Section 16.11 Execution in Counterparts. This Indenture may be executed in any number of counterparts, each of which shall be an original, but such counterparts shall together constitute but one and the same instrument.

U.S. Bank National Association hereby accepts the trusts in this Indenture declared and provided, upon the terms and conditions hereinabove set forth.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties hereto have caused this Indenture to be duly signed all as of the date first written above.

XCYTE THERAPIES, INC.

By: _____

Title: _____

U.S. BANK NATIONAL ASSOCIATION,
as Trustee

By: _____

Title: _____

EXHIBIT A - FORM OF DEBENTURE

[FORM OF FACE OF DEBENTURE]

No._____
$_____

XYTE THERAPIES, INC.

CUSIP: 98389F AA 9

_____% Convertible Subordinated Debenture

Xcyte Therapies, Inc., a corporation duly organized and validly existing under the laws of the State of Delaware (herein called the "Company", which term includes any successor corporation under the Indenture referred to on the reverse hereof), for value received hereby promises to pay to _____, or registered assigns, the principal sum of _____ Dollars on _____, and to pay interest on said principal sum semi-annually on _____ and _____ of each year, commencing on the first such date after the Exchange Date (as defined in the Indenture), at the rate per annum specified in the title of this Debenture, accrued from the _____ or _____, as the case may be, next preceding the date of this Debenture to which interest has been paid or duly provided for, unless the date of this Debenture is a date to which interest has been paid or duly provided for, in which case interest shall accrue from the date of this Debenture, or unless no interest has been paid or duly provided for on this Debenture, in which case interest shall accrue from the Exchange Date, until payment of said principal sum has been made or duly provided for. Notwithstanding the foregoing, if the date hereof is after any _____ or _____, as the case may be, and before the following _____ or _____, this Debenture shall bear interest from such _____ or _____, respectively; provided, however, that if the Company shall default in the payment of interest due on such _____ or _____, then this Debenture shall bear interest from the next preceding _____ or _____ to which interest has been paid or duly provided for or, if no interest has been paid or duly provided for on this Debenture, from the Exchange Date. The interest so payable on any _____ or _____ will be paid to the person in whose name this Debenture (or one or more Predecessor Debentures) is registered at the close of business on the record date, which shall be the _____ or _____ (whether or not a Business Day) next preceding such _____ or _____, respectively, as provided in the Indenture; provided that any such interest not punctually paid or duly provided for shall be payable as provided in the Indenture. Payment of the principal of and interest accrued on this Debenture shall be made at the office or agency of the Company maintained for that purpose in the Borough of Manhattan, The City of New York, which shall initially be the office of the Trustee, or, at the option of the holder of this Debenture, at the Corporate Trust Office, in such coin or currency of the United States of America as at the time of payment shall be legal tender for the payment of public and private debts; provided, however, that at the option of the Company, payment of interest may be made by check mailed to the registered address of the person entitled thereto; provided further that, with respect to any holder of Debentures with an aggregate principal amount equal to or in excess of $2,000,000, at the request of such holder in writing to the Company, interest on such holder's Debentures shall be paid by wire transfer in immediately available funds in accordance with the wire transfer instruction supplied by such holder to the Trustee and paying agent (if different from Trustee).

Reference is made to the further provisions of this Debenture set forth on the reverse hereof, including, without limitation, provisions subordinating the payment of principal of and premium, if any, and interest on this Debenture to the prior payment in full of all Senior Indebtedness as defined in the Indenture and provisions giving the holder of this Debenture the right to convert this Debenture into Common Stock of the Company on the terms and subject to the limitations referred to on the reverse hereof and as more fully specified in the Indenture. Such further provisions shall for all purposes have the same effect as though fully set forth at this place.

This Debenture shall be deemed to be a contract made under the laws of the State of New York, and for all purposes shall be construed in accordance with and governed by the laws of said State.

This Debenture shall not be valid or become obligatory for any purpose until the certificate of authentication hereon shall have been manually signed by the Trustee or a duly authorized authenticating agent under the Indenture.

IN WITNESS WHEREOF, the Company has caused this Debenture to be duly executed under its corporate seal.

XCYTE THERAPIES, INC.

Dated _____

By: _____
Title:

Attest:

_____
Secretary

[FORM OF CERTIFICATE OF AUTHENTICATION]

TRUSTEE'S CERTIFICATE OF AUTHENTICATION

This is one of the Debentures described in the within-named Indenture.

U.S. BANK NATIONAL ASSOCIATION,
as Trustee

By: _____
Authorized Signatory

[FORM OF REVERSE OF DEBENTURE]

XCYTE THERAPIES, INC.

_____% Convertible Subordinated Debenture

This Debenture is one of a duly authorized issue of Debentures of the Company, designated as its _____% Convertible Subordinated Debentures (herein called the "Debentures"), limited to the aggregate principal amount of $_____ all issued or to be issued under and pursuant to an Indenture, dated as of _____, 2004 (herein called the "Indenture"), between the Company and U.S. Bank National Association (herein called the "Trustee"), to which Indenture and all indentures supplemental thereto reference is hereby made for a description of the rights, limitations of rights, obligations, duties and immunities thereunder of the Trustee, the Company and the holders of the Debentures.

In case an Event of Default, as defined in the Indenture, shall have occurred and be continuing, the principal of and accrued interest on all Debentures may be declared, and upon said declaration shall become, due and payable, in the manner, with the effect and subject to the conditions provided in the Indenture.

The Indenture contains provisions permitting the Company and the Trustee, with the consent of the holders of not less than a majority of the aggregate principal amount of the Debentures at the time outstanding, evidenced as in the Indenture provided, to execute supplemental indentures adding any provisions to or changing in any manner or eliminating any of the provisions of the Indenture or of any supplemental indenture or modifying in any manner the rights of the holders of the Debentures; provided, however, that no such supplemental indenture shall (i) extend the fixed maturity of any Debenture, or reduce the rate or extend the time of payment of interest thereon, or reduce the principal amount thereof or premium, if any, thereon, or reduce any amount payable on redemption thereof, or impair or adversely affect the right of any Debentureholder to institute suit for the payment thereof, or make the principal thereof or interest or premium, if any, thereon payable in any coin or currency other than that provided in the Debentures, or modify the provisions of the Indenture with respect to the subordination of the Debentures in a manner adverse to the Debentureholders, or impair, or change in any respect adverse to the holders of the Debentures, the right to convert the Debentures into Common Stock subject to the terms set forth in the Indenture, including Section 15.6 thereof, without the consent of the holder of each Debenture so affected or (ii) reduce the aforesaid percentage of Debentures, the holders of which are required to consent to any such supplemental indenture, without the consent of the holders of all Debentures then outstanding or reduce the percentage of Debentures, the holder of which are required to consent to any waiver or modify any of the provisions of Section 7.7 or Section 11.2 of the Indenture, except to increase any such percentage or to provide that certain of the provisions of the Indenture cannot be modified or waived without the consent of the holder of each outstanding Debenture. It is also provided in the Indenture that, prior to any declaration accelerating the maturity of the Debentures, the holders of a majority in aggregate principal amount of the Debentures at the time outstanding may on behalf of the holders of all of the Debentures waive any past default or Event of Default under the Indenture and its consequences except (i) a default in the payment of interest or premium, if any, on, or the principal of, any of the Debentures, (ii) a failure by the

Company to convert any Debentures into Common Stock of the Company or (iii) a default in respect of a covenant or provision in the Indenture which cannot be modified or waived without the consent of the holders of all Debentures then outstanding affected thereby. Any such consent or waiver by the holder of this Debenture (unless revoked as provided in the Indenture) shall be conclusive and binding upon such holder and upon all future holders and owners of this Debenture and any Debentures which may be issued in exchange or substitution hereof, irrespective of whether or not any notation thereof is made upon this Debenture or such other Debentures.

The indebtedness evidenced by the Debentures is, to the extent and in the manner provided in the Indenture, expressly subordinate and subject in right of payment to the prior payment in full of all Senior Indebtedness of the Company, as defined in the Indenture, whether outstanding at the date of the Indenture or thereafter incurred, and this Debenture is issued subject to the provisions of the Indenture with respect to such subordination. Each holder of this Debenture, by accepting the same, agrees to and shall be bound by such provisions and authorizes the Trustee on his, her or its behalf to take such action as may be necessary or appropriate to effectuate the subordination so provided and appoints the Trustee his, her or its attorney in fact for such purpose.

No reference herein to the Indenture and no provision of this Debenture or of the Indenture shall alter or impair the obligation of the Company, which is absolute and unconditional, to pay the principal of and any premium and interest on this Debenture at the place, at the respective times, at the rate and in the coin or currency herein prescribed.

Interest on the Debentures shall be computed on the basis of a 360-day year comprised of twelve 30-day months.

The Debentures are issuable in registered form without coupons in denominations of $1,000 principal amount and integral multiples thereof. At the office or agency of the Company referred to on the face hereof, and in the manner and subject to the limitations provided in the Indenture, without payment of any service charge but with payment of a sum sufficient to cover any tax or other governmental charge that may be imposed in connection with any registration or exchange of Debentures, Debentures may be exchanged for a like aggregate principal amount of Debentures of other authorized denominations.

The Debentures will not be redeemable at the option of the Company prior to _____, 2007. On or after such date and prior to maturity the Debentures may be redeemed at the option of the Company as a whole, or from time to time in part, upon mailing a notice of such redemption not less than 20 nor more than 60 days before the date fixed for redemption to the holders of Debentures at their last registered addresses, all as provided in the Indenture, at the following optional redemption prices (expressed as percentages of the principal amount), together in each case with accrued interest to, but excluding, the date fixed for redemption.

If redeemed during the 12-month period beginning on _____ of the years shown below (beginning _____, 2007 and ending on _____, 2008, in the case of the first such period):

YEAR	PERCENTAGE
2007	%
2008	
2009	
2010	
2011	
2012	
2013	

and 100% at _____, 2014 and thereafter.

The Debentures are not subject to redemption through the operation of any sinking fund.

Subject to the provisions of the Indenture, the holder hereof has, at its option, the right, at any time or on or prior to the close of business on the twenty-fifth anniversary of the Exchange Date (or, as to all or any portion hereof called for redemption, prior to the close of business on the next Business Day preceding the date fixed for redemption (unless the Company shall default in payment due upon redemption)), to convert the principal hereof or any portion of such principal which is $1,000 or an integral multiple thereof, into that number of fully paid and non-assessable shares of Company's Common Stock, as said shares shall be constituted at the date of conversion, obtained by dividing the principal amount of this Debenture or portion thereof to be converted by the conversion price of $___.___ or such conversion price as adjusted from time to time in the Indenture, upon surrender of this Debenture, together with a conversion notice as provided in the Indenture and this Debenture, to the Company at the office or agency of the Company maintained for that purpose in the Borough of Manhattan, The City of New York, or at the option of such holder, the Corporate Trust Office, and, unless the shares issuable on conversion are to be issued in the same name as this Debenture, duly endorsed by, or accompanied by instruments of transfer in form satisfactory to the Company duly executed by, the holder or by his, her or its duly authorized attorney. No adjustment in respect of interest or dividends will be made upon any conversion; provided, however, that if this Debenture shall be surrendered for conversion during the period from the close of business on any record date for the payment of interest through the close of business on the Business Day next preceding the following interest payment date, this Debenture (unless (a) it or the portion being converted shall have been called for redemption and a notice of redemption has been mailed to the holders of the Debentures pursuant to Section 3.2 of the Indenture or (b) the Company has elected to automatically convert it or a portion thereof and has issued an Automatic Conversion Notice pursuant to Section 15.12 of the Indenture) must be accompanied by an amount, in funds acceptable to the Company, equal to the interest otherwise payable on such interest payment date on the principal amount being converted. No fractional shares of Common Stock will be issued upon any conversion, but an adjustment in cash will be paid to the holder, as provided in the Indenture, in respect of any fraction of a share which would otherwise be issuable upon the surrender of any Debenture or Debentures for conversion.

The Company may elect to automatically convert all or any portion of this Debenture at any time prior to maturity if the Closing Price of the Company's Common Stock has exceeded 150% of the Conversion Price for at least 20 Trading Days during a 30-day Trading Day period, ending within five Trading Days prior to the date of the Automatic Conversion Notice. If fewer than all the outstanding Debentures are to be converted in connection with any Automatic Conversion, Debentures to be converted shall be selected by the Trustee from outstanding Debentures by lot or pro rata (as near as may be) or by any other equitable method determined by the Trustee in its sole discretion.

(a) Upon any conversion of the Debentures (whether pursuant to Section 15.1 or Section 15.12 of the Indenture) prior to _____, 2007, the Company shall make a payment (the "Make-Whole Interest Payment") with respect to the Debentures so converted in an amount equal to the total value of the aggregate amount of interest that would have accrued and become payable on the Debentures from the Exchange Date through and including _____, 2007, less any interest actually paid with respect to such Debentures prior to the date upon which such conversion becomes effective. The Company shall calculate the amount of the Make-Whole Interest Payment. The Company may elect to pay the Make-Whole Interest Payment or any portion thereof (i) in cash or, (ii) by delivering shares of Common Stock. In the event of an Automatic Conversion pursuant to Section 15.12 of the Indenture or a voluntary conversion pursuant to Section 15.1 on or following the date of an Automatic Conversion Notice (unless and until such Automatic Conversion Notice shall be deemed to have no effect), the number of shares to be delivered in the event the Company shall elect to make the Make-Whole Interest Payment (or any portion thereof) in shares of Common Stock shall be equal to (x) the Make-Whole Interest Payment (or any portion thereof that the Company elects to pay in shares of Common Stock) divided by (y) 150% of the Conversion Price (as adjusted pursuant to Section 15 of the Indenture) in effect on the effective date of such conversion. In all other circumstances in which the Company is required to make the Make-Whole Interest Payment and elects to make the Make-Whole Interest Payment (or any portion thereof) in shares of Common Stock, the number of shares of Common Stock to be delivered shall be equal to the greater of (1) (A) the Make-Whole Interest Payment (or any portion thereof that the Company elects to pay in shares of Common Stock) divided by (B) 95% of the average of the Closing Price per share of Common Stock for the two consecutive Trading Days immediately preceding and including the first Trading Day prior to the effective date of such conversion; or (2) (A) the Make-Whole Interest Payment (or any portion thereof that the Company elects to pay in shares of Common Stock) divided by (B) $___.

Any Debentures called for redemption, unless surrendered for conversion on or before the close of business on the date fixed for redemption, may be deemed to be purchased from the holder of such Debentures at an amount equal to the applicable redemption price, together with accrued interest to the date fixed for redemption, by one or more investment bankers or other purchasers who may agree with the Company to purchase such Debentures from the holders thereof and convert them into Common Stock of the Company and to make payment for such Debentures as aforesaid to the Trustee in trust for such holders.

Upon due presentment for registration of transfer of this Debenture at the office or agency of the Company in the Borough of Manhattan, The City of New York, which shall initially be an Affiliate of the Trustee, or at the option of the holder of this Debenture, at the

Corporate Trust Office, a new Debenture or Debentures of authorized denominations for an equal aggregate principal amount will be issued to the transferee in exchange thereof, subject to the limitations provided in the Indenture, without charge except for any tax or other governmental charge imposed in connection therewith, and bearing restrictive legends required by the Indenture.

The Company, the Trustee, any authenticating agent, any paying agent, any conversion agent and any Debenture registrar may deem and treat the registered holder hereof as the absolute owner of this Debenture (whether or not this Debenture shall be overdue and notwithstanding any notation of ownership or other writing hereon made by anyone other than the Company or any Debenture registrar), for the purpose of receiving payment hereof, or on account hereof, for the conversion hereof and for all other purposes, and neither the Company nor the Trustee nor any other authenticating agent nor any paying agent nor any other conversion agent nor any Debenture registrar shall be affected by any notice to the contrary. All payments made to or upon the order of such registered holder shall, to the extent of the sum or sums paid, satisfy and discharge liability for monies payable on this Debenture.

No recourse for the payment of the principal of or any premium or interest on this Debenture, or for any claim based hereon or otherwise in respect hereof, and no recourse under or upon any obligation, covenant or agreement of the Company in the Indenture or any indenture supplemental thereto or in any Debenture, or because of the creation of any indebtedness represented thereby, shall be had against any incorporator, stockholder, employee, agent, officer, director or subsidiary, as such, past, present or future, of the Company or of any successor corporation, either directly or through the Company or any successor corporation, whether by virtue of any constitution, statute or rule of law or by the enforcement of any assessment or penalty or otherwise, all such liability being, by the acceptance hereof and as part of the consideration for the issue hereof, expressly waived and released.

Terms used in this Debenture and defined in the Indenture are used herein as therein defined.

ABBREVIATIONS

The following abbreviations, when used in the inscription of the face of this Debenture, shall be construed as though they were written out in full according to applicable laws or regulations:

TEN COM - as tenants in common

UNIF GIFT MIN ACT -Custodian

TEN ENT - as tenants by the entireties under Uniform Gifts to Minors Act

(Cust)

(Minor)

JT TEN - as joint tenants with right of survivorship and not as tenants in common

(State)

Additional abbreviations may also be used
though not in the above list.

[FORM OF CONVERSION NOTICE]

CONVERSION NOTICE

To:_____

The undersigned registered owner of this Debenture hereby irrevocably exercises the option to convert this Debenture, or the portion hereof (which is $1,000 principal amount or an integral multiple thereof) below designated, into shares of Common Stock in accordance with the terms of the Indenture referred to in this Debenture, and directs that the shares issuable and deliverable upon such conversion, together with any shares issuable and deliverable or check in payment of any Make-Whole Interest Payment, if any, and any check in payment for fractional shares and any Debentures representing any unconverted principal amount hereof, be issued and delivered to the registered holder hereof unless a different name has been indicated below. If shares or any portion of this Debenture not converted are to be issued in the name of a person other than the undersigned, the undersigned will pay all transfer taxes payable with respect thereto. Any amount required to be paid to the undersigned on account of interest accompanies this Debenture.

Dated:_____

_____

_____

Signature(s)

Signature(s) must be guaranteed by an eligible Guarantor Institution (banks, stock brokers, savings and loan associations and credit unions) with membership in an approved signature guarantee medallion program pursuant to Securities and Exchange Commission Rule 17AD-15 if shares of Common Stock are to be issued, or Debentures to be delivered, other than to and in the name of the registered holder.

Signature Guarantee

Fill in for registration of shares if to be issued, and Debentures if to be delivered, other than to and in the name of the registered holder:

_____

(Name)

_____

(Street Address)

_____

(City, State and Zip Code)

Please print name and address
Principal amount to be converted (if less than all):
$_____,000

_____
Social Security or Other Taxpayer Identification Number

[FORM OF ASSIGNMENT]

For value received _____ hereby sell(s), assign(s) and transfer(s) unto _____ (Please insert social security or Taxpayer Identification Number of assignee) the Debenture, and hereby irrevocably constitutes and appoints _____ attorney to transfer the said Debenture on the books of the Company, with full power of substitution in the premises.

Unless the appropriate box below is checked, the undersigned confirms that such Debenture is not being transferred to the Company or an "affiliate" of the Company as defined in Rule 144 under the Securities Act of 1933, as amended (an "Affiliate").

☐ The transferee is an Affiliate of the Company

☐ The transferee is the Company

Dated:_____

Signature(s)

Signature(s) must be guaranteed by an eligible Guarantor Institution (banks, stock brokers, savings and loan associations and credit unions) with membership in an approved signature guarantee medallion program pursuant to Securities and Exchange Commission Rule 17AD-15 if shares of Common Stock are to be issued, or Debentures are to be delivered, other than to and in the name of the registered holder.

Signature Guarantee

NOTICE: The signature on the conversion notice, or the assignment must correspond with the name as written upon the face of the Debenture in every particular without alteration or enlargement or any change whatever.

Exhibit 23.1

Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm

We consent to the reference to our firm under the caption “Experts” and to the use of our report dated January 23, 2004, except for the first paragraph of Note 8, as to which the date is March 4, 2004, in Amendment No. 1 to the Registration Statement (Form S-1 No. 333-119585) and related Prospectus of Xcyte Therapies, Inc. for the registration of 1,725,000 shares of its Convertible Exchangeable Preferred Stock, 1,000,000 shares of its common stock and $17,250,000 of its Convertible Subordinated Debentures.

/s/ Ernst & Young LLP

Seattle, Washington
October 19, 2004