Growing our products and our company

GTC Biotherapeutics

Dear Shareholders

GTC went through a significant transformation in 2006, catalyzed by the approval of our lead product ATryn® in Europe, the first approval anywhere in the world of a transgenically produced therapeutic protein. This approval has not only served to unlock the value of the ATryn® product itself but also the value of our production technology which we plan to apply across a range of products going forward. The first approval of any product is special for any company. Our first approval is particularly remarkable because it validates our accomplishment of translating the uniquely enabling science of mammalian transgenic production to the exacting practice of a commercially approved therapeutic product.

We also now have strategic partner relationships with LEO Pharma A/S and LFB Biotechnologies which enable us to further develop ATryn® and expand our portfolio of recombinant plasma proteins, as well as monoclonal antibodies. We also ended 2006, with a pro forma cash balance of $51 million after including some early 2007 cash receipts from our LEO and LFB relationships. This puts our finances in a much healthier position than they have been for some length of time which now allows us to focus on the fundamentals of the Company. We believe that the combination of these events will enable us to build a significant business, both by expanding the market opportunities for ATryn® and by building a portfolio of products which have significant value in the areas of hematology, cancer, and autoimmune diseases.

The products we have selected benefit from the characteristics of our transgenic production technology to enable the commercial development of otherwise difficult to express products, establish a large scale and flexible source of supply, and deliver recombinant products with a low capital investment and low cost of goods.

Growth with Recombinant Plasma Products

ATryn® – Approval and Partnering

ATryn®, our recombinant form of human antithrombin, was approved in the European Union in August 2006. This approval followed a positive opinion in June 2006 from the Committee for Medicinal Products for Human Use (CHMP) of the European Medicines Agency (EMEA) for the prophylaxis of venous thromboembolism in surgery of patients with congenital antithrombin deficiency. The process that led to this positive opinion included recognition that we had added significantly to the body of knowledge of how to treat this relatively rare patient group. While the commercial opportunity for this initial indication is modest, the approval puts to rest the question of whether our technology is capable of meeting regulatory requirements for recombinant production.

In late 2005 we entered into a collaborative relationship with LEO for the development and commercialization of ATryn® in Europe, Canada and the Middle East, including acquired deficiency (AD) indications. Following the approval of ATryn® for the hereditary deficiency indication in Europe, we transferred the

"GTC went through a significant transformation in 2006, catalyzed by the approval of our lead product, ATryn®, in Europe, the first approval anywhere in the world of a transgenically produced therapeutic protein."

market authorization to LEO. This event is enabling LEO to begin the process of setting reimbursement rates and preparing for the commercial launch of ATryn® for this indication in Europe on a country-by-country basis.

ATryn® – Market Potential

We estimate the potential worldwide market for ATryn® to be $500 to $700 million annually once we gain approvals for significant AD indications. This projection is well above the estimated worldwide annual sales of approximately $250 million for plasma-sourced antithrombin because of the potential large markets for the AD indications once appropriate clinical studies are completed and regulatory approvals are obtained.

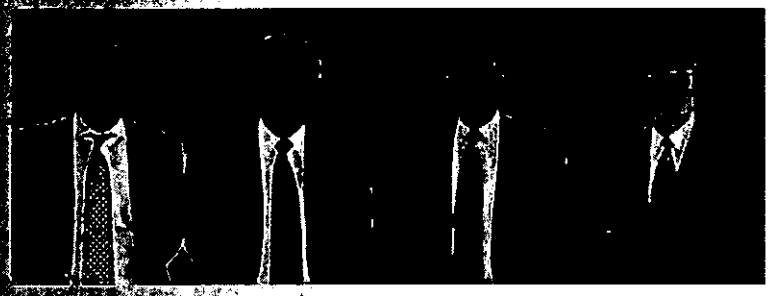
Importantly for the longer-term development of ATryn®'s commercial potential, GTC is able to address large AD markets, such as for disseminated intravascular coagulation, or DIC, associated with severe sepsis, because ATryn® doesn't have the capacity constraints of fractionated plasma-derived material that is dependent on the supply of human blood by donors. In the DIC indication, similar to the mechanisms of other acquired deficiencies, the infection and resulting septic condition consume much of the patient's own antithrombin. This antithrombin deficiency then triggers the clotting and inflammatory response which results in DIC. In addition to a number of research studies that support the potential therapeutic value of antithrombin for this indication, DIC is an approved indication for plasma-derived antithrombin in Japan and certain countries in Europe. DIC occurs in an estimated half million patients in Europe and the United States with an annual mortality rate of about 50%. This represents a major unmet medical need of significant interest in critical care.

LEO will be conducting the clinical studies for this first AD indication. LEO obtained Scientific Advice from the EMEA and is in a Phase II study of ATryn® in Europe for the DIC indication. The goal of the Phase II study is to establish the desired dosing regimen and design for a subsequent Phase III trial. LEO's commitment includes funding for the Phase II and Phase III clinical studies as well as paying us for the manufacture of product that will be used. In addition, there is a total of $68 million in potential additional milestone payments from LEO of which $38 million is based on clinical and regulatory achievements and $30 million for specified sales milestones. We have full rights to the Phase II data for use in the US, Japan, and other non-LEO territories. We also may gain access to the Phase III data developed by LEO to enable us to rapidly commercialize the results in the non-LEO territories.

ATryn® – US Studies

Concurrently, we are actively recruiting patients for a Phase III study of ATryn® in the HD indication to form the clinical basis for a Biologics License Application,

GTC collaborates with LEO Pharma on ATryn®
In late 2005, GTC entered into a collaborative relationship with LEO Pharma A/S for the development and commercialization of ATryn®. In attendance for the signing of the agreement were (from left to right) Christian Scheuer, LEO Senior Director, GUBD; Poul Rasmussen, PhD, LEO, Executive VP, Research & Development; Geoffrey Cox, PhD, GTC Chairman & CEO; and Ernst Lunding, LEO President & CEO.



or BLA, requesting marketing authorization in the US. We are also obtaining historical data of patients treated with plasma-derived antithrombin products to use as a comparison in the BLA submission. Our strategy is to first gain approval in the US for the HD indication, and then expand into other AD indications in order to manage our development risks. The data from this study may also be used to apply for expanded treatment of HD patients in Europe to include childbirth.

ATryn® – Our Strategy

Our ultimate strategy is to leverage the availability of ATryn® with easily scalable production capacity to support the development of additional clinical indications and the creation of markets significantly in excess of those supported by today's plasma-sourced products. We plan to seek approval for acquired deficiency indications in the US and to commercially develop ATryn® in the US either ourselves or with a partner. We also plan to develop ATryn® in Japan and the rest of Asia through further partnerships.

Factor VIIa

This past fall, we entered into a strategic collaboration with LFB to develop selected recombinant plasma proteins and monoclonal antibodies using our transgenic production platform. The first program in this collaboration is for the development of a transgenically produced recombinant form of human Factor VIIa (rhFVIIa), a clotting factor in coagulation. The research program for rhFVIIa was initiated approximately three years ago and LFB has determined that transgenic rabbits are capable of expressing sufficient quantities of this product to support expanded development.

Factor VIIa is a product that is used in type A and B hemophilia patients that have developed inhibitors to traditional treatments. For this program, as well as others developed under this collaboration, we will be responsible for development of the production system and will retain exclusive commercial rights in North America. LFB will be responsible for clinical development and regulatory review of the program, and will have exclusive commercial rights in Europe. GTC and LFB will hold co-exclusive rights in the rest of the world to the products developed through this collaboration and will share the costs and profits 50/50 on a worldwide basis.

NovoNordisk recently announced that sales of their recombinant form of Factor VIIa, NovoSeven®, reached $250 million for the fourth quarter of 2006, representing an annualized sales rate of $1 billion from approximately one kilogram of product. An independent financial ana-

GTC and LFB enter into a strategic collaboration

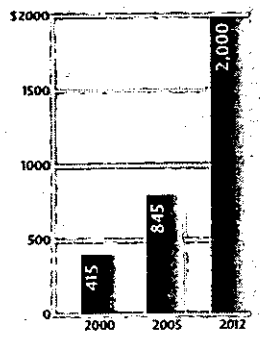
In the fall of 2006, GTC and LFB entered into a strategic collaboration to develop selected recombinant plasma proteins and monoclonal antibodies using GTC's transgenic production platform. In attendance for the signing of the agreement were (front row, left to right) Geoffrey Cox, PhD, GTC Chairman & CEO and Christian Béchon, LFB Chairman & CEO (back row, left to right) Sami Chtourou, PhD, LFB Director Biopharmaceutical Development, Yann Echelard, PhD, GTC Vice President of Research & Development, Marc Pennacino, PhD, LFB Director of Biotech Business Development, Évelyne Nguyen, LFB Chief Financial Officer and John Green, GTC Senior Vice President of Finance & Chief Financial Officer.

Factor VIIa Markets

GTC believes that we can bring a more cost effective rhFVIIa product into the marketplace for both its current use in hemophilia patients and potentially a broader application in inherited bleeding conditions such as trauma and intracranial hemorrhage. Additional geographic areas may also be explored as an abundant supply of lower cost rhFVIIa opens additional markets.

Annual sales of Novo Nordisk's NovoSeven® product is about $1 billion. According to an independent analyst estimate, this market is expected to grow to $2 billion over the next 5-6 years, providing an opportunity for a significant market share with a competitive product.

Markets for Recombinant Factor VIIa



lyst report has estimated that the annual market for recombinant Factor VIIa may reach $2 billion in 2012. We believe our transgenic production technology will support the pricing of our rhFVIIa at levels which would enable utilization in a broader range of indications and geographical territories.

Alpha-1 Antitrypsin

There are an estimated 3.5 million individuals worldwide afflicted with alpha-1 antitrypsin (AAT) deficiency, which is significantly under-diagnosed and undertreated. This genetic condition can lead to emphysema for which AAT derived from the human blood supply is currently used as a chronic treatment. The current plasma-derived alpha-1 antitrypsin market is approximately $250 million per year worldwide.

We believe that our recombinant AAT product, or rhAAT, may hold therapeutic value in treating additional respiratory conditions such as emphysema and chronic obstructive pulmonary disease. Like antithrombin, the AAT protein is difficult to express at economically viable quantities in traditional recombinant production systems. As with ATryn® and Factor VIIa, we believe that a well-characterized and expandable source of supply of rhAAT using our technology would offer commercial opportunities based on expanded clinical development in additional markets.

Growth with Monoclonal Antibodies

Our strategy is to use our transgenic production technology to develop monoclonal antibodies (MAbs), both for our own proprietary products and the emerging area of Follow-on Biologics (FOBs). MAbs are proteins generated by an immune system that bind to a specific target. MAbs typically express at reasonable levels in traditional recombinant production systems, but are often required in large quantities due to their applications to chronic disease indications. We believe MAbs produced using our technology platform will have economic advantages, including lower cost for the required capital investment and cost of goods, particularly at large scale.

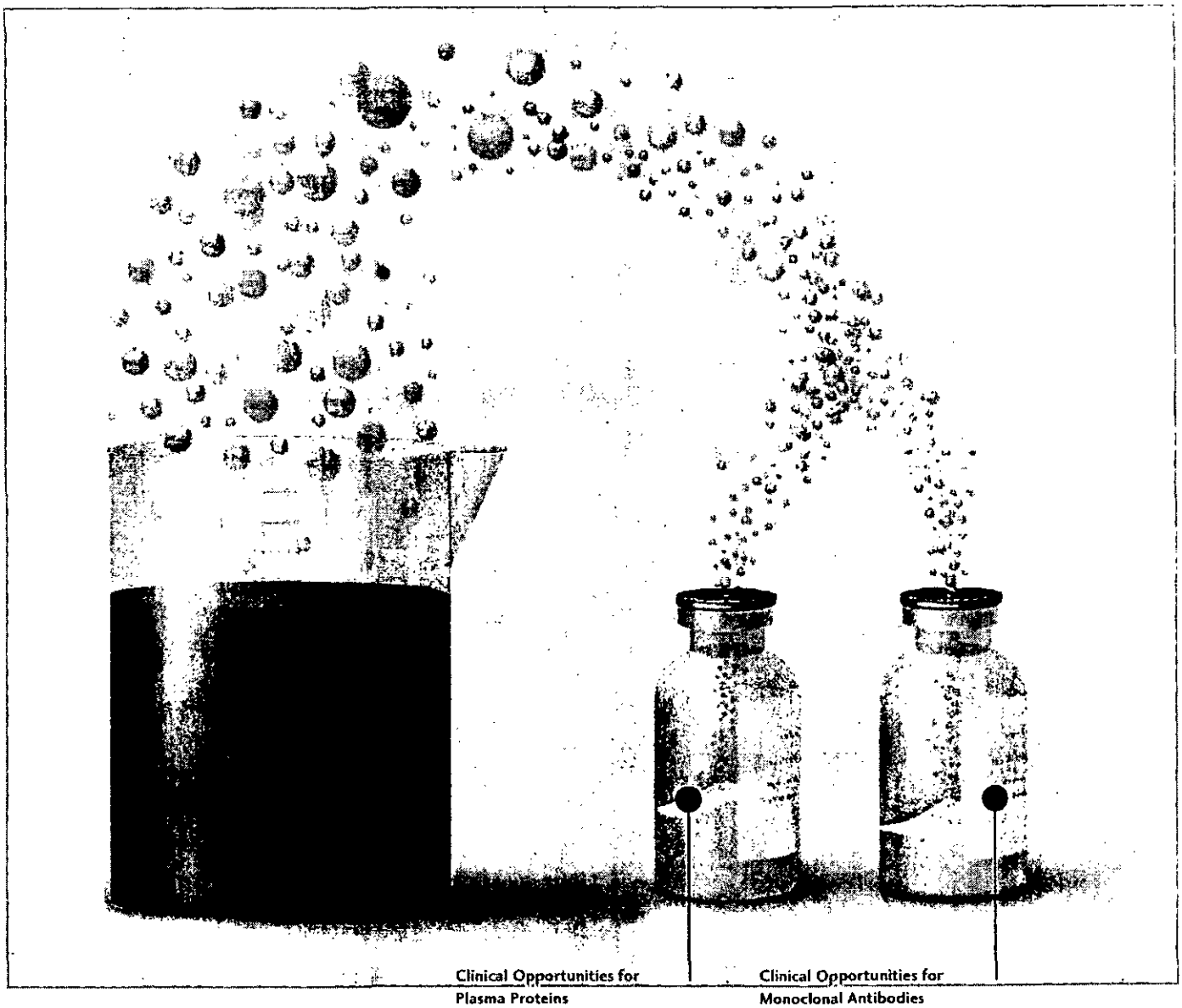
In addition, it has become apparent that the glycosylation achieved in the production of proteins using our technology has advantages in what is called ADCC, or antibody-dependent cell cytotoxicity. ADCC appears to be an important characteristic in the efficacy of many MAbs where targeted cell death is a desired outcome. Because ADCC is a natural feature of our transgenic technology, we envision exploiting these types of advantages, not only in our proprietary products such as CD137, but also in the area of FOBs.

CD137

We have begun commercial development of a monoclonal antibody to the CD137 receptor which modulates the human immune system, with potential applica-

Growing Products to Address Unmet Healthcare Needs

GTC is developing recombinant products using its transgenic production technology that enables the development of difficult to express products at large scale, low capital investment and an assured low cost of goods. We believe these benefits offer multiple advantages, allowing for further clinical development into additional markets, including chronic conditions, that may not have been otherwise explored using traditional recombinant production systems.



Clinical Opportunities for Plasma Proteins

GTC can offer a safe, highly pure, unconstrained supply of product for the development of additional indications, and the creation of markets significantly in excess of those supplied by today's plasma-sourced products.

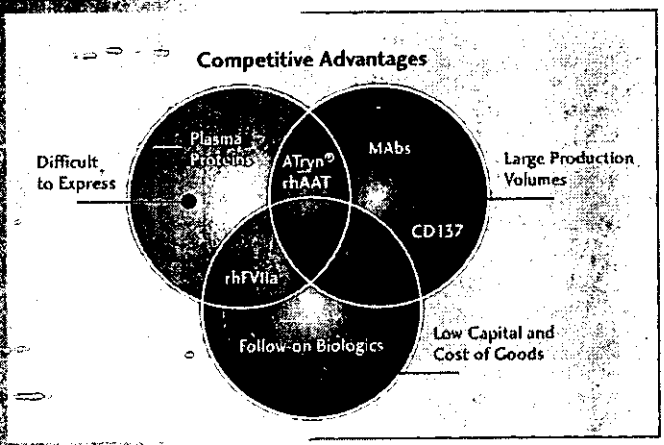
Clinical Opportunities for Monoclonal Antibodies

GTC can offer large scale production beyond what can be obtained by traditional recombinant production systems at decreased capital investment and a low cost of goods to meet the supply needed for large doses given over extended periods of time.

Platform Technology Competitive Advantages

GTC's platform technology enables the production of many types of products. Plasma proteins are typically difficult to express using traditional recombinant systems. Many monoclonal antibodies are needed in multi-kilogram to possibly tonnage quantities. To be competitive with originator products, follow-on Biologics will need to be produced economically using a low capital investment with a low cost of goods – both of which can be achieved using our technology. The programs we are developing clinically and commercially utilize at least two of these advantages.

Bolstering the advantages resulting from the technology itself, GTC also holds a strong intellectual property position. Recently GTC was granted a patent in the United States through 2021 for the production of any therapeutic protein in the milk of any transgenic mammal.



tions in the treatment of solid tumors and autoimmune disorders. We have developed animals that express an antibody to the CD137 receptor, also known as 4-1BB. This receptor is present on T-cells of the human immune system as well as some cancer cells. Scientists believe that CD137 may have therapeutic value either through the modulation of the immune system or in direct cell death. As a result we believe our CD137 antibody has potential in multiple clinical applications including cancer and autoimmune diseases. We anticipate that the potential quantities of our CD137 antibody required for treatment could be very large. Our production technology platform would be better positioned to economically develop this production capacity than what would be required in a traditional bioreactor-based method.

We have obtained rights to our CD137 antibody from the Mayo Clinic, including rights to any patents that may be issued under their patent applications. This program is currently funded by a Small Business Innovative Research grant from the National Institutes of Health.

Follow-On Biologics

Another emerging area of interest for us is that of FOBs, otherwise known as Biosimilars in Europe. These products are often for large markets and there is a clear opportunity to utilize the characteristics of our production technology to produce large volumes of proteins at a competitive cost of goods, especially in the area of MAbs. There is currently an important discussion ongoing in both the political and regulatory arenas in both Europe and the United States, and we are following this discussion closely. What seems clear is that legislation embracing FOBs in the United States and Europe will come to fruition. We are planning to develop a position in this area through our business development activities.

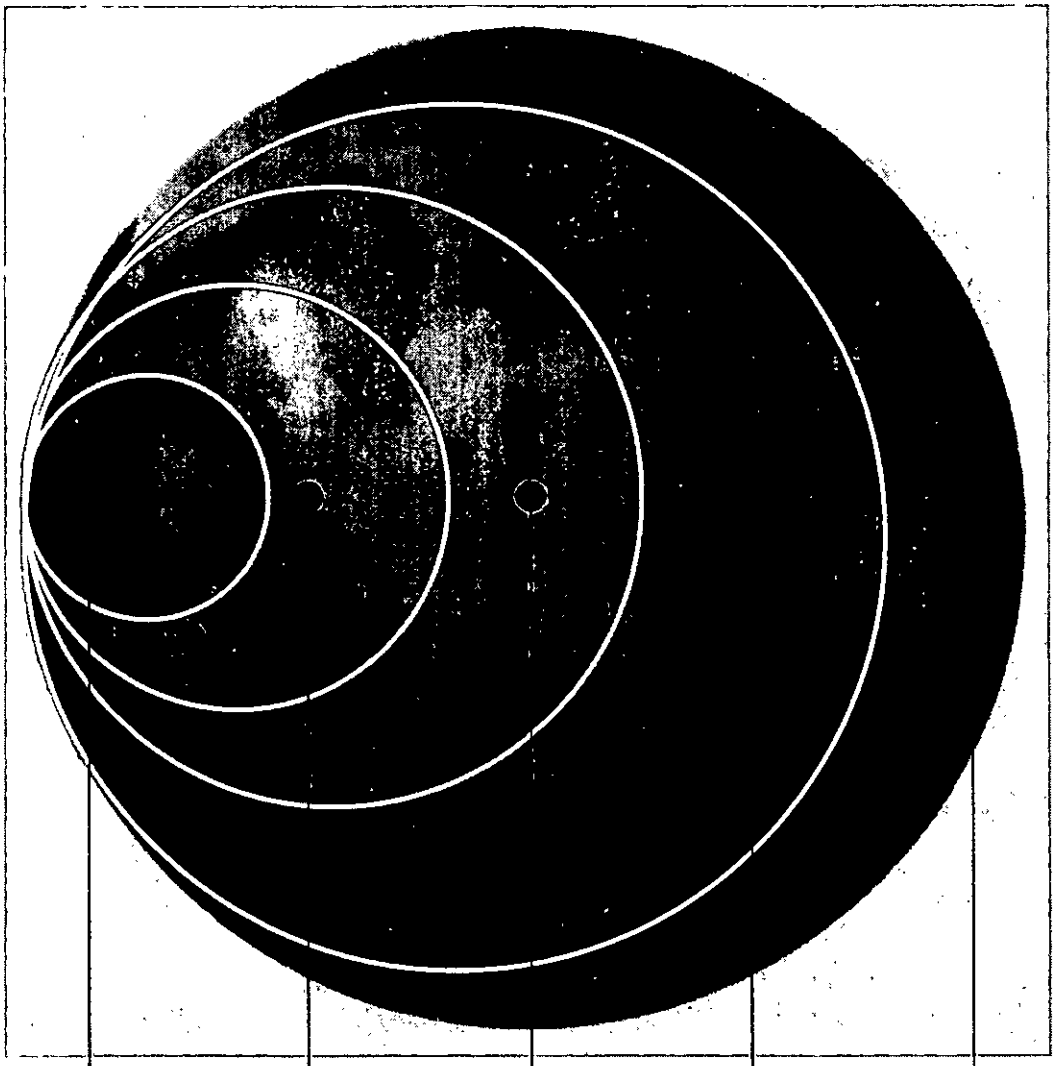
Partnerships and Growth Going Forward

With the approval of ATryn®, we now have the opportunity to focus on partnering as a strategic activity to help finance our portfolio of proprietary products. We recognize that the breadth of growth opportunities in our pipeline is much larger than we can reasonably develop on our own. Part of our strategy includes building on our first approval to establish partnerships over the next two years for our portfolio of products. Our model for these partnerships is one of collaboration, including accessing deeper clinical resources and clinical support.

Also included in our partnering activities will be external program relationships that provide opportunities to expand the adoption of our technology and help fund the infrastructure we have established to support commercial drug production.

Growing Worldwide Markets in Hematology, Cancer and Autoimmune Diseases through Partnering

The regulatory approval of ATryn® in Europe for the hereditary deficiency indication has not only unlocked the potential value of ATryn® itself, but also validated GTC's platform technology that can now be applied across a broad range of products. This provides the opportunity to focus on collaborative partnerships as a strategic activity to help finance and advance our broad portfolio of proprietary products.



ATryn® approval HD indication – EU

LEO launches ATryn® – EU

Begin clinical study for ATryn® in DIC with LEO – EU

Initiate preclinical studies & clinical production of Factor VIIa with LFB

Initiate clinical studies for Factor VIIa with LFB

Initiate preclinical programs & define partners for rhAAT & CD137

File BLA for ATryn® in HD indication – US

Obtain ATryn® approval HD indication – US

ATryn® Key Contributors

(top) (front row, left to right) [illegible] Patel, Lynn [illegible], Michele McKay, (middle row left to right) [illegible], PhD, Susan [illegible], Mingliang Shen, [illegible] (back row left to right) Greg Allard, [illegible] PhD and [illegible]

ATryn® Team Leaders

(bottom) (left to right) [illegible] Hendry, Wes [illegible], PhD, Timothy [illegible], [illegible] Meade, [illegible], Ann Murphy, Carol [illegible], PhD, Suzanne [illegible], Richard Scotland, [illegible] and [illegible]

Our newest agreement is with PharmAthene for Protexia®, a biodefense product. Protexia® is a recombinant form of human butyrylcholinesterase, a protein found in small amounts in blood plasma, which is intended to help remove nerve agents. This product, similar to our other external program for Merrimack's MM-093, is a product which is enabled by the characteristics of our production technology. Both of these external programs meet our partnering criteria since there is a clear commitment by the partner to the transgenically produced product and we have the opportunity to participate in the financial rewards of successful development as they build on the technical and regulatory expertise we have already established.

As GTC moves into the upcoming year, we find ourselves strategically poised to make great strides in our transition into a commercial products company. We are firmly committed to bringing ATryn® through to commercialization. Our accomplishments are strongly supportive of our strategy of focusing on filing for approval in the US while developing a larger market opportunity with the LEO DIC clinical program. DIC represents a clinical indication of great importance for the treatment of patients with a life threatening unmet medical need.

I thank all our employees for an extraordinary effort during the year, as well as their commitment to staying the course. I also thank our shareholders for their continued support of GTC, which we greatly value. GTC's strategy is to leverage the unique characteristics of our production technology to bring vital therapeutic proteins for the treatment of life threatening conditions into commercialization which otherwise would not be available using traditional production methods.

I invite you to learn more about us in our enclosed Annual Report on Form 10-K filed with the Securities and Exchange Commission. I also encourage you to keep current on our developments by periodically checking our web site, www.gtc-bio.com. I look forward to updating you on our progress over the coming months.

Sincerely,

Geoffrey F. Cox

Geoffrey F. Cox, Ph.D.
Chairman of the Board and Chief Executive Officer

April 9, 2007

Selected Financial Data

(Dollars in thousands except per share data)

	For the Fiscal Years Ended				
	December 31, 2006	*January 1, 2006*	*January 2, 2005*	*December 28, 2003*	*December 29, 2002*
Statement of Operations Data					
Revenues					
Revenue	$ 6,128	$ 4,152	$ 6,572	$ 9,640	$ 10,379
Revenue from related party	–	–	54	124	–
	6,128	4,152	6,626	9,764	10,379
Cost of revenue and operating expenses					
Cost of revenue	6,651	4,344	6,107	11,116	13,100
Research and development	25,401	21,145	20,002	18,277	11,869
Selling, general and administrative	9,723	8,428	9,710	10,688	11,319
	41,775	33,917	35,819	40,081	36,288
Operating loss from continuing operations	(35,647)	(29,765)	(29,193)	(30,317)	(25,909)
Other income and (expenses)					
Interest income	1,237	547	312	1,103	2,028
Interest expense	(1,001)	(1,140)	(951)	(508)	(439)
Other income	66	246	339	185	–
Net loss	(35,345)	(30,112)	(29,493)	(29,537)	(24,320)
Net loss available per common share (basic and diluted)	(0.53)	(0.62)	(0.79)	(1.00)	(0.86)
Weighted average number of shares outstanding (basic and diluted)	66,860,345	48,658,143	37,360,758	29,562,152	28,353,490
Balance Sheet Data					
Cash, cash equivalents and marketable securities	$ 43,835	$ 36,169	$ 22,281	$ 31,091	$ 57,349
Working capital	29,382	18,601	10,639	23,967	47,682
Total assets	73,235	66,719	57,301	71,072	95,373
Long-term liabilities	16,443	9,688	9,336	12,582	12,823
Shareholders' equity	37,956	36,709	33,653	48,161	68,772

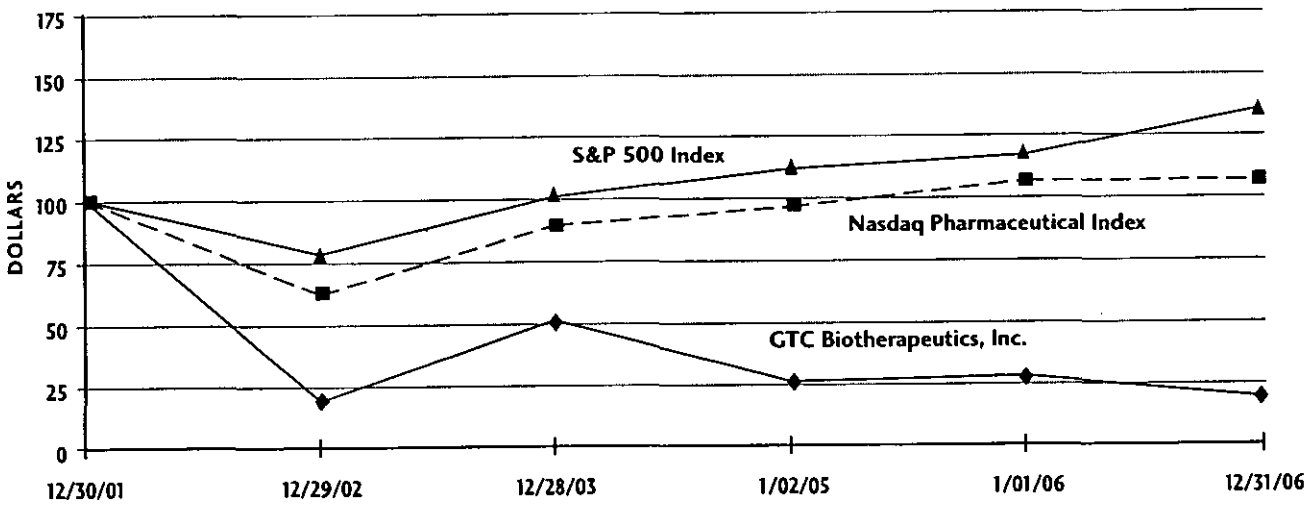
There were no cash dividends paid to common shareholders for any period presented.

Important Note to Investors

This document contains forward-looking information, including statements about research and development programs and the potential size of the markets for GTC Biotherapeutics' products and services. Actual results may differ materially from these statements because of a number of factors, including market acceptance of the Company's products and services; content and timing of decisions made by the US Food and Drug Administration and other regulatory agencies; the accuracy of the Company's information about competitors, potential competitors, market sizes and the price-sensitivity of customers; and the Company's ability to obtain patents, to obtain adequate funding for research and development programs, and to recruit and retain adequate numbers of qualified employees. These and other risk factors are described or referenced to in more detail in the Company's most recent 10-K filed with the Securities and Exchange Commission.

Compare 5-Year Cumulative Total Return Among GTC Biotherapeutics, Inc., S&P 500 Index and NASDAQ Pharmaceutical Index

(Fiscal year ending December 31, 2006)



Assumes $100 invested on Dec. 30, 2001
Assumes dividend reinvested

GTC Biotherapeutics
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Framingham, Massachusetts 01702
(508) 620-9700

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS

To Be Held May 23, 2007

The 2007 Annual Meeting of Stockholders of GTC Biotherapeutics, Inc., or GTC, will be held in the Forefront Center for Meetings & Conferences, 404 Wyman Street, Waltham, Massachusetts 02451, at 1:00 p.m. local time on Wednesday, May 23, 2007 for the following purposes:

1. To elect three directors to serve until the 2010 Annual Meeting of Stockholders or until their successors are elected and qualified;
2. To approve a proposed amendment and restatement of GTC's 2002 Equity Incentive Plan, referred to as the 2002 Plan; and

To transact such other business as may properly come before the meeting or any adjournments thereof.

Only GTC stockholders of record at the close of business on April 9, 2007 are entitled to notice of, and to vote at, the annual meeting or any adjournments.

It is important that your shares be represented at the meeting. **Therefore, whether or not you plan to attend the meeting, please complete your proxy card and return it in the enclosed envelope, which requires no postage if mailed in the United States, or vote by telephone or Internet.** If you attend the meeting and vote in person, your proxy will not be used.

By order of the Board of Directors,

Nathaniel S. Gardiner
Clerk

April 16, 2007

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GTC Biotherapeutics

PROXY STATEMENT

FOR ANNUAL MEETING OF STOCKHOLDERS

TO BE HELD MAY 23, 2007

Our Board of Directors is soliciting the enclosed proxy card for use at the 2007 Annual Meeting of Stockholders to be held in the Forefront Center for Meetings & Conferences, 404 Wyman Street, Waltham, Massachusetts 02451, at 1:00 p.m. local time on Wednesday, May 23, 2007, and at any adjournments thereof. This proxy statement and the accompanying proxy card are first being provided to our stockholders on or about April 17, 2007.

GENERAL INFORMATION ABOUT VOTING

Who can vote. You may vote your shares of our stock at the annual meeting if you were a stockholder of record at the close of business on April 9, 2007. On April 5, 2007, there were (i) 77,620,066 shares of common stock outstanding and (ii) 14,615 shares of our Series D preferred stock outstanding, which are convertible into a total of 14,615,000 shares of our common stock.

How many votes do you have. You have one vote for each share of common stock that you owned at the close of business on April 9, 2007, which is shown on your proxy card or other voting instruction form. Each share of Series D preferred stock is entitled to one vote for each share of common stock into which it is convertible.

How to vote your shares in person. If you attend the annual meeting and wish to vote in person, we will give you a ballot when you arrive. If your shares are held in "street name" (that is, in the name of a brokerage firm or bank that holds your securities account), you must bring an account statement or letter from the brokerage firm or bank showing that you were the beneficial owner of the shares on April 9, 2007 in order to be admitted to the meeting. To be able to vote, you will need to obtain a proxy from the brokerage firm or bank that is the holder of record of your shares.

How to vote your shares by proxy card. If you choose to vote by proxy card, please complete, date, sign and return the enclosed proxy card in the enclosed postage prepaid envelope. The proxies named in the proxy card will vote your shares as you have instructed. If you sign and return the proxy card without indicating how your vote should be cast, the proxies will vote your shares in favor of the proposals contained in this proxy statement, as recommended by our Board. Even if you plan to attend the meeting, please complete and mail your proxy card to ensure that your shares are represented at the meeting. If you attend the meeting, you can still revoke your proxy by voting in person.

How to vote your shares by telephone or Internet. Instead of submitting your vote by mail on the enclosed proxy card, you may vote by telephone or Internet. Please note that there may be separate telephone and Internet arrangements depending on whether you are a registered stockholder (that is, if you hold your stock in your own name) or you hold your shares in street name. In either case, you must follow the procedures described on your proxy card.

In order to vote by telephone or Internet, have the enclosed proxy card available, and call the number or go to the website listed on the proxy card and follow the instructions. The telephone and Internet voting procedures are designed to authenticate stockholders' identities, to allow stockholders to give their voting instructions and to confirm that stockholders' instructions have been recorded properly.

We encourage you to vote by Internet. If you do so, please authorize us to deliver future annual reports and proxy statements to you by email. This lowers our costs and speeds delivery to you.

Who to contact for additional information. If you have questions about how to submit your proxy, or if you need additional copies of this proxy statement or the enclosed proxy card, please contact our proxy solicitor, The Altman Group, at (800) 287-0142.

Proposals to be considered at the annual meeting. The principal business expected to be transacted at the meeting, as more fully described below, will be as follows:

1. To elect three directors to serve until the 2010 Annual Meeting of Stockholders or until their successors are elected and qualified;
2. To approve a proposed amendment and restatement of our 2002 Equity Incentive Plan, referred to as the 2002 Plan; and

To transact such other business as may properly come before the meeting or any adjournments thereof.

Quorum. A quorum of stockholders is required to transact business at the meeting. A majority in interest of the outstanding shares of capital stock entitled to vote and represented at the meeting in person or by proxy constitutes a quorum for the transaction of business.

Number of votes required. The number of votes required to approve the proposals scheduled to be presented at the meeting is as follows:

Proposal	Required Vote for Approval
• Election of each nominee as director.	• Affirmative vote representing a plurality of the votes cast for or against the nominee.
• Approval of the amendment and restatement of the 2002 Plan.	• Affirmative vote representing a majority of the votes present, or represented by proxy, and entitled to vote at the meeting.

Abstentions and broker non-votes. Abstentions and broker non-votes will be counted in determining a quorum for the transaction of business at the annual meeting. A broker non-vote on a proposal results from a proxy submitted by a broker that does not indicate a vote for one or more proposals because the broker does not have discretionary voting authority and the broker's customer did not send the broker instructions on how to vote on the proposal. If the broker does not have instructions on certain matters, and the broker is barred by law or the regulations of The NASDAQ Stock Market, or NASDAQ, from exercising its discretionary voting authority in the particular matter, then the shares will not be voted on the matter. In voting on the proposals to elect three directors and to amend and restate our 2002 Plan, any abstentions, votes withheld and broker non-votes will be disregarded and not treated as votes cast and, therefore, will not affect the outcome of the election.

Discretionary voting by proxies on other matters. If other matters are properly presented for consideration at the annual meeting, the persons named as proxies on the proxy card, or designated by telephonic or Internet vote, will have the authority to vote on those matters for you as they determine. Aside from the proposals to elect three directors and to amend and restate the 2002 Plan, we do not know of any other proposals that may be presented at the annual meeting.

How you may revoke your proxy. You may revoke the proxy authority granted by proxy card at any time before its exercise by submitting a written revocation or a duly executed proxy card bearing a later date to GTC Biotherapeutics, Inc., 175 Crossing Boulevard, Framingham, Massachusetts 01702, Attention: Nathaniel S. Gardiner, Corporate Clerk. You may revoke the proxy authority granted by telephone or Internet in accordance with the instructions provided on the website or by calling the number set forth on your proxy card. Previously granted proxy authority may also be revoked by voting in person at the meeting. If your shares are held in a brokerage account, you must make arrangements with your broker or bank to vote your shares in person or to revoke your proxy.

Voting results. We expect to report the voting results from the annual meeting in our Quarterly Report on Form 10-Q for the second quarter of fiscal year 2007, which we plan to file with the Securities and Exchange Commission in August 2007.

Expenses of solicitation. We will bear all costs of soliciting proxies. We have hired a proxy solicitation firm, the Altman Group, to assist in soliciting proxies for an anticipated fee of approximately $10,000, plus reasonable out-of-pocket expenses. We will also, upon request, reimburse brokers, custodians and fiduciaries for out-of-pocket expenses incurred in forwarding proxy solicitation materials to the beneficial owners of our common stock held in their names. In addition to solicitations by mail, our directors, officers and employees may solicit proxies from stockholders in person or by other means of communication, including telephone, facsimile and email, without additional remuneration.

No appraisal rights. There are no appraisal rights associated with any of the proposals being considered at the meeting.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth the amount of our common stock and Series D preferred stock beneficially owned as of April 5, 2007 by:

- persons known by us to be beneficial owners of more than 5% of our common stock or Series D preferred stock;
- our principal executive officer, principal financial officer and our three other most highly compensated executive officers, whom we refer to as our "named executives";
- our directors and each nominee seeking re-election as a director; and
- all of our current executive officers and directors as a group.

The number of shares beneficially owned by each person listed below includes any shares over which the person has sole or shared voting or investment power as well as shares which the person has the right to acquire on or before June 4, 2007 by exercising a stock option or other right to acquire shares. Unless otherwise indicated, each person has sole investment and voting power (or shares that power with his or her spouse) over the shares listed in the table. For each person listed below, the percentage ownership of common stock set forth under "Percent of Class" was calculated based on the 77,620,066 shares of common stock outstanding on April 5, 2007, plus any shares that person could acquire upon the exercise of any options or other rights exercisable on or before June 4, 2007. The percentage ownership of Series D preferred stock set forth under "Percent of Class" was calculated based on the 14,615 shares of Series D preferred stock outstanding on April 5, 2007.

Title of Class	Beneficial Owner	Number of Shares Beneficially Owned	Percent of Class
Common Stock			
	Directors and Named Executives:		
	Geoffrey F. Cox (1)	971,241	1.2%
	Robert W. Baldridge (2)	65,075	*
	Kenneth A. Bauer (3)	30,000	*
	Christian Béchon (4)	18,255,918	19.8%
	Francis J. Bullock (5)	70,532	*
	James A. Geraghty (6)	217,581	*
	Michael J. Landine (7)	22,500	*
	Pamela W. McNamara (8)	50,678	*
	Marvin L. Miller (9)	49,631	*
	Alan W. Tuck (10)	53,684	*
	John B. Green (11)	422,025	*
	Gregory F. Liposky (12)	301,895	*
	Harry M. Meade (13)	379,536	*
	Daniel S. Woloshen (14)	276,508	*
	All executive officers and directors as a group (15 persons)	21,166,804	22.4%

Title of Class	Beneficial Owner	Number of Shares Beneficially Owned	Percent of Class
Common Stock			
	Five Percent Stockholders:		
	LFB Biotechnologies, S.A.S.U. (15).....	18,245,000	19.8%
	3, avenue des Tropiques Les Ulis - 91940 Courtaboeuf Cedex - France		
	William Harris Investors, Inc. (16)	6,968,912	8.9%
	191 North Wacker Drive, Suite 1500 Chicago, IL 60606		
	Genzyme Corporation (17).....	4,299,032	5.5%
	500 Kendall Street, Cambridge, Massachusetts 02142		
Series D Preferred Stock			
	Directors and Named Executives:		
	Christian Béchon (18)	14,615	100%
	Five Percent Stockholders:		
	LFB Biotechnologies, S.A.S.U.	14,615	100%

* Less than 1%.

(1) Includes 226,504 shares owned directly by Dr. Cox (including 4,000 shares owned jointly with his grandchildren), 19,137 shares beneficially owned by Dr. Cox and held in our 401(k) plan, 4,000 shares held by Dr. Cox indirectly as custodian for his grandchildren and 721,600 shares issuable to Dr. Cox upon the exercise of outstanding options exercisable on or before June 4, 2007.

(2) Includes 5,075 shares owned directly by Mr. Baldridge and 60,000 shares issuable to Mr. Baldridge upon the exercise of outstanding options exercisable on or before June 4, 2007.

(3) Includes 30,000 shares issuable to Dr. Bauer upon the exercise of outstanding options exercisable on or before June 4, 2007.

(4) Includes 3,630,000 shares and 14,615,000 shares issuable upon conversion of 14,615 shares of Series D convertible preferred stock owned by LFB Biotechnologies of which Mr. Béchon is President and Chief Executive Officer, and 3,418 shares owned directly by Mr. Béchon and 7,500 shares issuable to Mr. Béchon upon the exercise of outstanding options exercisable on or before June 4, 2007.

(5) Includes 5,032 shares owned directly by Dr. Bullock and 65,500 shares issuable to Dr. Bullock upon the exercise of outstanding options exercisable on or before June 4, 2007.

(6) Includes 68,698 shares owned directly by Mr. Geraghty, 1,383 shares beneficially owned by Mr. Geraghty and held in our 401(k) plan and 147,500 shares issuable to Mr. Geraghty upon the exercise of outstanding options exercisable on or before June 4, 2007.

(7) Includes 22,500 shares issuable to Mr. Landine upon the exercise of outstanding options exercisable on or before June 4, 2007.

(8) Includes 5,678 shares owned directly by Ms. McNamara and 45,000 shares issuable to Ms. McNamara upon the exercise of outstanding options exercisable on or before June 4, 2007.

(9) Includes 4,631 shares owned directly by Mr. Miller and 45,000 shares issuable to Mr. Miller upon the exercise of outstanding options exercisable on or before June 4, 2007.

(10) Includes 3,684 shares owned directly by Mr. Tuck, 7,000 shares held by Mr. Tuck in his Individual Retirement Account and 43,000 shares issuable to Mr. Tuck upon the exercise of outstanding options exercisable on or before June 4, 2007.

(11) Includes 85,700 shares owned directly by Mr. Green, 28,924 shares beneficially owned by Mr. Green and held in our 401(k) plan, and 307,401 shares issuable to Mr. Green upon the exercise of outstanding options exercisable on or before June 4, 2007.

(12) Includes 33,548 shares owned directly by Mr. Liposky, 22,747 shares beneficially owned by Mr. Liposky and held in our 401(k) plan, and 245,600 shares issuable to Mr. Liposky upon the exercise of outstanding options exercisable on or before June 4, 2007.

(13) Includes 89,226 shares owned directly by Dr. Meade, 22,734 shares beneficially owned by Dr. Meade and held in our 401(k) plan, and 267,576 shares issuable to Dr. Meade upon the exercise of outstanding options exercisable on or before June 4, 2007.

(14) Includes 64,134 shares owned directly by Mr. Woloshen, 22,574 shares beneficially owned by Mr. Woloshen and held in our 401(k) plan, and 189,800 shares issuable to Mr. Woloshen upon the exercise of outstanding options exercisable on or before June 4, 2007.

(15) Based on information contained in this holder's most recent Schedule 13G filed on January 8, 2007. Includes 3,630,000 shares owned and 14,615,000 shares issuable upon conversion of 14,615 shares of Series D convertible preferred stock.

(16) Based on information contained in this holder's most recent Schedule 13G filed on February 14, 2007. Includes warrants exercisable for 817,500 shares.

(17) Based on information provided to us by this holder as of April 2, 2007. Includes three warrants exercisable for 288,000, 55,833 and 29,491 shares of common stock at prices of $4.88, $6.30 and $6.30 per share, respectively.

(18) Shares are owned by LFB Biotechnologies of which Mr. Béchon is President and Chief Executive Officer.

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Securities Exchange Act of 1934, as amended, requires our directors, executive officers and persons owning more than 10% of any class of our registered equity securities to file with the Securities and Exchange Commission reports of their initial ownership and of changes in their ownership of our common stock and to provide us with copies of those reports. Based solely upon our review of copies of reports received by us or written representations from reporting persons that no reports were required, we believe that during the fiscal year ended December 31, 2006, our directors, executive officers and 10% stockholders complied with all applicable Section 16(a) filing requirements, except in the following instances: in October 2006, Dr. Cox and Mr. Scotland each filed one late Form 4 reporting one transaction on an untimely basis; and in November 2006, Mr. Miller and Dr. Bullock each filed one late Form 4 reporting two transactions on an untimely basis and Dr. Bauer, Ms. McNamara, Mr. Tuck and Mr. Geraghty each filed one late Form 4 reporting one transaction on an untimely basis.

PROPOSAL 1 –
ELECTION OF DIRECTORS

Stockholders are being asked to elect three members to our Board of Directors. Our Board has currently fixed the number of directors at ten. Under our Articles of Organization, as amended, our Board is divided into three classes with staggered three year terms, with each class being as nearly equal in number of directors as possible. The directors in each class serve a term of three years and until their successors are elected and qualified.

At the upcoming annual meeting each of the three following directors have been nominated to serve a term of office of three years and until a successor is elected and qualified:

- Robert W. Baldridge
- James A. Geraghty
- Michael J. Landine

Each nominee has consented to such nomination and is expected to stand for election. However, if any nominee is unable to serve, proxies will be voted for any replacement candidate nominated by our Board. Biographical information for each of the nominees is set forth below under "Director Biographical Information."

Vote Required

Each director nominee must be elected by a plurality of votes cast. Votes withheld and broker non-votes will not be treated as votes cast and, therefore, will not affect the outcome of the elections.

Recommendation of our Board of Directors

OUR BOARD RECOMMENDS THAT STOCKHOLDERS VOTE FOR THE ELECTION OF EACH OF THE NOMINEES FOR DIRECTOR.

DIRECTOR BIOGRAPHICAL INFORMATION

Set forth below is biographical information about the nominees for director whose terms expire at the 2007 annual meeting and the two other classes of our current directors whose term of office will continue after the meeting.

Name and Age	Business Experience and Other Directorships	Present Term Expires
Robert W. Baldridge* Age: 72	Mr. Baldridge has served as a director since 1994. He provided consulting services to us from October 1994 to October 2000 and has served as an independent business consultant since June 1988. Mr. Baldridge served as Chief Executive Officer and Chairman of TSI Corporation from 1993 to 1994.	2007
James A. Geraghty* Age: 52	Mr. Geraghty has served as a director since February 1993, and held the role of Chairman of our Board of Directors from January 1998 to July 2001. He has served as Senior Vice President of Genzyme Corporation since January 2001, and prior to that served as President of Genzyme Europe from July 1998 to December 2000. Mr. Geraghty was our President and Chief Executive Officer from our incorporation in February 1993 until July 1998.	2007
Michael J. Landine* Age: 53	Mr. Landine has served as a director since December 2004. Mr. Landine currently guides all areas of corporate development at Alkermes, Inc., a biotechnology company, having been appointed Vice President, Corporate Development in 1999. Mr. Landine joined Alkermes in 1988 as Vice President and Chief Financial Officer, a position he held for ten years. Previously, he was the Chief Financial Officer of The Walker Magnetics Group, Inc., an international manufacturer of industrial equipment. Mr. Landine serves on the Board of Directors of Expressive Constructs, Inc., a privately-held life sciences company, and on the Board of Kopin Corporation, Inc., a manufacturer of high definition imaging products. He is also an advisor to the Board of Directors of The Walker Magnetics Group, Inc. Mr. Landine received a B.S. in Accounting from Bentley College and is a Certified Public Accountant.	2007
Francis J. Bullock Age: 70	Dr. Bullock has served as a director since 1994. Dr. Bullock is a self-employed independent consultant. He was a senior consultant with Arthur D. Little, Inc. and with Strategic Decisions Group from September 1993 to March 2003, and Senior Vice President, Research Operations at Schering-Plough Research Institute from 1981 until August 1993. Dr. Bullock is also a director of Array Biopharma, Inc., a chemical drug discovery services company.	2008

* A current nominee for election as director.

Name and Age	Business Experience and Other Directorships	Present Term Expires
Geoffrey F. Cox Age: 63	Dr. Cox has served as our Chairman of the Board, Chief Executive Officer and President since July 2001, after being elected a director in May 2001. From 1997 to June 2001, he was Chairman and Chief Executive Officer of Aronex Pharmaceuticals, Inc., a biotechnology company. In 1984, Dr. Cox joined Genzyme Corporation in the U.K. and, in 1988, became Senior Vice President of Operations in the United States. Subsequently, Dr. Cox was promoted to Executive Vice President of Operations of Genzyme, and was also responsible for the pharmaceutical, diagnostic and genetics business units until 1997. Prior to joining Genzyme, Dr. Cox was General Manager of the U.K. manufacturing operations for Gist-Brocades. Dr. Cox also serves as a non-executive Chairman of the Board of Nabi Biopharmaceuticals and serves on the Board of the Biotechnology Industry Organization and the Board of the Massachusetts Biotechnology Council. Dr. Cox received a Ph.D. in Biochemistry from the University of East Anglia U.K. and a BSc (Hons) in Biochemistry from the University of Birmingham U.K.	2008
Alan W. Tuck Age: 58	Mr. Tuck has served as a director since 1993. He is a partner of The Bridgespan Group, a nonprofit consulting organization where he has worked since April 2001. Mr. Tuck retired in June 2000 as Chief Strategic Officer of Organogenesis Inc., a tissue engineering firm where he had been since July 1997. From February 1992 through May 1996, Mr. Tuck was President and Chief Executive Officer of T Cell Sciences, Inc. Mr. Tuck is also a director of Apogee Technology, Inc., a developer of nanotechnology products.	2008
Kenneth A. Bauer Age: 57	Dr. Bauer has served as a director since December 2004. He has been a Director of Thrombosis Clinical Research at Beth Israel Deaconess Medical Center since 1997 and has been a Professor of Medicine at Harvard Medical School since 2004, where he has been on the faculty since 1982. Dr. Bauer's research interests include development of novel laboratory techniques for the detection of prothrombotic states and clinical evaluation of new antithrombotic drugs. Dr. Bauer is the current Chairman of Council for the International Society on Thrombosis and Haemostasis. Dr. Bauer received his Bachelor and Master of Science degrees from the Massachusetts Institute of Technology, and obtained his medical education at Stanford University School of Medicine. He completed subspecialty training in medical oncology and hematology at Dana Farber Cancer Institute and Beth Israel Hospital in Boston.	2009
Christian Béchon Age: 47	Mr. Béchon has served as a director since December 2006. He is Chairman and Chief Executive Officer of Laboratoire Francais du Fractionnement et des Biotechnologies S.A. and President of LFB Biotechnologies, S.A.S.U. Prior to joining LFB, Mr. Béchon was a consultant for the Boston Consulting Group from January 2005 to January 2006. He was a senior judge in the Court of Accounts from May 2004 to January 2005. Mr. Béchon was Chief of Staff with the French Ministry of Industry from May 2002 to May 2004.	2009

Name and Age	Business Experience and Other Directorships	Present Term Expires
Pamela W. McNamara Age: 49	Ms. McNamara has served as a director since July 2002. Since October 2003, Ms. McNamara has been Chief Executive Officer of CRF, Inc., a clinical trial data management and mobile technology company. Prior to joining CRF, Ms. McNamara was a private consultant. Ms. McNamara was appointed Chief Executive Officer of Arthur D. Little, Inc., a global management and technology firm, from 2001 to February 2002, to develop plans to restructure, reorganize or divest the firm's viable business units. In February 2002, Arthur D. Little filed a voluntary petition for reorganization under Chapter 11 of the United States Bankruptcy Code to provide a framework under which these plans could be executed. Ms. McNamara served as Managing Director of Arthur D. Little from 1997 to 2001, and had been a partner since 1992, focusing on the pharmaceutical and biotechnology industries.	2009
Marvin L. Miller Age: 70	Mr. Miller has served as a director since October 2002. Mr. Miller is a private consultant. Mr. Miller was Executive Chairman of Onconova Therapeutics, Inc. from 2002 to 2006. Mr. Miller retired in 2002 as President and Chief Executive Officer of Nextran, a subsidiary of Baxter Healthcare Corporation. Before joining Nextran in 1995, Mr. Miller served as Vice President of Biotechnology Licensing for the Pharmaceutical and Agricultural Divisions of American Cyanamid Company since 1987. Previously, Mr. Miller was a Vice President of Johnson & Johnson International from 1983 to 1986. Mr. Miller is a director of Unigene Laboratories, Inc., Tepnel Life Sciences, Plc, Onconova Therapeutics, Inc. and the National Center for Genome Resources.	2009

PROPOSAL 2 –
APPROVAL OF AMENDMENT AND RESTATEMENT OF THE 2002 PLAN

Stockholders are being asked to approve an amendment and restatement of our 2002 Plan to provide for:

- an increase in the number of shares of common stock available for issuance under the 2002 Plan by 2,000,000 shares (subject to adjustment in the event of stock splits and other similar events); and
- an automatic annual increase in the number of shares of our common stock available for issuance under the 2002 Plan, which annual increase will be added on December 31 of each year beginning in 2008, and will be equal to the lesser of:
    - 1,500,000 shares, and
    - such other amount as may be determined by our Board;

  provided that any increase will not cause the maximum number of shares that may be issued under the 2002 Plan to exceed the lesser of:
    - 10% of the shares of common stock outstanding as of the date of issuance (including, on an as-converted basis, all outstanding Series D preferred stock convertible into common stock); and
    - 15,000,000 shares (subject to adjustment in the event of stock spits and other similar events).

The full text of the proposed amended and restated 2002 Plan is set forth in the attached *Annex A* (which is marked to show changes to the current 2002 Plan and also reflects a previous amendment, unrelated to this proposal, approved by our Board to confirm the authority to grant awards of unrestricted stock under the 2002 Plan). Our Board has adopted the provisions included in the proposed amendment and restatement as set forth in this Proposal 2, subject to stockholder approval at the Annual Meeting.

Reasons for Amendment and Restatement

Approximately only 700 shares of common stock remain currently available for issuance under the 2002 Plan. An increase of 2,000,000 shares available for issuance would provide us with a sufficient current source of equity awards under the 2002 Plan for our planned awards during 2007 and 2008 to attract, retain and motivate key employees essential to our long-term growth and success. As is the case for most biotechnology companies, equity awards are a significant component of the compensation we pay to our employees and allow us to preserve available cash for other corporate uses. In light of the intense competition among our competitors, and biotechnology companies in general, for top scientists, researchers, and other skilled employees, our Board strongly believes that we must be able to grant meaningful equity awards broadly among our employees in order to attract and retain top talent and help provide for our long-term success, and that our ability to make these grants is in the best interests of our stockholders. The Board also believes that equity awards granted pursuant to the 2002 Plan to eligible non-employee directors similarly helps to attract and retain quality directors and aligns those directors' financial interests with our success by promoting director ownership of our equity. In addition, we believe that it is desirable to provide a mechanism for automatic increases in the number of shares available for issuance under the 2002 Plan to help ensure a reliable source of future equity awards needed to continue to attract, retain and motivate key employees going forward. However, unlike similar provisions in other plans, the mechanism for automatic increases being proposed would limit the maximum number of shares of common stock that are reserved under the 2002 Plan to the lesser of 10% of our capital stock outstanding (which would currently be a limit of 9,223,507 shares) or 15,000,000 shares. Under the proposed amendment and restatement, in no event shall the maximum number of shares issuable under the 2002 Plan exceed 15,000,000 shares, which is equal to approximately 19.3% of our capital stock currently outstanding on an as-converted basis.

Vote Required

The affirmative vote by the holders of a majority of the shares present, or represented by proxy, and entitled to vote at the meeting is required to approve the proposed amendment and restatement of the 2002 Plan. Broker non-votes will not be counted as present or represented for this purpose. Abstentions will be counted as present and entitled to vote and, accordingly, will have the effect of a negative vote.

Recommendation of our Board of Directors

OUR BOARD RECOMMENDS THAT STOCKHOLDERS VOTE FOR THE APPROVAL OF PROPOSAL 2.

Summary of the 2002 Plan

The following is a summary description of the principal terms of the 2002 Plan. It is subject to, and qualified by, the actual provisions of the 2002 Plan, a copy of which was filed as Exhibit 10.6 to our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2002 (File No. 0-21794) filed on June 27, 2002.

Background

The 2002 Plan was initially approved by our Board in February 2002 and initially approved by our stockholders in May 2002. The 2002 Plan replaced our 1993 Equity Incentive Plan, referred to as the 1993 Plan, which expired in 2003. An amendment and restatement of the 2002 Plan was approved by our Board in April 2004 and approved by our stockholders in May 2004. The 2002 Plan is currently the only equity incentive plan we have under which we may make equity-based awards.

We are currently authorized to issue up to approximately 6,700,000 shares of common stock (subject to adjustment in the event of stock splits or other similar events) pursuant to awards granted under the 2002 Plan, including up to approximately 2,200,000 shares of common stock subject to awards outstanding under our prior 1993 Plan which may become available for awards under the 2002 Plan if they expire or terminate unexercised or are forfeited or settled in a manner that results in fewer shares outstanding than were awarded. As of April 5, 2007, under the 2002 Plan:

- 4,520,813 shares of common stock had been issued;
- 3,960,658 shares of common stock were subject to outstanding options, at a weighted average exercise price of $1.91 per share; and
- 717 shares of common stock remained available for future grants.

If any award expires, or is terminated unexercised, or is forfeited or settled in cash or in a manner that results in fewer shares outstanding than were initially awarded, the shares that would have been issuable will again be available for awards granted under the 2002 Plan.

Awards

The 2002 Plan provides for the following categories of awards:

Stock Options. Our Compensation Committee may grant options to purchase shares of common stock that are either incentive stock options, or ISOs, eligible for the special tax treatment described below or nonstatutory stock options. No option may have an exercise price that is less than the fair market value of the common stock on the date of grant or a term of more than ten years. An option may be exercised by the payment of the option price in cash or with such other lawful consideration as our Compensation Committee may determine, including by delivery or attestation of ownership of shares of common stock valued at their fair market value on the date of delivery, and for consideration received by us under a broker-assisted cashless exercise program.

Restricted Stock. Our Compensation Committee may grant shares of common stock that are only earned if specified conditions, such as a completing a term of employment or satisfying pre-established performance goals, are met and that are otherwise subject to forfeiture. Shares of restricted stock may not be sold, transferred or otherwise encumbered until earned, unless the Compensation Committee provides otherwise.

Restricted Stock Units. Our Compensation Committee may grant the right to receive shares of common stock in the future, also based on meeting specified conditions and subject to forfeiture. These awards are to be made in the form of "units," with each unit representing the equivalent of one share of common stock, although they may be settled in either cash or stock. Restricted stock unit awards would represent an unfunded and unsecured obligation of ours. In the discretion of the Compensation Committee, units may be awarded with rights to the payment of dividend equivalents.

Unrestricted Stock. Our Compensation Committee may grant shares of common stock that are not subject to restrictions or forfeiture. Historically, these shares have been awarded only in lieu of an otherwise earned cash bonus amounts.

Stock Appreciation Rights. Our Compensation Committee may grant stock appreciation rights, or SARs, where the participant receives cash, shares of common stock, or other property, or a combination thereof, as determined by the Compensation Committee, equal in value to the difference between the exercise price of the SAR and the fair market value of the common stock on the date of exercise. SARs may be granted in tandem with options (at or after award of the option) or alone and unrelated to an option. SARs in tandem with an option terminate to the extent that the related option is exercised, and the related option terminates to the extent that the tandem SAR is exercised. The exercise price of a SAR may not be less than the fair market value of the common stock on the date of grant or in the case of a tandem SAR, the exercise price of the related option.

Awards under the 2002 Plan may contain such terms and conditions consistent with the 2002 Plan as our Compensation Committee in its discretion approves. In setting the terms of each award, except as noted above, the Compensation Committee has full discretion to determine the number of shares or units subject to the award, the exercise price or other consideration, if any, to be paid by the participant, the term and exercise period of each option granted, the conditions under which and the time or times at which an option becomes exercisable or under which the option, shares or units may be forfeited to us, and the other terms and conditions of the award. Our Compensation Committee may provide, at the time an award is made or at any time thereafter, for the acceleration of a participant's rights or cash settlement if we undergo a change-in-control. The terms and conditions of awards need not be the same for each participant. In general, our Compensation Committee has discretion to administer the 2002 Plan in the manner that it determines, from time to time, is in our best interest.

The maximum aggregate number of shares that may be granted to a 2002 Plan participant in any fiscal year is 400,000 (600,000 in the case of a new hire) shares, subject to adjustment for changes in capitalization. Incorporation of these limits are intended to qualify awards as performance-based compensation that is not subject to the $1 million limit on the Federal income tax deduction we may take for compensation paid to certain senior officers.

Eligible Participants

Our and our affiliates' employees, consultants and directors are eligible to participate in the 2002 Plan. Actual participants are chosen by our Compensation Committee. As of April 5, 2007, we and our subsidiaries had approximately 150 employees, and nine non-employee directors. We have not granted any awards to consultants since 2002.

Administration

The 2002 Plan is administered by our Compensation Committee. Awards under the plan are granted at the discretion of the Compensation Committee, which determines the recipients and establishes the terms and conditions of each award, including the exercise price, the form of payment of the exercise price, the number of shares subject to options or other equity rights and the time at which options become exercisable. Our Compensation Committee may delegate to one or more officers the power to make awards to employees who are not executive officers of ours subject to the reporting requirements of Section 16 of the Securities Exchange Act of 1934, as amended.

Our Compensation Committee has adopted guidelines for the number of annual and new hire options awarded to our employees, other than employees who are subject to Section 16 of the Exchange Act. These guidelines are based on the salary grade of the employee and provide for the grant of ISOs at fair market value on the date of grant. Our Compensation Committee has delegated to our Chief Executive Officer the power to make awards under the 2002 Plan, in amounts consistent with the guidelines, to employees that are not subject to Section 16 of the Exchange Act. Our Compensation Committee may change the guidelines at any time.

Adjustments

The number and kind of shares that have been, or may be, issued and the exercise price of any awards granted pursuant to the 2002 Plan are subject to adjustment by our Compensation Committee to reflect stock dividends, mergers, recapitalizations, or other changes affecting our common stock. If our Compensation Committee determines that we have undergone a change-in-control, it may accelerate any time period relating to exercise or payment, provide for payment in cash or other property with a fair market value equal to that amount that would have been received upon exercise, adjust terms, cause awards to be assumed or substituted by another entity or make such other provision as the Compensation Committee may consider equitable to the participants and in our best interests. Our Compensation Committee also has the authority to determine the effect on awards of a participant's retirement, disability, death or other termination of employment, including the time periods relating to exercise or payment of the awards.

Amendment or Termination

Our Board may amend the 2002 Plan, subject to any stockholder approval, as it determines to be necessary or advisable. Subject to the special limitations on the repricing of stock options which require stockholder approval, our Compensation Committee has authority to amend outstanding awards, including changing the date of exercise and converting an incentive stock option to a nonstatutory stock option, if the Compensation Committee determines that:

- such action would not materially and adversely affect the participant;
- the award is canceled and the participant receives the net value in cash or other property of what would have been received upon exercise;
- the change reduces the benefit of a performance-based vesting award; or
- our Compensation Committee determines that such action is reasonably necessary to comply with any regulatory, accounting, or stock market listing requirement.

Unless terminated earlier by our Board or extended by approval of our stockholders of the proposed amendment and restatement of the 2002 Plan at the 2007 annual meeting, no further awards may be granted under the 2002 Plan after May 26, 2014, which is the tenth anniversary of the approval of the most recent amendment and restatement of the 2002 Plan. If the proposed amendment and restatement is approved, awards may be made until the tenth anniversary of that approval.

U.S. Federal Income Tax Consequences Relating to Awards

The following is a brief summary description of the material United States federal income tax consequences relating to awards granted pursuant to the 2002 Plan based on the applicable tax law in effect as of the date of this proxy statement.

Incentive Stock Options.

An optionee does not realize taxable income for regular tax purposes upon the grant or exercise of an ISO under the 2002 Plan. If no disposition of shares issued to an optionee pursuant to the exercise of an ISO is made by the optionee within two years from the date of grant or within one year from the date of exercise, then (a) upon sale of such shares, any amount realized in excess of the option price (the amount paid for the shares) is taxed to the optionee as long-term capital gain and any loss sustained will be a long-term capital loss, and (b) no deduction is allowed to us for Federal income tax purposes. The exercise of ISOs gives rise to an adjustment in computing alternative minimum taxable income that may result in alternative minimum tax liability for the optionee in the year of option exercise. Under current tax laws, the optionee would pay the greater of the regular tax liability or the alternative minimum tax liability. In certain circumstances, optionees may recover all or substantially all of the alternative minimum tax liability created due to the exercise of an ISO in later tax years, including the year of sale of the shares. If shares of common stock acquired upon the exercise of an ISO are disposed of before the expiration of the two-year and one-year holding periods described above (a "disqualifying disposition"), then (a) the optionee realizes ordinary income in the year of disposition in an amount equal to the excess (if any) of the fair market value of the shares at exercise (or, if less, the amount realized on a sale of such shares) over the option price thereof, and (b) we are entitled to deduct such amount. Any further gain realized is taxed as a short or long-term capital gain and does not result in any deduction to us. A disqualifying disposition in the year of exercise will generally avoid the alternative minimum tax consequences of the exercise of an ISO.

Nonstatutory Stock Options.

No income is realized by the optionee at the time a nonstatutory option is granted. Upon exercise, (a) ordinary income is realized by the optionee in an amount equal to the difference between the option price and the fair market value of the shares on the date of exercise, and (b) we receive a tax deduction for the same amount. Upon disposition of the shares, appreciation or depreciation after the date of exercise is treated as a short or long-term capital gain or loss and will not result in any further deduction by us.

Restricted Stock.

Generally, a recipient will be taxed at the time the conditions to earning the award are met. The excess of the fair market value of the shares at that time over the amount paid, if any, by the recipient for the shares will be treated as ordinary income. The recipient may instead elect at the time of grant to be taxed (as ordinary income) on the excess of the then fair market value of the shares over the amount paid, if any, for the shares. In either case, we receive a tax deduction for the amount reported as ordinary income to the recipient, subject to the limitations of Internal Revenue Code Section 162(m) discussed below. Upon disposition of the shares, any appreciation or depreciation after the taxable event is treated as a short or long-term capital gain or loss and will not result in any further deduction by us.

Unrestricted Stock.

Generally, a recipient will be taxed at the time of the grant of the award. The fair market value of the shares at that time will be treated as ordinary income. We receive a tax deduction for the amount reported as ordinary income to the recipient subject to the limitations of Internal Revenue Code Section 162(m). Upon disposition of the shares, any appreciation or depreciation after the taxable event is treated as short or long-term capital gain or loss and will not result in any further deduction by us.

Restricted Stock Units.

A recipient does not realize taxable income upon the grant or vesting of a restricted stock unit. The recipient must include as ordinary income when an award is settled an amount equal to the excess of the fair market value of the shares (or the amount of cash) distributed to settle the award. Subject to the limitations of Internal Revenue Code Section 162(m), we receive a corresponding tax deduction at the time of settlement. If the award is settled in shares, then any subsequent appreciation or depreciation is treated as short or long-term capital gain or loss and will not result in any further deduction by us.

Internal Revenue Code Section 162(m).

United States tax laws generally do not allow publicly-held companies to obtain tax deductions for compensation of more than $1 million paid in any year to any of the chief executive officer and the next four highest paid executive officers (each, a "covered employee") unless the compensation is "performance-based" as defined in Internal Revenue Code Section 162(m). Stock options and SARs granted under an equity compensation plan are performance-based compensation if (a) stockholders approve a maximum aggregate per person limit on the number of shares that may be granted each year, (b) any stock options or SARs are granted by a committee consisting solely of outside directors, and (c) the stock options or SARs have an exercise price that is not less than the fair value of common stock on the date of grant.

Our Compensation Committee has designed the 2002 Plan with the intention of satisfying Section 162(m) with respect to stock options and SARs granted to covered employees.

In the case of restricted stock and restricted stock units, Section 162(m) requires that the general business criteria of any performance goals that are established by our Compensation Committee be approved and periodically reapproved by stockholders (generally, every five years) in order for such awards to be considered performance-based and deductible by the employer. Generally, the performance goals must be established before the beginning of the relevant performance period. Furthermore, satisfaction of any performance goals during the relevant performance period must be certified by the Compensation Committee.

Our Compensation Committee has approved the following list of business criteria upon which it may establish performance goals for deductible performance-based awards made to covered persons: (a) increases in the price of the common stock, (b) product or service sales or market share, (c) revenues, (d) return on equity, assets, or capital, (e) economic profit (economic value added), (f) total shareholder return, (g) costs, (h) expenses, (i) margins, (j) earnings or earnings per share, (k) cash flow, (l) cash balances, (m) customer satisfaction, (n) operating profit, (o) research and development progress, (p) clinical trial progress, (q) licensing, (r) product development, (s) manufacturing, or (t) any combination of the foregoing, including without limitation goals based on any of such measures relative to appropriate peer groups or market indices. Performance goals may be particular to a participant or may be based, in whole or in part, on the performance of the division, department, line of business, subsidiary, or other business unit in which the participant works, or on our performance generally. Our Compensation Committee has the authority to reduce (but not to increase) the amount payable at any given level of performance to take into account factors that the Compensation Committee may deem relevant.

Equity Awards Granted

Under the 2002 Plan, which includes for this purpose stock options granted under our predecessor plans, we have granted, as of April 5, 2007, the following equity awards to the individuals and groups indicated:

Named Executives	Number of Stock Options Granted Under 2002 Plan	Number of Stock Options Outstanding Under 1993 Plan (1)	Number of Shares of Unrestricted Stock Granted Under 2002 Plan
Geoffrey F. Cox ..... Chairman, Chief Executive Officer and President	491,000	425,000	1,000
John B. Green ..... Senior Vice President, Chief Financial Officer and Treasurer	205,000	184,401	1,000
Gregory F. Liposky ..... Senior Vice President, Operations	281,000	62,000	1,000
Harry M. Meade ..... Senior Vice President, Research and Development	215,000	143,576	1,000
Daniel S. Woloshen ..... Senior Vice President and General Counsel	193,000	58,000	1,000
All current executive officers as a group (6 persons)	1,385,000	872,977	6,000
All current directors (excluding current nominees) who are not executive officers as a group (6 persons)	193,500	63,500	—
Each nominee for election as a director			—
Robert W. Baldridge	22,500	37,500	—
James A. Geraghty	22,500	125,000	—
Michael J. Landine	22,500	—	—
Other employees as a group (including all current officers who are not executive officers)	2,119,938		126,000
Total Awards to Date	3,765,938		132,000

(1) Includes options granted under our prior 1993 Plan and our 1993 Director Option Plan, both of which were previously merged into the 2002 Plan.

No person other than those listed above has received more than five percent of the equity awards granted under the 2002 Plan.

Securities Authorized for Issuance Under Equity Compensation Plans

The following table sets forth information about the securities authorized for issuance under our equity compensation plans as of December 31, 2006:

Equity Compensation Plan Information

Plan Category	(a) Number of securities to be issued upon exercise of outstanding options, warrants and rights	(b) Weighted-average exercise price of outstanding options, warrants and rights	(c) Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (3)(4)
Equity compensation plans/arrangements approved by stockholders (1)	4,941,501(2)	$4.2556	967,210
Equity compensation plans/arrangements not approved by stockholders	—	—	—
Total	4,941,501		967,210

(1) Includes our prior 1993 Plan, the 2002 Plan and our 2003 Employee Stock Purchase Plan.

(2) Excludes purchase rights accruing under the 2003 Employee Stock Purchase Plan because the purchase price (and therefore the number of shares to be purchased) is not determined until the end of each purchase period.

(3) Includes 209,138 shares issuable under the 2003 Employee Stock Purchase Plan and 758,072 shares issuable under the 2002 Plan.

(4) Up to 10% of the awards under the 2002 Plan may be issued as restricted or unrestricted stock awards. For purposes of this limitation, awards subject to performance vesting and awards granted in lieu of cash bonuses are disregarded.

BOARD OF DIRECTORS AND COMMITTEES

General

Our Board of Directors has responsibility for establishing broad corporate policies and reviewing our overall performance rather than day-to-day operations. Our Board's primary responsibility is to oversee management and, in so doing, to serve the best interests of us our stockholders. Our Board reviews and approves corporate objectives and strategies, and evaluates significant policies and proposed major commitments of corporate resources. It participates in decisions that have a potential major economic impact on us. Management keeps the directors informed of company activities through regular written reports and presentations at Board and committee meetings.

Independence

Our Board has determined that Messrs. Baldridge, Bauer, Bullock, Geraghty, Landine, Miller, Tuck, and Ms. McNamara are "independent directors" under the applicable NASDAQ listing standards.

Board Meetings and Committees

Our Board held nine meetings during fiscal year 2006, five of which included executive sessions at which no members of management were present. Each of the directors then in office attended at least 75% of the aggregate of all meetings of the Board and all meetings of the committees of the Board on which such director then served. Directors are asked to attend each annual meeting of stockholders, barring significant commitments or special circumstances. All directors attended our 2006 Annual Meeting.

Stockholder Communications

Any stockholder wishing to communicate with our Board, any committee of the Board or a particular director may do so by sending written correspondence to our principal executive offices, c/o Vice President, Corporate Communications. All such communications will be delivered to the Board or the appropriate director or committee chair.

Our Board has three standing committees: Audit Committee, Compensation Committee and Nominating and Corporate Governance Committee. The members of all of our standing committees are non-employee directors.

Audit Committee

The Audit Committee has authority to select and engage our independent registered public accountants and is responsible for reviewing our audited financial statements, accounting processes and reporting systems and discussing the adequacy of our internal financial controls with our management and our independent registered public accountants. The Audit Committee also reviews the performance of the independent registered public accountants in the annual audit and in assignments unrelated to the audit, assesses the independence of the independent registered public accountants, and reviews their fees. The Audit Committee also develops and recommends to the Board a set of related person guidelines applicable to the Board and us and reviews and approves any related person transactions in accordance with those guidelines. The current members of the Audit Committee are Messrs. Tuck (Chair), Baldridge and Landine and Ms. McNamara. Our Board has considered and determined that each of the members of the Audit Committee satisfies the independence and financial literacy requirements under the applicable NASDAQ listing standards. The Board has also determined that Mr. Tuck, who has an M.B.A. degree and has served as the chief executive officer of a biotechnology company, qualifies as an "audit committee financial expert" as defined under the rules of the Securities and Exchange Commission. The Board has also noted that Mr. Baldridge has substantial experience in investment banking and consulting and has served as the chief executive officer of a biotechnology company, and that Ms. McNamara has served as the chief executive officer of an international consulting firm and currently serves as the chief executive officer of a clinical

trial data management and mobile technology company. Mr. Landine is a Certified Public Accountant and has served for over seventeen years as a senior officer of a biotechnology company, including ten years as its chief financial officer.

The Audit Committee held five meetings during fiscal year 2006. The Audit Committee operates pursuant to a written charter, which is available on the Investor Relations Section of our website at www.gtc-bio.com. For more information about the Audit Committee, see "Report of the Audit Committee" in this proxy statement.

Compensation Committee

Our Compensation Committee is responsible for establishing cash compensation policies with respect to our executive officers and directors, determining the compensation to be paid to our executive officers and administering our equity incentive and stock purchase plans. The current members of the Compensation Committee are Messrs. Bullock (Chair), Bauer, Miller and Tuck. The Compensation Committee held six meetings during fiscal year 2006. The Compensation Committee operates pursuant to a written charter, which is available on the Investor Relations section of our website at www.gtc-bio.com. Our Board has determined that all of the Compensation Committee members meet the independence requirements under the applicable NASDAQ listing standards.

Nominating and Corporate Governance Committee

Our Nominating and Corporate Governance Committee identifies individuals qualified to become Board members and recommends to the Board the director nominees for the next annual meeting of stockholders and candidates to fill vacancies on the Board. Additionally, the Nominating and Corporate Governance Committee recommends to the Board the directors to be appointed to Board committees. The Nominating and Corporate Governance Committee also develops and recommends to the Board a set of corporate governance guidelines applicable to the Board and to us and oversees the effectiveness of our corporate governance in accordance with those guidelines. The Nominating and Corporate Governance Committee currently consists of the eight non-management directors, Messrs. Bullock, Bauer, Miller, Tuck, Geraghty, Baldridge, Landine and Ms. McNamara, each of whom the Board has determined meets the independence requirements under the applicable NASDAQ listing standards. The committee held two meetings during fiscal year 2006, in addition to five executive sessions conducted in conjunction with regular meetings of the Board. The Nominating and Corporate Governance Committee operates pursuant to a written charter, which is available on the Investor Relations section of our website at www.gtc-bio.com.

The Nominating and Corporate Governance Committee considers candidates for Board membership suggested by its members and other Board members. Additionally, in selecting nominees for directors, the Nominating and Corporate Governance Committee will review candidates recommended by stockholders in the same manner and using the same general criteria as candidates recruited by the committee and/or recommended by the Board. The Nominating and Corporate Governance Committee will also consider whether to nominate any person nominated by a stockholder in accordance with the provisions of our by-laws relating to stockholder nominations as described in "Deadline for Stockholder Proposals and Director Nominations" below.

Once the Nominating and Corporate Governance Committee has identified a prospective nominee, a subcommittee of the Nominating and Corporate Governance Committee makes an initial determination as to whether to conduct a full evaluation of the candidate. This initial determination is based on the information provided to the subcommittee with the recommendation of the prospective candidate, as well as the subcommittee's own knowledge of the prospective candidate, which may be supplemented by inquiries of the person making the recommendation or others. The preliminary determination is based primarily on the need for additional Board members to fill vacancies or expand the size of the Board and the likelihood that

the prospective nominee can satisfy the evaluation factors described below. Based on the recommendation of the subcommittee, the full committee then evaluates the prospective nominee against the standards and qualifications set out in our Corporate Governance Guidelines, which include among others:

- whether the prospective nominee meets the independence requirements defined under the applicable NASDAQ listing standards and audit committee financial expert requirements defined under applicable Securities and Exchange Commission rules and regulations;
- the extent to which the prospective nominee's skills, experience and perspective add to the range of talent appropriate for the Board and whether such attributes are relevant to our industry;
- the prospective nominee's ability to dedicate the time and resources sufficient for the diligent performance of Board duties; and
- the extent to which the prospective nominee holds any position that would conflict with responsibilities to us.

If the Nominating and Corporate Governance Committee's internal evaluation is positive, the subcommittee and possibly others will interview the candidate. Upon completion of this evaluation and interview process, the Nominating and Corporate Governance Committee makes a recommendation and report to the Board as to whether the candidate should be nominated by the Board and the Board determines whether to approve the nominee after considering this recommendation and report.

Compensation Committee Interlocks and Insider Participation

No person serving on the Compensation Committee at any time during fiscal year 2006 was a present or former officer or employee of ours or any of our subsidiaries during that year. During fiscal year 2006, no executive officer of ours served as a member of the board of directors or compensation committee (or other board committee performing equivalent functions) of any other entity that had an executive officer serving on our Board or Compensation Committee.

EXECUTIVE OFFICER AND DIRECTOR COMPENSATION

Compensation Discussion & Analysis

General

Our Compensation Committee, which consists of four independent directors, is responsible for establishing our compensation philosophy and objectives and implementing them by approving the principal elements of compensation for each of our executive officers. Our Compensation Committee is also responsible for administering all of our equity-based plans, including all plan awards made to our executive officers. Our Compensation Committee acts pursuant to a written charter, a copy of which is available on the Investor Relations section of our website at www.gtc-bio.com.

In reviewing and determining the elements of compensation and the amount of each element payable to executive officers, our Compensation Committee relies upon survey data from the Radford Biotechnology Survey described below, as well as the business experience of the members of our Compensation Committee and advice that our Compensation Committee seeks from time to time from outside advisors. Our Compensation Committee did not retain compensation consultants for fiscal 2006.

Philosophy and Objectives of Our Compensation Program

Our Compensation Committee's philosophy is to align our compensation program with our goal of building shareholder value, while at the same time assuring that we hire and retain skilled executives who are knowledgeable and experienced in our business. The objectives for our named executives' compensation program are to attract, retain and motivate qualified executives and to give them specific incentives to achieve goals that are designed to advance our broader corporate strategy and that are approved by our Compensation Committee. Specifically, we want to give our named executives incentives to perform as members of an integrated executive team and to achieve designated goals relating to our strategic objectives and financial and operating performance. Accordingly, our named executives' compensation program is designed to provide:

- current cash compensation that is competitive with other opportunities for our named executives in our industry and that takes into account the cost of living near our headquarters location of Framingham, Massachusetts, which exceeds that of most major suburban areas;
- individual and corporate performance bonuses to encourage effective individual and team performance against our current financial, operating and strategic goals and objectives.
- equity compensation that provides the potential for our named executives to share in the our growth over the long term as they build value for all equity holders.

Our Compensation Committee determines the allocation between total compensation amounts to be paid in cash and those to be awarded in the form of stock and stock options, based in part on our cash position. For example, in early 2006 we were very focused on conserving cash and, therefore, we deferred increases in salaries for senior executives, including our named executives, and we paid a significant portion of 2005 performance bonuses in shares of our common stock, which were issued in the first quarter of 2006.

Our Compensation Committee considers its compensation program, in the aggregate, to have achieved its objectives if:

- we are successful in achieving key goals that are consistent with the corporate strategy reviewed and approved annually by our Board, such as obtaining marketing approval of ATryn® in Europe during 2006;
- the cash compensation paid to named executives is consistent with their performance; and
- we are successful in retaining our key executives in the face of intense competition for management talent.

Benchmark Data and Compensation Consultants

Our named executives' cash compensation programs are benchmarked against industry survey data compiled by Radford Surveys + Consulting in its annual Radford Biotechnology Survey. This survey groups companies by their number of employees. We do not select the specific biotechnology companies in each grouping in the survey. Based on the size of our operations in the recent past, and the complexity of our operations relative to our stage of development, we have compared the cash compensation of our named executives to the survey's data for executives of companies with 150 to 499 employees. The Radford survey data we used in 2006 was based on approximately 75 companies in that data group. We generally try to achieve total compensation for our named executives at the 50th percentile of this benchmark group in the survey.

While members of our Compensation Committee believe that compensation survey data are useful guides for comparative purposes, they also believe that successful incentive compensation programs require the application of judgment and subjective determinations. To that extent, our Compensation Committee applies its collective judgment in reconciling our incentive program's objectives for our named executives with the realities of marketplace demands for the position and possible additional or fewer responsibilities relative to the survey group.

Neither management nor our Compensation Committee has made any significant use of compensation consultants. However, in anticipation of the change in accounting for equity-based compensation, at the end of 2005 we engaged a compensation specialist from PricewaterhouseCoopers LLP, our independent auditors, to provide us information on alternatives and emerging trends in equity compensation under the new accounting required by Statement of Financial Accounting Standards No. 123 (2002 revised), *Share-Based Payment*, or SFAS 123(R).

Role of Executive Officers in Compensation Decisions

Our Compensation Committee makes all determinations affecting the compensation for our named executives, including our Chief Executive Officer, or CEO. Our Compensation Committee receives and carefully considers our CEO's evaluations of all named executives other than himself, as well as his recommendations with respect to all components of compensation of the other named executives. Our Compensation Committee expressly retains the right to exercise, and regularly does exercise, its discretion in modifying any adjustments or awards recommended by the CEO. In the case of our CEO's compensation, our Compensation Committee conducts its own evaluation of his performance and does not request any recommendation from our CEO regarding his compensation. The only time that our CEO has made a recommendation regarding his compensation was when he requested that his salary not be increased, as was the case with the deferred salary increase in 2006.

In the case of the performance targets for the corporate performance component of cash bonus compensation for named executives and other employees, our CEO proposes targets to our Compensation Committee from which there follows discussion to decide an appropriate set of targets. Our Compensation Committee then seeks input from our Board regarding our strategic priorities and works with our Chief Executive Officer to finalize the key operating and strategic goals against which our Compensation Committee will ultimately evaluate both the individual and team performance of our named executives.

Elements of our 2006 Executive Compensation Program

The principal elements of compensation for our named executives during our fiscal year ended December 31, 2006 were:

- base salary
- a performance bonus component based on performance of our business against corporate objectives
- a performance bonus component based on individual executive performance

- annual and other periodic equity awards under our equity incentive plans
- other benefits

Base Salaries

Our Compensation Committee reviews and determines annually the base salaries for each of our named executives relative to Radford survey data for executives with similar titles and responsibilities to those of the named executive. In addition to this data, factors such as each named executive's salary history and internal pay equity may be considered. Base salaries are also typically reviewed upon promotion or other significant change in job responsibilities.

In March 2006, our Compensation Committee reviewed the base salaries of our named executives and, at the recommendation of our Chief Executive Officer, agreed to continue the recent practice of keeping increases in base salaries, if any, at the same percentage level for all named executives. However, in light of the fact that we received in February 2006 an initial denial of our marketing authorization application for ATryn® from the EMEA, our Compensation Committee deferred any 2006 salary increases for our named executives and instead authorized future cash payments to each of them equal to 5% of the named executive's respective base salary if we had a specified minimum cash balance at the end of fiscal 2006. The 5% amount of the deferred salary increase was determined based on the Radford survey data, current rates of inflation and the fact that the increase could have been deferred for up to twelve months.

After the European Commission's August 2006 approval of ATryn® as a treatment for hereditary antithrombin deficiency and the successful completion of our registered direct share offering in July 2006, our Compensation Committee determined there was sufficient assurance that we would satisfy the requirement for a specified minimum cash balance at the end of fiscal 2006 so that payment of the deferred increase could be accelerated. Accordingly, our Compensation Committee approved 5% salary increases for all the named executives effective as of September 1, 2006 and payment as contingent compensation the amount that would have been paid to each executive if the 5% increase had been in effect since January 1, 2006.

Performance Bonus Program

Our Compensation Committee reviews and determines annually the target amounts for performance bonuses to our named executives. They are defined as a percentage of base salary and the amount can be exceeded by up to 20% for exceptional corporate and individual performance. In determining these percentages for our named executives for 2006, our Compensation Committee considered the Radford survey data and our CEO's request that senior executives be given the same target bonuses as executives at comparable positions in the Radford Survey peer companies. After considering our financial position in early 2006, our Compensation Committee determined not to change the target bonus amounts for any of our named executives for 2006. The target bonus amount for our Chief Executive Officer in 2006 was 40% of his base salary, and for our other named executives it was 30% of their base salaries.

Our Compensation Committee makes its own determination of what portion of potential cash bonus awards should be based on corporate performance and what portion should be based on individual performance. In recent years our Compensation Committee has favored increased weighting toward corporate performance goals in order to emphasize achievement of our strategic objectives and promote the significant teamwork required of our named executive team. Accordingly, for 2006 potential cash performance bonuses for each of our named executives were set at two-thirds based on corporate performance and one-third based on individual performance.

Bonuses for Corporate Performance. Two-thirds of the potential cash performance bonuses in 2006 were tied to achievement of company-wide goals, which were determined in early 2006 between our CEO and our chairman of our Compensation Committee, with input from other members of the committee and our Board. These goals were based in substantial part on the annual review of corporate strategy, which our Board and management conduct. The goals for one-half of this portion of the cash incentive bonuses included

achievement of strategic and operating goals for total use of cash, achieving a specified year-end cash balance, raising additional capital from debt, equity or partnering transactions, meeting patient enrollment goals in our pivotal clinical trial for submission of a Biological License Application in the United States, achieving sufficient production of ATryn® to support LEO Pharma's Phase II clinical trial for a DIC/sepsis indication, completion of work in support of our external programs and maintaining the quality of our financial reporting, all of which were considered essential but likely achievable goals in 2006. The goals for the other half of this portion of the cash incentive bonuses were for successful re-examination of the CHMP's opinion on ATryn® and for new partnering deals, neither of which were considered likely when the goals were set in early 2006, as well as for achievement of more challenging, or stretch, goals in conserving total use of cash, achievement of a higher specified year-end cash balance, raising a higher level of additional capital from debt, equity or partnering transactions, and achieving further goals in our pivotal clinical trial for submission of a Biological License Application on ATryn® in the United States. Our Compensation Committee determined that corporate goals representing approximately half of the corporate performance for 2006 were achieved, including successful re-examination of the CHMP's opinion on ATryn®, signing of the new partnering deal with LFB Biotechnologies, completion of work in support of our external programs, raising additional capital, refinancing our debt, achieving a year-end cash balance in excess of $30 million, achieving cash receipts of approximately $10 million (exclusive of financings), and maintaining the quality of our financial reporting.

In February 2007, our Compensation Committee reviewed with our CEO the 2006 corporate performance against the company-wide goals and determined that the goals representing approximately 60% of the target for corporate performance bonuses had been achieved. Accordingly, the total cash incentive compensation awarded to our named executives in 2006 resulted in cash payments to these executive officers equaling approximately 34% of their base salary for the CEO and 26% of base salary for the other named officers.

Bonuses for Individual Performance. Of the one-third potential cash bonus for individual performance in 2006, one half was for performance against specific goals for the executive and one half was determined on purely qualitative criteria such as teamwork and management style. Our CEO determined these goals in each case, except those for himself, which were determined by our Compensation Committee. After the end of 2006, our CEO evaluated each named executive and presented our Compensation Committee with a summary of his evaluation and his recommendation regarding the individual performance component. In each case our committee accepted his recommendation. In the case of our CEO, our Compensation Committee determined that he should be awarded an individual bonus of $69,716, in addition to his bonus for corporate performance.

Equity Incentive Plan Awards

In addition to the portion of our annual performance bonuses that from time to time have been paid in shares of our common stock as noted above, our Compensation Committee considers stock options to be an important part of total compensation for our named executives. Annual and periodic equity awards, including stock options awards upon hiring, provide them long-term incentives. The purpose of these awards is to:

- highlight and reinforce the mutual, long-term alignment of interests between employees and the stockholders
- provide incentive for our named executives to create value over the long term
- assist in the attraction and retention of important key executives, managers and individual contributors who are essential to growth and development of our business

In March 2006, our Compensation Committee approved annual stock option awards to each of our employees, including our named executives. The stock option awards are determined by our Compensation Committee based on its own judgment and general knowledge of equity award practices in the biotechnology industry, but without reference to any specific benchmarks. Our Compensation Committee generally intends our equity awards to reflect the significance of each named executive's current and anticipated contributions to our overall performance. For each stock option award, 20% vested immediately and the balance vests 20% annually over four years. The exercise price per share of the stock options is equal to the last sale price of a share of our common stock on the date of grant. Prior to the exercise of a stock option, our named executives have no rights to vote the underlying shares or receive any distributions that might be made with respect to the shares.

Our Compensation Committee typically makes annual equity awards in connection with the regular Board meeting in February of each year. In 2006, however, our Compensation Committee had an additional follow-up meeting in March before it finalized all elements of compensation for our named executives, including approval of stock option awards.

In August 2006, in recognition of our extraordinary achievement in obtaining the European Commission's approval of ATryn® as a treatment for hereditary antithrombin deficiency, the first human pharmaceutical product produced in a transgenic animal to be approved anywhere in the world, our Compensation Committee made a special bonus award of 1,000 shares of our common stock to each of our employees, including each of our named executives.

Other Benefits

We provide our named executives the same medical, dental, disability insurance and life insurance as we provide to all our employees, and they may participate in our 401(k) Savings Plan. We do not provide any material perquisites to our named executives.

Named Executive Agreements

In prior years, as any of our named executives were hired by us or promoted to be executive officers, we entered into agreements with them pursuant to which they will be entitled to receive severance benefits upon termination by us without cause or upon the occurrence of certain enumerated events following a change-in-control. These agreements generally renew automatically from year to year, and in 2006 there was no adjustment in any of these agreements. The events that trigger payment are generally those related to termination of employment without cause or detrimental changes in the executive's terms and conditions of employment. See "Severance and Change-in-Control Agreements and Provisions" below for a more detailed description of these triggering events and the resulting benefits. We believe that this structure will help: (i) assure that the named executives' can give their full attention and dedication to us, free from distractions caused by personal uncertainties and risks related to a pending or threatened change-in-control, (ii) assure the named executives' objectivity in considering stockholders' interests, (iii) assure the named executives of fair treatment in case of involuntary termination following a change-in-control, and (iv) attract and retain key executive talent during uncertain times.

Impact of Tax and Accounting Issues

Compensation Deductibility

Section 162(m) of the Internal Revenue Code denies a tax deduction to a public corporation for annual compensation in excess of $1 million paid to its Chief Executive Officer and its four other highest compensated officers. This provision excludes certain types of "performance based compensation" from the compensation subject to the limit. Our Compensation Committee did not pay any one covered employee salary and bonus for 2006 that exceeded $1 million. In addition, our 2002 Plan contains an individual annual limit on the number of stock options and stock appreciation rights that may be granted under the plan so that such awards will qualify for the exclusion from the limitation on deductibility for performance-based

compensation. Our Compensation Committee believes, however, that factors other than tax deductibility are more important in determining the forms and levels of executive compensation most appropriate and in the best interests of our stockholders. Given our industry and business, as well as the competitive market for outstanding executives, our Compensation Committee believes that it is important to retain the flexibility to design compensation programs consistent with our executive compensation philosophy, even if some executive compensation is not fully deductible. Accordingly, our Compensation Committee may from time to time approve elements of compensation for certain executives that are not fully deductible.

Accounting for Stock-Based Compensation

Beginning on January 1, 2006, we began accounting for stock-based payments, including awards under our 2002 Plan, in accordance with SFAS 123(R).

Compensation Committee Report

Our Compensation Committee has reviewed and discussed the foregoing Compensation Discussion and Analysis with management of the company and, based on such review and discussion, we recommended to the Board of Directors that the Compensation Discussion and Analysis be included in this Proxy Statement.

By the Compensation Committee,

Francis J. Bullock, Chair
Kenneth A. Bauer
Marvin L. Miller
Alan W. Tuck

Summary Compensation Table

The following table sets forth information concerning compensation paid to, or earned by, our named executives in fiscal year 2006:

Name and Principal Position	Year	Salary ($)	Bonus ($)(1)	Stock Awards ($)(2)	Option Awards ($)(3)	Non-Equity Incentive Plan Compensation ($)(4)	Total ($)
Geoffrey F. Cox Chairman and CEO	2006	458,640	69,716	1,230	50,423	87,509	667,518
John B. Green Senior Vice President and CFO	2006	294,840	34,496	1,230	30,071	42,192	402,829
Gregory F. Liposky Senior Vice President, Operations	2006	278,460	32,580	1,230	37,239	39,848	389,357
Harry M. Meade Senior Vice President, Research and Development	2006	287,196	31,879	1,230	33,397	41,098	394,800
Daniel S. Woloshen Senior Vice President and General Counsel	2006	250,068	27,007	1,230	23,371	35,785	337,461

(1) Reflects payments of the portion of cash performance bonuses for 2006 based on individual performance. These payments were made in March 2007.

(2) Reflects the full grant date fair value of 1,000 shares of unrestricted common stock based on the grant date price of $1.23 per share on August 10, 2006.

(3) Reflects the amount recognized for financial statement reporting purposes for fiscal year 2006 in accordance with SFAS 123(R) and therefore includes amounts relating to awards granted in, and prior to, 2006. For the assumptions underlying the valuation of these awards see Note 9 to the Consolidated Financial Statements included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2006 filed with the SEC on March 7, 2007 and Note 2 to the Consolidated Financial Statements included in our Quarterly Reports for the fiscal quarters ended April 2, 2006, July 2, 2006 and October 1, 2006 filed with the SEC on May 10, 2006, August 4, 2006 and November 3, 2006, respectively.

(4) Reflects payments of the portion of cash performance bonuses for 2006 based on corporate performance. These payments were made in March 2007.

Employment Agreements

Several of our named executives have employment agreements that include compensation provisions unrelated to termination and change-in-control payments. These agreements provide for a minimum base salary and eligibility to receive performance and incentive bonuses. Each of these agreements is summarized below.

Geoffrey F. Cox, PhD, Chairman, President and Chief Executive Officer. We entered into an employment agreement with Dr. Cox in July 2001. Pursuant to this agreement, he is entitled to a minimum annual base salary of $380,000, and is eligible to receive performance and incentive bonuses of not less than 40% of his then current base salary, based on the achievement of certain individual and corporate objectives established jointly by Dr. Cox and our Compensation Committee. In calendar year 2006, Dr. Cox received a base salary of $458,640.

John B. Green, Senior Vice President, Chief Financial Officer *and Treasurer.* We entered into an employment agreement with Mr. Green in August 1997. Pursuant to this agreement, he is entitled to a minimum base salary of $150,000 per year, plus performance and incentive bonuses as determined by our Compensation Committee. In calendar year 2006, Mr. Green received a base salary of $294,840.

Harry Meade, PhD, Senior Vice President, Research and Development. We entered into an employment agreement with Dr. Meade in May 1996. Pursuant to this agreement, he is entitled to a minimum base salary of $126,000 per year, plus performance and incentive bonuses as determined by our Compensation Committee. In calendar year 2006, Dr. Meade received a base salary of $287,196.

Grants of Plan-Based Awards

The following table sets forth additional information regarding stock, option and non-equity incentive plan awards granted to our named executives during the fiscal year 2006:

Name	Grant Date	Estimated Future Payouts Under Non-Equity Incentive Plan Awards (1) Threshold ($)	Target ($)	Maximum ($)	All Other Stock Awards: Number of Shares of Stock or Units (#)	All Other Option Awards: Number of Securities Underlying Options (#)	Exercise or Base Price of Option Awards ($/Sh)	Grant Date Fair Value of Stock and Option Awards
Geoffrey F. Cox	—	3,669	73,382	146,765				
	3/10/06					90,000	1.03	23,200
	8/10/06				1,000			1,230
John B. Green.....	—	1,769	35,381	70,762				
	3/10/06					35,000	1.03	10,001
	8/10/06				1,000			1,230
Gregory F. Liposky...	—	1,671	33,415	66,830				
	3/10/06					50,000	1.03	14,287
	8/10/06				1,000			1,230
Harry M. Meade.....	—	1,723	34,464	68,927				
	3/10/06					50,000	1.03	14,287
	8/10/06				1,000			1,230
Daniel S. Woloshen ..	—	1,506	30,008	60,016				
	3/10/06					25,000	1.03	14,287
	8/10/06				1,000			1,230

(1) Reflect the range of potential payments of the portion of cash performance bonuses for 2006 based on corporate performance. Actual payments of these bonuses were made in February 2007 and equaled approximately 60% of the targeted payout for each named executive.

Outstanding Equity Awards at Fiscal Year-End 2006

The following table sets forth additional information regarding the equity awards granted to our named executives and outstanding as of December 31, 2006:

Name	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price ($)	Option Expiration Date
Geoffrey F. Cox	15,000	—	8.81	5/23/2011
	285,000	—	8.00	7/17/2011
	125,000	—	3.80	2/14/2012
	15,000	—	1.89	5/22/2012
	100,000(1)	25,000(1)	1.45	2/14/2013
	75,000(2)	—	3.96	2/13/2014
	600(3)	400(3)	2.25	12/9/2014
	30,000(4)	45,000(4)	1.71	2/15/2015
	18,000(5)	72,000(5)	1.03	3/10/2016
John B. Green	25,000	—	7.375	5/28/2007
	25,000	—	9.125	5/27/2008
	26,401	—	4.5625	5/25/2009
	33,000	—	17.3125	5/24/2010
	35,000	—	5.0313	3/14/2011
	50,000	—	3.80	2/14/2012
	40,000(1)	10,000(1)	1.45	2/14/2013
	25,000(2)	—	3.96	2/13/2014
	600(3)	400(3)	2.25	12/9/2014
	15,600(4)	23,400(4)	1.71	2/15/2015
	7,000(5)	28,000(5)	1.03	3/10/2016
Gregory F. Liposky	12,000	—	6.125	1/4/2009
	12,500	—	17.3125	5/24/2010
	12,500	—	31.0625	8/2/2010
	25,000	—	5.0313	3/14/2011
	50,000	—	3.80	2/14/2012
	36,000(1)	9,000(1)	1.45	2/14/2013
	35,000(2)	—	3.96	2/13/2014
	600(3)	400(3)	2.25	12/9/2014
	22,000(4)	33,000(4)	1.71	2/15/2015
	10,000(5)	40,000(5)	1.03	3/10/2016
Harry M. Meade	5,000	—	7.375	5/28/2007
	24,261	—	9.125	5/27/2008
	21,315	—	4.5625	5/25/2009
	33,000	—	17.3125	5/24/2010
	20,000	—	5.0313	3/14/2011
	50,000	—	3.80	2/14/2012
	36,000(1)	9,000(1)	1.45	2/14/2013
	25,000(2)	—	3.96	2/13/2014
	600(3)	400(3)	2.25	12/9/2014
	15,600(4)	23,400(4)	1.71	2/15/2014
	10,000(5)	40,000(5)	1.03	3/10/2016

Name	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price ($)	Option Expiration Date
Daniel S. Woloshen.....	15,000	—	5.5625	8/2/2009
	12,500	—	17.3125	5/24/2010
	12,500	—	31.0625	8/2/2010
	18,000	—	5.0313	3/14/2011
	35,000	—	3.80	2/14/2012
	36,000(1)	9,000(1)	1.45	2/14/2013
	25,000(2)	—	3.96	2/13/2014
	600(3)	400(3)	2.25	12/9/2014
	10,800(4)	16,200(4)	1.71	2/15/2015
	5,000(5)	20,000(5)	1.03	3/10/2016

(1) Granted on February 14, 2003. One-fifth vested upon grant and one-fifth vests on each of the next four annual anniversaries of grant.

(2) Granted on February 13, 2004. On December 22, 2005, in anticipation of the effective date of SFAS 123(R), our Compensation Committee approved the acceleration of vesting of all unvested stock options that had an exercise price of $3.75 or above which were held by current employees as of December 22, 2005, including executive officers. All other options with an exercise price below $3.75 per share continued to vest under their normal vesting schedule: one-fifth upon grant and one-fifth on each of the next four annual anniversaries of grant.

(3) Granted on December 9, 2004. One-fifth vested upon grant and one-fifth vests on each of the next four annual anniversaries of grant.

(4) Granted on February 15, 2005. One-fifth vested upon grant and one-fifth vests on each of the next four annual anniversaries of grant.

(5) Granted on March 10, 2006. One-fifth vested upon grant and one-fifth vests on each of the next four annual anniversaries of grant.

Option Exercises and Stock Vested

No stock options were exercised by our named executives during fiscal year 2006. The following table sets forth information regarding vesting during fiscal year 2006 of stock awards granted to our named executives:

	Stock Awards(1)	
Name	Number of Shares Acquired on Vesting (#)	Value Realized on Vesting ($)
Geoffrey F. Cox	1,000	1,230
John B. Green.....	1,000	1,230
Gregory F. Liposky.....	1,000	1,230
Harry M. Meade.....	1,000	1,230
Daniel S. Woloshen.....	1,000	1,230

(1) Reflects grant of 1,000 shares of unrestricted common stock at $1.23 per share on August 10, 2006 as part of a company-wide grant of 1,000 shares each to all employees.

Director Compensation

The following table sets forth information concerning the compensation paid to, or earned by, our directors in fiscal year 2006:

Name	Fees Earned or Paid in Cash ($)	Option Awards ($)(1)(2)	Total ($)
Robert W. Baldridge	30,500	3,898	34,398
Kenneth A. Bauer	27,500	2,562(3)	30,062
Christian Béchon	500	6,605	7,105
Francis J. Bullock	20,250(4)	—	20,250
James A. Geraghty	16,000(5)	3,898	19,898
Michael J. Landine	29,500(6)	7,985	37,485
Pamela W. McNamara	29,000(7)	2,562(3)	31,562
Marvin L. Miller	26,700	2,562(3)	29,262
Alan W. Tuck	35,500	—	35,500

(1) The following aggregate number of option awards were outstanding as of December 31, 2006 for each director included in the table:

Director	Option Awards
Robert W. Baldridge	60,000
Kenneth A. Bauer	37,500
Christian Béchon	22,500
Francis J. Bullock	65,500
James A. Geraghty	147,500
Michael J. Landine	22,500
Pamela W. McNamara	52,500
Marvin L. Miller	52,500
Alan W. Tuck	43,000

(2) Reflects the amount recognized for financial statement reporting purposes for fiscal year 2006 in accordance with SFAS 123(R) and therefore includes amounts relating to awards granted in, and prior to, 2006. For the assumptions underlying the valuation of these awards see Note 9 to the Consolidated Financial Statements included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2006 filed with the SEC on March 7, 2007 and Note 2 to the Consolidated Financial Statements included in our Quarterly Reports for the fiscal quarters ended April 2, 2006, July 2, 2006 and October 1, 2006 filed with the SEC on May 10, 2006, August 4, 2006 and November 3, 2006, respectively.

(3) Includes the amount recognized for financial statement reporting purposes for fiscal year 2006 in accordance with SFAS 123(R) of 22,500 options granted to this director upon his or her re-election as a director on May 24, 2006. The full grant date fair value of the options was $17,632, based upon the current market price on the grant date.

(4) Includes $1,875 in fees earned by Dr. Bullock which were paid in shares of our common stock in lieu of cash payment.

(5) Includes $3,250 in fees earned by Mr. Geraghty which were paid in shares of our common stock in lieu of cash payment.

(6) Includes $1,400 in fees earned by Mr. Landine which were paid in shares of our common stock in lieu of cash payment.

(7) Includes $1,000 in fees earned by Ms. McNamara which were paid in shares of our common stock in lieu of cash payment.

We pay our non-employee directors a combination of cash and stock options for their service on our Board and its committees. We do not pay directors who are also our employees for their service as directors. Director compensation is determined and reviewed annually by the Compensation Committee which recommends any changes to our Board for its approval.

Director Fees. We pay our non-employee directors an annual retainer of $12,000, payable in quarterly installments. Directors who also serve as non-Chair members of the Compensation Committee or the Nominating and Corporate Governance Committee receive for each committee an additional annual retainer of $2,000, payable quarterly. Directors who serve as the Chair of a committee receive for each committee an additional annual retainer of $3,000, payable quarterly. Directors who serve as non-Chair members of the Audit Committee receive an additional annual retainer of $4,000, payable quarterly. The director who serves as the Chair of the Audit Committee receives an additional annual retainer of $6,000, payable quarterly. In addition to these retainers, each non-employee director receives $1,000 for attendance in person (or $500 for participation by conference call) for each Board meeting and each standing committee meeting (other than meetings of the Nominating and Governance Committee held in conjunction with a Board meeting), plus reimbursement of reasonable expenses incurred in attending or otherwise participating in such meetings. Non-employee directors may elect to have part or all of their director fees paid in the form of our common stock. An election to be paid in common stock must be made prior to the payment date of the quarterly installment effected. The number of shares to be issued as payment is determined based on the amount of the quarterly installment to be paid in the form of common stock divided by the per share closing price of our common stock on the last trading day of the quarter preceding payment.

Stock Options. Our non-employee directors are currently eligible to participate in our 2002 Plan. Our Board has discretion to determine the size, type and exerciseability of any awards granted to our non-employee directors under the 2002 Plan. Non-employee directors are granted options at the annual meeting of stockholders when they are elected or re-elected as director. Each eligible director, other than the Chairman of the Board, receives an option to purchase 7,500 shares of common stock for each year of the term of office to which the director is elected (normally 22,500 shares for election to a three-year term of office). A non-employee Chairman of the Board would receive an option to purchase 15,000 shares for each year of the term of office to which the Chairman is elected (normally 45,000 shares for a three-year term of office). Upon an eligible director's election other than at an annual meeting, the director is automatically granted an option to purchase 7,500 shares in the case of a non-Chairman and 15,000 shares in the case of a non-employee Chairman, for each year or portion of a year of the term of office to which he or she is elected. Options for non-employee directors other than the Chairman vest as to 7,500 shares on the date the option is granted and on the date of each subsequent annual meeting of stockholders, so long as the optionee is still a director. The options have a term of ten years and an exercise price, payable in cash or common stock, equal to the closing per share price of our common stock on the date of grant, as reported on the NASDAQ Global Market.

Payments Upon Termination or Change-In-Control

We have entered into certain agreements and maintain certain plans that may require us to make payments and provide benefits to our named executives in the event of a termination of their employment, including upon a change-in-control of us. For purposes of the description of the potential payments and benefits set forth below, we have assumed that the triggering event with respect to a termination or change-in-control occurred as of December 29, 2006, the last business day of our last fiscal year, and that the per share price of our common stock was $1.11, the closing price on that date. The actual amounts of any payments and the value of any benefits can only be determined at the time of a named executive's termination or a change-in-control.

The following table sets out the circumstances in which we are obligated to make payments to our named executives at, following or in connection with a termination of their employment. The table excludes information with respect to payments or benefits provided under arrangements or plans that do not

discriminate in favor of the named executives and that are generally available to all our of salaried employees. The table also excludes circumstances in which our obligation is limited to payments of earned, but unpaid compensation such as unpaid base salary, vacation earned and unpaid bonus for a previous year.

	Payments Upon Termination				
Named Executive and Payment Categories	By us without cause	By us upon a change-in-control	By employee upon our breach	By employee upon change-in-control	By employee upon change-in-control with good reason
Geoffrey C. Cox					
Chairman, President and CEO					
Bonus	$ 230,400	$ 230,400	$ 230,400	$ —	$ 230,400
Base Salary	960,000	960,000	960,000	—	960,000
Continuation of Benefits(1)	32,572	32,572	32,572	—	32,572
Acceleration of Options	72,897	72,897	72,897	—	72,897
Total	$ 1,295,869(2)	$ 1,295,869(3)	$1,295,869	$ —	$ 1,295,869(3)(4)
John B. Green					
Senior Vice President, CFO and Treasurer					
Bonus	$ 110,282	$ 110,282	—	$ 110,282	—
Base Salary	306,340	612,680	—	612,680	—
Continuation of Benefits(5)	14,356	28,711	—	28,711	—
Acceleration of Options	—	56,623	—	56,623	—
Total	$ 430,978(2)	$ 808,296(3)	—	$ 808,296(3)	—
Harry M. Meade					
Senior Vice President, Research and Development					
Bonus	$ 107,531	$ 72,977	—	—	$ 72,977
Base Salary	298,696	298,696	—	—	298,696
Continuation of Benefits	14,356(5)	15,493(1)	—	—	15,493(1)
Acceleration of Options	—	11,792	—	—	11,792
Total	$ 420,583	$ 398,958(6)	—	—	$ 398,958(6)(7)
Gregory F. Liposky					
Senior Vice President, Operations					
Bonus	$ —	$ 72,427	—	—	$ 72,427
Base Salary	289,960	289,960	—	—	289,960
Continuation of Benefits	14,356(5)	15,457(1)	—	—	15,457(1)
Acceleration of Options	—	12,341	—	—	12,341
Total	$ 304,316	$ 390,185(6)	—	—	$ 390,185(6)(7)
Daniel S. Woloshen					
Senior Vice President and General Counsel					
Bonus	$ —	$ 62,792	—	—	$ 62,792
Base Salary	260,318	260,318	—	—	260,318
Continuation of Benefits	14,356(5)	15,345(1)	—	—	15,345(1)
Acceleration of Options	—	6,605	—	—	6,605
Total	$ 274,674	$ 345,060(6)	—	—	$ 345,060(6)(7)

(1) Benefits include life, medical, dental, accident and disability insurance.

(2) "Cause" means (i) continued breach of a material duty or obligation under the agreement; (ii) intentional or grossly negligent conduct by the executive that is materially injurious to us or (iii) his continued willful failure to follow our Board's instructions.

(3) "Change-in-control" means (i) the acquisition by a person resulting in that person owning or controlling 50% or more of our common stock; (ii) a merger or similar combination after which 49% or more of the voting stock of the surviving corporation is held by persons who were not our stockholders immediately prior to the merger or combination; (iii) acquisition, merger or similar combination or divestiture of our business after which the executive's role is not substantially the same as prior to

the transaction; (iv) the election by our stockholders of 20% or more directors other than pursuant to nomination of our management; or (iv) the sale by us of all or substantially all of our assets or business.

(4) "Good reason" means termination by the executive following a change-in-control upon any of: (i) a change in his responsibilities, titles or duties inconsistent with those immediately prior to the change-in-control, or the termination of the executive's employment by us or a successor of ours (except for "cause," the executive's retirement, death or disability or termination by the executive other than for "good reason"); (ii) a reduction in the executive's base salary; (iii) a requirement that the executive be based more than 60 miles from his office location immediately prior to the change-in-control; or (iv) our failure to obtain our successor's assumption of our obligations under his employment agreement.

(5) Benefits include health and dental insurance.

(6) "Change-in-control" means (i) the acquisition by a person resulting in that person owning or controlling 50% or more of our common stock; (ii) a merger or similar combination after which 50% or more of the voting stock of the surviving corporation is held by persons who were not our stockholders immediately prior to the merger or combination; (iii) the election by our stockholders of 50% or more directors other than pursuant to nomination of our management; or (iv) the sale by us of all or substantially all of our assets or business.

(7) "Good reason" means termination by the executive following a change-in-control upon any of (i) a material diminution of the duties and responsibilities that the executive had immediately prior the change-in-control; (ii) a reduction in the executive's base salary, (iii) a requirement that the executive be based more than 60 miles from his office location immediately prior to the change-in-control, or (iv) our failure to obtain our successor's assumption of our obligations under his employment agreement.

Severance and Change-in-Control Agreements and Provisions

We have entered into various agreements with our named executives that provide for, or contain provisions relating to, severance or change-in-control payments. The following descriptions summarize these agreements and provisions. Except in the case of Mr. Green, these agreements limit the aggregate amount of benefits payable to the named executive upon a change-in-control to 2.99 times the "base amount" as defined in Section 280G of the Internal Revenue Code. In addition, unless indicated below, any options or other equity awards granted to our named executives subject to vesting or exercise terminate upon the three month anniversary of the date of termination of the named executive's employment.

Dr. Cox, Chairman, President and Chief Executive Officer

Pursuant to our employment agreement with Dr. Cox, if:

(i) we terminate his employment without cause;

(ii) we or our successor terminate his employment within 12 months after a change-in-control (except upon his death or disability, retirement or without cause);

(iii) he terminates his employment upon our continued breach of a material duty or obligation under the agreement for 30 days after we receive written notice of the breach; or

(iv) he terminates his employment for good reason within 12 months after a change-in-control;

then Dr. Cox is entitled to receive a severance amount equal to 24 months of his then current base salary plus his maximum incentive bonus that would next be payable to him for the then current bonus period prorated based on the number of days worked of the then current bonus period. The severance amount would be payable to Dr. Cox in monthly installments over 24 months following his termination. In addition, Dr. Cox would be entitled to continue receiving his then current benefits for 24 months. Further, Dr. Cox's outstanding unvested options would become fully vested and exercisable and remain exercisable for 24 months following

the termination of his employment. As a condition to our obligations under his agreement, Dr. Cox entered into a confidentiality and non-competition agreement providing for a five-year non-disclosure period and a one-year non-compete period.

Mr. Green, Senior Vice President, Chief Financial Officer and Treasurer

Pursuant to our employment agreement with Mr. Green, if we terminate his employment without cause or he terminates his employment for any reason within 24 months following a change-in-control, he is entitled to receive a severance amount equal to:

(i) 12 months of his then current base salary, if we terminate his employment without cause either outside the period from 180 days before and 24 months after a change-in-control; or

(ii) 24 months of his then current base salary if:

(a) we terminate his employment without cause during the period 180 days before and 24 months after a change-in-control; or

(b) he terminates his employment within 24 months after a change-in-control.

In addition to his base salary payment, Mr. Green would also be entitled to an amount equal to the maximum incentive bonus that would next be payable to him for the then current bonus period, prorated based on the number of days worked during that then current bonus period. The severance payment would be payable to Mr. Green within 10 days after the date his employment is terminated. In addition, Mr. Green would be entitled to continue to receive his then current benefits for either a 12 or 24 month period, corresponding to the period on which his applicable base salary payment was based. Further, if Mr. Green's employment is terminated pursuant to (ii) above, his outstanding unvested options would become fully vested and exercisable and remain exercisable pursuant to their duration as if his employment had not been terminated.

Dr. Meade, Senior Vice President, Research and Development

Pursuant to our employment agreement with Dr. Meade, if we terminate his employment without cause, then he is entitled to receive a severance amount equal to 12 months of his then current base salary plus the maximum incentive bonus that would next be payable to him for the then current bonus period, prorated based on the number of days worked of the then current bonus period. The severance amount would be payable to Dr. Meade in a lump sum payment within 10 days after his employment is terminated. In addition, Dr. Meade would be entitled to continue receiving his then current benefits for 12 months after his employment is terminated.

In addition to his employment agreement, we entered into an executive change-in-control agreement with Dr. Meade in August 2004. Pursuant to this agreement, if:

(i) we or our successor terminate his employment within 12 months after a change-in-control (except upon his death or disability, retirement or termination for cause); or

(ii) he terminates his employment for good reason within 12 months after a change-in-control;

then Dr. Meade is entitled to a severance amount equal to 12 months of then current base salary plus the incentive bonus most recently paid to him, prorated based on the number of days worked in the then current bonus period. The severance amount will be payable to Dr. Meade in monthly installments over 12 months following the termination of his employment. In addition, Dr. Meade will be entitled to continue receiving his then current benefits for 12 months after his employment is terminated. Also, Dr. Meade's outstanding unvested stock options will become fully vested and exercisable upon the termination of his employment.

Mr. Liposky, Senior Vice President, Operations

We entered into a management agreement with Mr. Liposky in June 2000. Pursuant to that agreement, if we terminate his employment without cause, he is entitled to receive a severance amount equal to 12 months of his then current base salary payable in biweekly installments over 12 months commencing the first month after his employment is terminated. In addition, Mr. Liposky would be entitled to continue receiving his then current benefits for 12 months. The agreement also obligates Mr. Liposky to a one-year non-compete period commencing upon the termination of his employment. In order to enforce this obligation, we must pay, if not otherwise required under the agreement, the severance amount to Mr. Liposky.

In addition to his management agreement, we entered into an executive change-in-control agreement with Mr. Liposky in August 2004. Pursuant to this agreement, if:

(i) we or our successor terminate his employment within 12 months after a change-in-control (except upon his death or disability, retirement or termination for cause); or

(ii) he terminates his employment for good reason within 12 months after a change-in-control;

then Mr. Liposky is entitled to a severance amount equal to 12 months of then current base salary plus the incentive bonus most recently paid to him, prorated based on the number of days worked in the then current bonus period. The severance amount will be payable to Mr. Liposky in monthly installments over 12 months following the termination of his employment. In addition, Mr. Liposky will be entitled to continue receiving his then current benefits for 12 months after his employment is terminated. Also, Mr. Liposky's outstanding unvested stock options will become fully vested and exercisable upon the termination of his employment. As a condition to our obligations under this agreement, Mr. Liposky entered into a confidentiality agreement providing for a three-year non-disclosure period.

Mr. Woloshen, Senior Vice President and General Counsel

We entered into a management agreement with Mr. Woloshen in May 1999. Pursuant to that agreement, if we terminate Mr. Woloshen's employment without cause, he is entitled to receive a severance amount equal to 12 months of his then current base payable in biweekly installments over 12 months commencing the first week following the termination of his employment. In addition, Mr. Woloshen is entitled to continue receiving his then current benefits for 12 months after his employment is terminated. The agreement also obligates Mr. Woloshen to a one-year non-compete period commencing upon the termination of his employment. In order to enforce this obligation, we must pay, if we not otherwise required to do so under the agreement, the severance amount to Mr. Woloshen.

In addition to his management agreement, we entered into an executive change-in-control agreement with Mr. Woloshen in August 2004. Pursuant to this agreement, if:

(i) we or our successor terminate his employment within 12 months after a change-in-control (except upon his death or disability, retirement or termination for cause); or

(ii) he terminates his employment for good reason within 12 months after a change-in-control;

then Mr. Woloshen is entitled to a severance amount equal to 12 months of then current base salary plus the incentive bonus most recently paid to him, prorated based on the number of days worked in the then current bonus period. The severance amount will be payable to Mr. Woloshen in monthly installments over 12 months following the termination of his employment. In addition, Mr. Woloshen will be entitled to continue receiving his then current benefits for 12 months after his employment is terminated. Also, Mr. Woloshen's outstanding unvested stock options will become fully vested and exercisable upon the termination of his employment. As a condition to our obligations under this agreement, Mr. Woloshen entered into a confidentiality agreement providing for a three-year non-disclosure period.

RELATED PERSON TRANSACTIONS

Policy on Related Person Transactions

Our Board of Directors has recently adopted a written Policy on Related Person Transactions that sets forth our policies and procedures for the reporting, review, and approval or ratification of each related person transaction. Our Audit Committee is responsible for implementing this policy and determining that any related person transaction is in our best interests. The policy applies to transactions and other relationships that would need to be disclosed in this proxy statement as related person transactions pursuant to new SEC rules. In general, these transactions and relationships are defined as those involving a direct or indirect interest of any of our executive officers, directors, nominees for director and 5% stockholders, as well as specified members of the family or household of any of these individuals or stockholders, where we or any of our affiliates have participated in the transaction as a direct party or by arranging the transaction and the transaction involves more than $120,000. In adopting this policy, our Board expressly excluded from its coverage any transactions, among others, involving compensation of our executive officers or directors that it or our Compensation Committee has expressly approved. The material terms of our existing agreements and arrangements with LFB Biotechnologies and Genzyme Corporation, each of which beneficially owns more than 5% of our common stock, have previously been approved by our Board before this policy was implemented. Any material modification to the material terms of these agreements and arrangements will be subject to review by our Audit Committee under this policy.

LFB Biotechnologies

In September 2006, we entered into a joint development and collaboration agreement with LFB Biotechnologies, S.A.S.U. of France, or LFB, to develop selected recombinant plasma proteins and monoclonal antibodies using our transgenic production platform. In connection with entering into the joint development and collaboration agreement, we sold to LFB an aggregate of $25 million of our securities, consisting of common stock, Series D preferred stock and a convertible note. In addition, Christian Béchon, one of our directors and board representative for LFB, serves as Chairman and Chief Executive Officer of LFB and Laboratoire français du Fractionnement et des Biotechnologies S.A., LFB's parent company.

Equity Position. LFB is our largest stockholder. As of March 31, 2007, LFB owned 3,630,000 shares of our common stock, 14,615 shares, or 100%, of our Series D preferred stock, each share of which is convertible into 1,000 shares of our common stock, and beneficially owned, on an as-converted basis, 18,245,000 shares, or approximately 19.8%, of our then outstanding common stock. As sole shareholder of our Series D preferred stock, LFB is entitled to nominate and elect one director to our Board. LFB also has a five-year right to participate in our future offerings of common stock, if any, upon conversion of the convertible note to the extent that its participation will not result in LFB owning, on an as-converted basis, more than 19.9% of our shares of common stock outstanding upon completion of the offerings. Beginning in October 2007, LFB will have registration rights with respect to up to 10,000,000 shares of common stock it beneficially owns.

Convertible Note. In December 2006, we entered into a five-year convertible note with LFB in the amount of $2.6 million. The convertible note accrues interest at a rate of 2% per annum and will automatically convert into shares of our common stock in conjunction with any future common stock offerings at the per share offering price of the respective offering, but only to the extent that any conversion does not result in LFB owning, on an as-converted basis, more than 19.9% of our common stock.

Joint Development and Collaboration Agreement. Under our joint development and collaboration agreement, we and LFB will share equally in the cost of the development and commercialization of each product and will be entitled to 50% of any profits derived from products developed through the collaboration provided we each contribute equally to their development. In the event that contributions to development are not equal, the profit allocation will be adjusted based on development costs incurred. Under the agreement, a joint steering committee of our and LFB's representatives will determine product development and commercialization plans. We are responsible for development of the production system for the products and

will retain exclusive commercial rights to the products in North America. LFB is responsible for clinical development and regulatory review of the first program in this collaboration, and will have exclusive commercial rights in Europe. We will hold co-exclusive rights with LFB in the rest of the world to any products developed through the collaboration. The initial term of the agreement is fifteen years, subject to extension or termination by mutual consent, and the terms for any product developed through the collaboration will continue until the later of the initial term or ten years beyond regulatory approval of that product.

Genzyme Corporation

In fiscal year 2006, we paid Genzyme Corporation an aggregate of approximately $874,735 under the research and development agreement and the sublease agreement described below. In addition, Mr. Geraghty, one of our directors, is a senior executive of Genzyme.

Equity Position. Genzyme is one of our largest stockholders. As of April 5, 2007, Genzyme beneficially owned 4,299,032 shares, or approximately 5.5%, of our then outstanding common stock. Included in these shares are 288,000, 55,833 and 29,491 shares of common stock issuable upon exercise of warrants having exercise prices of $4.88, $6.30 and $6.30 per share, respectively, which were the market prices of the common stock at the time the respective warrants were issued. The expiration dates of these warrants range from December 2008 through November 2009. Genzyme has registration rights with respect to all of the shares it beneficially owns.

Promissory Note. On April 4, 2002, we repurchased 2.82 million shares of our common stock directly from Genzyme which was recorded as treasury stock. We bought the shares for an aggregate consideration of approximately $9.6 million, consisting of approximately $4.8 million in cash and a promissory note to Genzyme for the remaining $4.8 million. Our common stock was valued at $3.385 per share in this transaction, using the simple average of the high and low transaction prices quoted on the NASDAQ Global Market on the previous trading day. Genzyme agreed to a 24-month lock-up provision on their remaining 4.92 million shares of common stock, which was released on April 4, 2004. The promissory note accrued interest at LIBOR plus 1% (LIBOR equaled 4.5% at January 1, 2006). Pursuant to the terms of the note, we repaid $2.4 million in April 2005 and repaid the remaining $2.4 million in January 2006.

Research and Development Agreement. In July 2001, we entered into a services agreement with Genzyme under which it may perform manufacturing, research and development and regulatory services for our ATryn® program on a cost plus 5% basis. In fiscal year 2006, we paid Genzyme approximately $85,000 under this arrangement, which will be substantially completed once we complete the EMEA process for reexamination of our Marketing Authorization Application for ATryn®.

Sublease Agreement. Under a sublease agreement, we sublease approximately 4,100 square feet of laboratory, research and office space from Genzyme in exchange for fixed monthly rent payments which approximate the estimated current rental value for such space. In addition, we reimburse Genzyme for our pro rata share of appropriate facilities' operating costs such as maintenance, cleaning, utilities and real estate taxes. The sublease is automatically renewed each year and is cancelable by us. Under the sublease agreement, we made payments for the fiscal year 2006 of $428,000, and are committed to make a minimum annual rental payment of approximately $440,000 in fiscal year 2007.

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Report of the Audit Committee

The following is the report of the Audit Committee with respect to the company's audited financial statements for the year ended December 31, 2006.

The purpose of the Audit Committee is to assist the Board in fulfilling its responsibility to oversee the company's accounting and financial reporting, internal control and audit functions. The Audit Committee is comprised entirely of independent directors as defined by applicable NASDAQ Stock Market standards.

Management is responsible for our internal controls and the financial reporting process. The independent registered public accounting firm is responsible for performing independent audits of our consolidated financial statements and management's assessment of the effectiveness of internal controls over financial reporting in accordance with the standards established by the Public Company Accounting Oversight Board (United States) and issuing a report thereon. The Committee's responsibility is to monitor these processes. The Audit Committee has reviewed and discussed the consolidated financial statements with management and PricewaterhouseCoopers LLP, our independent registered public accounting firm.

In the course of its oversight of the company's financial reporting process, the Audit Committee has:

- reviewed and discussed with management and PricewaterhouseCoopers LLP, GTC's audited financial statements for the fiscal year ended December 31, 2006;
- discussed with the independent registered public accountant the matters required to be discussed by Statement on Auditing Standards No. 61, *Communication with Audit Committees*;
- received the written disclosures and the letter from the independent registered public accountant required by Independence Standards Board Standard No. 1, *Independence Discussions with Audit Committees*;
- reviewed with management and the independent registered public accountant the company's critical accounting policies;
- discussed with management the quality and adequacy of the company's internal controls over financial reporting;
- discussed with PricewaterhouseCoopers LLP any relationships that may impact their objectivity and independence; and
- considered whether the provision of non-audit services by the independent registered public accountant is compatible with maintaining the independent registered public accountant's independence.

Based on the foregoing review and discussions, the Committee recommended to the Board that the audited financial statements be included in the company's Annual Report on Form 10-K for the year ended December 31, 2006 for filing with the Securities and Exchange Commission.

By the Audit Committee,

Alan W. Tuck, Chair
Robert W. Baldridge
Michael J. Landine
Pamela W. McNamara

Independent Registered Public Accountants' Fees and Other Matters

The firm of PricewaterhouseCoopers LLP, an independent registered public accounting firm, has audited our consolidated financial statements for the year ended December 31, 2006 and management's assessment of the effectiveness of internal controls over financial reporting at December 31, 2006. Our Audit Committee appointed PricewaterhouseCoopers LLP to serve as our independent registered public accountants for the 2006 year-end audit and to review our quarterly financial reports for filing with the Securities and Exchange Commission during fiscal year 2007. Representatives of PricewaterhouseCoopers LLP are expected to attend the annual meeting and will be available to respond to appropriate questions. They will also have the opportunity to make a statement if they desire.

The following table shows the fees paid or accrued by us for professional services performed by PricewaterhouseCoopers LLP for auditing our financial statements for fiscal years 2006 and 2005:

	2006	2005
Audit Fees(1)	$465,175	$457,703
Audit-Related Fees(2)	4,000	—
Tax Fees(3)	38,353	50,259
All Other Fees	31,675(4)	1,500(5)
Total	$539,203	$509,462

(1) Represents fees for professional services provided in connection with the audits of our year-end annual consolidated financial statements and management's assessment of the effectiveness of internal controls over financial reporting and review of our quarterly financial statements and audit services provided in connection with other statutory or regulatory filings.

(2) Represents fees for assurance and related services and consisted of the audit of executive compensation disclosure in connection with preparation of our 2006 proxy statement. All audit-related services were pre-approved by the Audit Committee.

(3) Represents fees for tax return review, preparation and compliance services.

(4) Represents fees for services in support of litigation activities and compensation consulting, primarily supporting the implementation of SFAS 123(R).

(5) Represents fees for research materials.

Pre-Approval Policy

In accordance with its written charter, our Audit Committee pre-approves the proposed services, including the scope of services contemplated and the related fees, associated with the current year audit. Our Audit Committee has adopted policies and procedures for the pre-approval of non-audit services for the purpose of maintaining the independence of our independent registered public accountant. Management must obtain the specific prior approval of the Audit Committee for each engagement of the independent registered public accountant to perform any non-audit services that exceed the pre-approved amounts. For fiscal year 2006, our Audit Committee pre-approved specific non-audit services subject to cost limits to be performed by PricewaterhouseCoopers LLP in order to assure that these services do not impair the independent registered public accountant's independence. All of the non-audit services rendered by PricewaterhouseCoopers LLP in fiscal year 2006 were pre-approved by our Audit Committee in accordance with these limits.

ADDITIONAL INFORMATION

Deadline for Stockholder Proposals and Director Nominations

If the 2007 Annual Meeting is not held before April 24, 2007 or after June 23, 2007, and if you wish to bring business before or propose director nominations at the 2008 Annual Meeting of Stockholders, you must notify us in writing by March 10, 2007 (the date 75 days before the anniversary of the 2007 Annual Meeting).

If you intend to bring such a proposal or nomination at the 2008 Annual Meeting, and you would like us to consider the inclusion of your proposal or nomination in our proxy statement for the meeting, you must notify us in writing of your proposal or nomination prior to December 25, 2006.

Any stockholder wishing to recommend a director candidate for consideration by the Nominating and Corporate Governance Committee should provide the following information to Vice President, Corporate Communications, c/o GTC Biotherapeutics, Inc., 175 Crossing Boulevard, Framingham, Massachusetts 01702:

- a brief statement outlining the reasons the nominee would be an effective director;
- the name, age and business and residence addresses of the candidate;
- the principal occupation or employment of the candidate for the past five years, as well as information about any other board of directors and board committee on which the candidate has served during that period;
- the number of shares of our common stock, if any, beneficially owned by the candidate;
- details of any business or other significant relationship the candidate has ever had with us or our affiliates;
- the stockholder's name and record address and the name and address of the beneficial owner of shares of our common stock, if any, on whose behalf the proposal is made; and
- the number of shares of our common stock that the stockholder and any such beneficial owner beneficially own.

The Nominating and Corporate Governance Committee may seek further information from or about the stockholder making the recommendation, the candidate, or any such beneficial owner, including information about all business and other relationships between the candidate and the stockholder and between the candidate and any such beneficial owner.

Householding of Annual Meeting Materials

Some banks, brokers and other nominee record holders may be participating in the practice of "householding" proxy statements and annual reports. This means that only one copy of our proxy statement or annual report may have been sent to multiple stockholders in your household. We will promptly deliver a separate copy of either document to you if you write or call us at the following address or phone number: GTC Biotherapeutics, Inc., 175 Crossing Boulevard, Framingham, Massachusetts 01702, Attention: Vice President, Corporate Communications (508-620-9700 x5374). If you wish to receive separate copies of our annual report and proxy statement in the future, or if you are receiving multiple copies and would like to receive only one copy for your household, you should contact your bank, broker, or other nominee record holder, or you may contact us at the above address and phone number.

Annual Report and Other SEC Filings

Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K are available on our website at www.gtc-bio.com. These and other SEC filings, including our proxy statement, are also available on the SEC's website at www.sec.gov.

A copy of these filings, including our Annual Report on Form 10-K for the fiscal year ended December 31, 2006 (excluding exhibits) may be obtained, at no cost, by writing to the Vice President, Corporate Communications, GTC Biotherapeutics, Inc., 175 Crossing Boulevard, Framingham, Massachusetts 01702.

Our Annual Report for the year ended December 31, 2006, which is being mailed to stockholders with this proxy statement, is not incorporated into this proxy statement and is not deemed to be part of the proxy soliciting material.

* * * * *

[As proposed for approval by the stockholders on May 23, 2007. For reference this document has been marked to show changes from the current 2002 Equity Incentive Plan. In addition to the proposed amendment and restatement, these changes also reflect a previously adopted amendment to Section 8(l) unrelated to this proposal.]

ANNEX A

PROPOSED
GTC BIOTHERAPEUTICS, INC.
AMENDED AND RESTATED 2002 EQUITY INCENTIVE PLAN

1. **Purpose.**

The purpose of the 2002 Equity Incentive Plan as amended and restated (the "Plan") of GTC Biotherapeutics, Inc. (f/k/a Genzyme Transgenics Corporation) is to attract, retain and motivate persons who are expected to make important contributions to the Company and its Affiliates, to provide an incentive for them to achieve performance goals, and to enable them to participate in the growth of the Company by granting Awards with respect to the Company's Common Stock. Certain capitalized terms are used herein as defined in Section 9 below.

2. **Administration.**

The Plan shall be administered by the Committee; provided that the Board may (subject to any regulatory or exchange listing requirements) in any instance perform any of the functions of the Committee hereunder. The Committee shall select the Participants to receive Awards and, subject to the provisions of the Plan, shall determine the terms and conditions of the Awards. The Committee shall have authority to adopt, alter and repeal such administrative rules, guidelines and practices governing the operation of the Plan as it shall from time to time consider advisable, to interpret the provisions of the Plan, and to remedy any inconsistencies or ambiguities. The Committee's decisions shall be final and binding. To the extent permitted by applicable law, the Committee may delegate to one or more executive officers of the Company the power to make Awards to Participants who are not Reporting Persons or Covered Employees and all determinations under the Plan with respect thereto, provided that the Committee shall fix the maximum amount of such Awards for all such Participants, a maximum for any one Participant, and such other features of the Awards as may be required by applicable law.

3. **Eligibility.**

All directors, employees and consultants of the Company or any Affiliate capable of contributing to the successful performance of the Company are eligible to be Participants in the Plan. Incentive Stock Options may be granted only to persons eligible to receive such Options under the Code.

4. **Stock Available for Awards.**

(a) ***Amount.*** Subject to adjustment under Section 4(b), Awards may be made under the Plan for up to ~~Four~~ Six Million ~~(4,000,000)~~ Five Hundred Thousand (6,500,000) shares of Common Stock, plus (1) the number of additional shares of Common Stock subject to awards under the Company's Amended and Restated 1993 Equity Incentive Plan (the "1993 Plan") which on or after April 2, 2004, expire or terminate unexercised or are forfeited or settled in a manner that results in fewer shares outstanding than were awarded under the 1993 Plan, which number of additional shares will not exceed 2,178,388 shares (the maximum if all 1993 Plan shares become available), plus (2) an annual increment of additional shares to be added on December 31 of each year (an "Increase Date"), beginning in 2008, equal to the lesser of (i) 1,500,000 shares

or (ii) such other amount as may be determined by the Board; provided, however, that in no event shall any such annual increment cause the total maximum aggregate number of shares of Common Stock which may be optioned and issued under the Plan to exceed the lesser of (a) 10% of the shares of Common Stock deemed to be outstanding on the applicable Increase Date (including for this purpose on an as-converted basis all outstanding shares of capital stock then outstanding that are convertible into Common Stock) and (b) 15,000,000 shares (which number shall be subject to adjustment under Section 4(b)); and provided further that no more than 10% of the maximum number of shares to be issued under the Plan may be granted as Restricted Stock or Unrestricted Stock Awards. For purposes of calculating such percentage limitation on Restricted Stock and Unrestricted Stock Awards, the following Awards shall be disregarded: (i) any Award that is granted for consideration of at least 100% of the Fair Market Value of the Common Stock on the date of the respective grant (including Awards granted in lieu of the payment of cash bonuses that would be consistent in amount with past cash bonus practices), and (ii) Awards that are subject to performance-based vesting (including Awards subject to Section 8(k)). If any Award made under the Plan expires or terminates unexercised or is forfeited or settled in a manner that results in fewer shares outstanding than were awarded, the shares subject to such Award, to the extent of such expiration, termination, forfeiture or decrease, shall again be available for award under the Plan. Common Stock issued outside of the Plan through the assumption or substitution of outstanding grants from an acquired company shall not reduce the shares available for Awards under the Plan. Shares issued under the Plan may consist of authorized but unissued shares or treasury shares.

(b) ***Adjustment.*** In the event that the Committee determines that any stock dividend, extraordinary cash dividend, recapitalization, reorganization, merger, consolidation, split-up, spin-off, combination, exchange of shares or other transaction affects the Common Stock such that an adjustment is required in order to preserve the benefits intended to be provided by the Plan, then the Committee shall (subject in the case of Incentive Stock Options to any limitation required under the Code) equitably adjust any or all of (i) the number and kind of shares in respect of which Awards may be made under the Plan, (ii) the number and kind of shares subject to outstanding Awards and (iii) the exercise price with respect to any of the foregoing, provided that the number of shares subject to any Award shall always be a whole number, and if considered appropriate, the Committee may make provision for a cash payment with respect to an outstanding Award.

(c) ***Limit on Individual Grants.*** The maximum number of shares of Common Stock that may be granted in connection with all Awards within any fiscal year to any one Covered Employee under the Plan shall not exceed 400,000 shares, except for grants to new hires during the fiscal year of hiring which shall not exceed 600,000 shares, in each case subject to adjustment under Section 4(b).

5. **Stock Options.**

(a) ***Grant of Options.*** Subject to the provisions of the Plan, the Committee may grant options ("Options") to purchase shares of Common Stock (i) complying with the requirements of Section 422 of the Code or any successor provision and any regulations thereunder ("Incentive Stock Options") or (ii) not intended to comply with such requirements ("Nonstatutory Stock Options"). The Committee shall determine the number of shares subject to each Option and the exercise price therefor, which shall not be less than 100% of the Fair Market Value of the Common Stock on the date of grant; provided that a Nonstatutory Stock Option granted to a new employee or consultant in connection with his or her hiring may have a lower exercise price so long as it is not less than 100% of Fair Market Value on the date he or she accepts the Company's offer of employment or the date employment commences, whichever is lower. No Option shall be an Incentive Stock Option if not granted within ten years from the date on which the Plan or an amendment thereto was last approved for purposes of Section 422 of the Code (the date of such approval being the date on which the Plan or the respective amendment was approved by the Board or the stockholders, whichever was earlier).

(b) ***Terms and Conditions.*** Subject to the provisions of the Plan, each Option shall be exercisable at such times and subject to such terms and conditions as the Committee may specify in the applicable grant or thereafter. The Committee may impose such conditions with respect to the exercise of Options, including conditions relating to applicable securities laws, as it considers necessary or advisable.

(c) ***Payment.*** No shares shall be delivered upon exercise of any Option until payment in full of the exercise price therefor is received by the Company. Such payment may be made in whole or in part in cash or, to the extent permitted by the Committee at or after the grant of the Option pursuant to any of the following methods: (i) by actual delivery or attestation of ownership of shares of Common Stock owned by the Participant, including vested Restricted Stock, (ii) by retaining shares of Common Stock otherwise issuable pursuant to the Option, (iii) for consideration received by the Company under a broker-assisted cashless exercise program acceptable to the Company, or (iv) for such other lawful consideration as the Committee may determine.

(d) ***Term of Option.*** The term of each Option granted under this Section 5 shall not exceed ten years from the date the Option is granted.

6. **Stock Equivalents.**

Subject to the provisions of the Plan, the Committee may grant rights to receive payment from the Company based in whole or in part on the value of the Common Stock ("Stock Equivalents") upon such terms and conditions as the Committee determines. Stock Equivalents may include without limitation phantom stock, restricted stock units, unrestricted stock units, performance units, dividend equivalents and stock appreciation rights ("SARs"). SARs granted in tandem with an Option will terminate to the extent that the related Option is exercised, and the related Option will terminate to the extent that the tandem SARs are exercised. An SAR will have an exercise price determined by or in the manner specified by the Committee of not less than 100% of the Fair Market Value of the Common Stock on the date of the grant, or of not less than the exercise price of the related Option in the case of an SAR granted in tandem with an Option. The Committee will determine at the time of grant or thereafter whether Stock Equivalents are to be settled in cash, Common Stock or other securities of the Company, Awards or other property.

7. **Stock Awards.**

Subject to the provisions of the Plan, the Committee may grant shares of Common Stock subject to forfeiture ("Restricted Stock") and determine the duration of the period (the "Restricted Period") during which, and the conditions under which, the shares may be forfeited to the Company and the other terms and conditions of such Awards. Shares of Restricted Stock may not be sold, assigned, transferred, pledged or otherwise encumbered, except as permitted by the Committee, during the Restricted Period. Shares of Restricted Stock shall be evidenced in such manner as the Committee may determine. Any certificates issued in respect of shares of Restricted Stock shall be registered in the name of the Participant and unless otherwise determined by the Committee, deposited by the Participant, together with a stock power endorsed in blank, with the Company. At the expiration of the Restricted Period, the Company shall deliver such certificates to the Participant or if the Participant has died, to the Participant's Designated Beneficiary. Subject to the provisions of the Plan, the Committee also may make Awards of shares of Common Stock that are not subject to restrictions or forfeiture, on such terms and conditions as the Committee may determine from time to time ("Unrestricted Stock").

8. **General Provisions Applicable to Awards.**

(a) ***Documentation.*** Each Award under the Plan shall be evidenced by a writing delivered to the Participant or agreement executed by the Participant specifying the terms and conditions thereof and containing such other terms and conditions not inconsistent with the provisions of the Plan as the Committee considers necessary or advisable to achieve the purposes of the Plan or to comply with applicable tax and regulatory laws and accounting principles. Subject to the provisions of the Plan, the terms of any Award may include such continuing restrictions and forfeiture and/or other penalty provisions relating to competition or other activity detrimental to the Company as the Committee determines.

(b) ***Committee Discretion.*** Each type of Award may be made alone, in addition to or in relation to any other Award. The terms of each type of Award need not be identical, and the Committee need not treat Participants uniformly. Except as otherwise provided by the Plan or a particular Award, any determination with respect to an Award may be made by the Committee at the time of grant or at any time thereafter.

(c) ***Dividend, Cash Awards and Loans.*** Subject to the provisions of the Plan, in the discretion of the Committee, any Award under the Plan may provide for (i) dividends or dividend equivalents payable (in cash or in the form of Awards under the Plan) currently or deferred with or without interest and (ii) cash payments in lieu of or in addition to an Award or (iii) one or more loans to a Participant (other than a Participant who is a director or executive officer for purposes of Section 13(k) of the Exchange Act) to permit exercise of, or the payment of any tax liability with respect to, any Award.

(d) ***Termination of Service.*** The Committee shall determine the effect on an Award of the disability, death, retirement or other termination of employment or other service of a Participant and the extent to which, and the period during which, the Participant's legal representative, guardian or Designated Beneficiary may receive payment of an Award or exercise rights thereunder. Unless the Committee otherwise provides in any case, a Participant's employment or other service shall have terminated for purposes of this Plan at the time the entity by which the Participant is employed or to which he or she renders such service ceases to be an Affiliate of the Company.

(e) ***Change-in-Control.*** In order to preserve a Participant's rights under an Award in the event of a change-in-control of the Company (as defined by the Committee), the Committee in its discretion may, at the time an Award is made or at any time thereafter, take one or more of the following actions: (i) provide for the acceleration of any time period relating to the exercise or payment of the Award, (ii) provide for payment to the Participant of cash or other property with a Fair Market Value equal to the amount that would have been received upon the exercise or payment of the Award had the Award been exercised or paid upon the change-in-control, (iii) adjust the terms of the Award in a manner determined by the Committee to reflect the change-in-control, (iv) cause the Award to be assumed, or new rights substituted therefor, by another entity, or (v) make such other provision as the Committee may consider equitable to Participants and in the best interests of the Company.

(f) ***Transferability.*** In the discretion of the Committee, any Award may be made transferable upon such terms and conditions and to such extent as the Committee determines, provided that Incentive Stock Options may be transferable only to the extent permitted by the Code. The Committee may in its discretion waive any restriction on transferability.

(g) ***Withholding Taxes.*** The Participant shall pay to the Company, or make provision satisfactory to the Committee for payment of, any taxes required by law to be withheld in respect of Awards under the Plan no later than the date of the event creating the tax liability. The Company and its Affiliates may, to the extent permitted by law, deduct any such tax obligations from any payment of any kind due to the Participant hereunder or otherwise. In the Committee's discretion, the minimum tax obligations required by law to be withheld in respect of Awards may be paid in whole or in part in shares of Common Stock, including shares retained from the Award creating the tax obligation, valued at their Fair Market Value on the date of retention or delivery.

(h) ***Foreign National Awards.*** Notwithstanding anything to the contrary contained in this Plan, Awards may be made to Participants who are foreign nationals or employed or performing services outside the United States on such terms and conditions different from those specified in the Plan as the Committee considers necessary or advisable to achieve the purposes of the Plan or to comply with applicable laws.

(i) ***Amendment of Award.*** Except as provided in Section 8(j) and Section 8(l), the Committee may amend, modify, or terminate any outstanding Award, including substituting therefor another Award of the same or a different type, changing the date of exercise or realization and converting an Incentive Stock Option to a Nonstatutory Stock Option. Any such action shall require the Participant's consent unless:

(i) in the case of a termination of, or a reduction in the number of shares issuable under, an Option, any time period relating to the exercise of such Option or the eliminated portion, as the case may be, is waived or accelerated before such termination or reduction (and in such case the Committee may provide for the Participant to receive cash or other property equal to the net value that would have been received upon exercise of the terminated Option or the eliminated portion, as the case may be);

(ii) the Committee determines that the action is permitted by the terms of Section 8(k);

(iii) the Committee determines that the action is reasonably necessary to comply with any regulatory, accounting, or exchange or stock market listing requirement; or

(iv) in any other case, the Committee determines that the action, taking into account any related action, would not materially and adversely affect the Participant.

(j) ***No Repricing of Options.*** Notwithstanding anything to the contrary in the Plan, the Company shall not engage in any repricing of Options granted under this Plan without further stockholder approval. For this purpose, the term "repricing" shall mean any of the following or other action that has the same effect: (i) lowering the exercise price of an Option after it is granted, (ii) any other action that is treated as a repricing under generally accepted accounting principles, or (iii) canceling an Option at a time when its exercise price exceeds the fair market value of the underlying stock in exchange for another Option, Restricted Stock, or other equity of the Company, unless the cancellation and exchange occurs in connection with a merger, acquisition, spin-off, or similar corporate transaction.

(k) ***Code Section 162(m) Provisions.*** If the Committee determines at the time an Award is granted to a Participant that such Participant is, or may be as of the end of the tax year for which the Company would claim a tax deduction in connection with such Award, a Covered Employee, then the Committee may provide that the Participant's right to receive cash, shares of Common Stock, or other property pursuant to such Award shall be subject to the satisfaction of Performance Goals during a Performance Period. Prior to the payment of any Award subject to this Section 8(k), the Committee shall certify in writing that the Performance Goals and other material terms applicable to such Award were satisfied. Notwithstanding the attainment of Performance Goals by a Covered Employee, the Committee shall have the right to reduce (but not to increase) the amount payable at a given level of performance to take into account additional factors that the Committee may deem relevant. The Committee shall have the power to impose such other restrictions on Awards subject to this Section 8(k) as it may deem necessary or appropriate to ensure that such Awards satisfy all requirements for "performance-based compensation" within the meaning of Section 162(m) of the Code.

(l) ***Minimum Vesting Requirements.*** Each Award ~~granted~~ under the Plan shall vest in accordance with a schedule which does not permit more than one-third of each such Award to vest on each of the three succeeding anniversaries of the date of grant of the Award. This minimum vesting requirement shall not, however, preclude the Committee from exercising its discretion to (i) accelerate the vesting of any Award upon retirement, termination of employment by the Company, death, or disability, (ii) accelerate the vesting of an Award in accordance with Section 8(e), (iii) establish a shorter vesting schedule for consultants, directors, or newly-hired employees, (iv) establish a shorter vesting schedule for Awards that are granted in exchange for or in lieu of the right to receive the payment of an equivalent amount of salary, bonus, or other cash compensation, ~~or~~ (v) establish a shorter performance-based vesting schedule, including a schedule in accordance with Section 8(k)~~.~~ or (vi) grant Awards of Unrestricted Stock in accordance with Section 7.

9. **Certain Definitions.**

"Affiliate" means any business entity in which the Company owns directly or indirectly 50% or more of the total voting power or has another significant financial interest as determined by the Committee.

"Award" means any Option, Stock Equivalent, Restricted Stock, Unrestricted Stock, or Foreign National Award granted under the Plan.

"Board" means the Board of Directors of the Company.

"Code" means the Internal Revenue Code of 1986, as amended from time to time, or any successor law.

"Committee" means any committee of one or more directors appointed by the Board to administer the Plan or a specified portion thereof. Unless otherwise determined by the Board, if a Committee is authorized to grant Awards to a Reporting Person or a Covered Employee it shall be comprised of not less than two directors, each of whom shall be a "non-employee director" within the meaning of Rule 16b-3 under the Exchange Act or an "outside director" within the meaning of Section 162(m) of the Code, respectively.

"Common Stock" or "Stock" means the Common Stock, $0.01 par value, of the Company.

"Company" means GTC Biotherapeutics, Inc., a Massachusetts corporation and, unless the context otherwise requires, includes each "subsidiary corporation" of GTC Biotherapeutics, Inc., as defined in Section 424(f) of the Code, from time to time.

"Covered Employee" means, at any time that Section 162(m) of the Code applies to the Company, a "covered employee" within the meaning of such section.

"Designated Beneficiary" means the beneficiary designated by a Participant, in a manner determined by the Committee, to receive amounts due or exercise rights of the Participant in the event of the Participant's death. In the absence of an effective designation by a Participant, "Designated Beneficiary" means the Participant's estate.

"Exchange Act" means the Securities Exchange Act of 1934, as amended from time to time, or any successor law.

"Fair Market Value" means, with respect to Common Stock or any other property, the fair market value of such property as determined by the Committee in good faith or in the manner established by the Committee from time to time.

"Non-Employee Director" means a director of the Company who is not an employee of the Company or of any subsidiary of the Company.

"Participant" means a person selected by the Committee to receive an Award under the Plan.

"Performance Goals" means with respect to any Performance Period, one or more objective performance goals based on one or more of the following objective criteria established by the Committee prior to the beginning of such Performance Period or within such period after the beginning of the Performance Period as shall meet the requirements to be considered "pre-established performance goals" for purposes of Code Section 162(m): (i) increases in the price of the Common Stock, (ii) product or service sales or market share, (iii) revenues, (iv) return on equity, assets, or capital, (v) economic profit (economic value added), (vi) total shareholder return, (vii) costs, (viii) expenses, (ix) margins, (x) earnings or earnings per share, (xi) cash flow, (xii) cash balances (xiii) customer satisfaction, (xiv) operating profit, (xv) research and development progress, (xvi) clinical trial progress, (xvii) licensing, (xviii) product development, (xix) manufacturing, or (xx) any combination of the foregoing, including without limitation, goals based on any of such measures relative to appropriate peer groups or market indices. Such Performance Goals may be particular to a Participant or may be based, in whole or in part, on the performance of the division, department, line of business, subsidiary, or other business unit, whether or not legally constituted, in which the Participant works or on the performance of the Company generally.

"Performance Period" means the period of service designated by the Committee applicable to an Award subject to Section 8(k) during which the Performance Goals will be measured.

"Reporting Person" means a person subject to Section 16 of the Exchange Act.

10. Miscellaneous.

(a) ***No Right to Employment.*** No person shall have any claim or right to be granted an Award. Neither the adoption, maintenance, nor operation of the Plan nor any Award hereunder shall confer upon any employee or consultant of the Company or of any Affiliate any right with respect to the continuance of his/her employment by or other service with the Company or any such Affiliate nor shall they interfere with the rights of the Company or Affiliate to terminate any employee at any time or otherwise change the terms of employment, including, without limitation, the right to promote, demote or otherwise re-assign any employee from one position to another within the Company or any Affiliate.

(b) ***No Rights as Stockholder.*** Subject to the provisions of the applicable Award, no Participant or Designated Beneficiary shall have any rights as a stockholder with respect to any shares of Common Stock to be issued under the Plan until he or she becomes the holder thereof. A Participant to whom Common Stock is awarded shall be considered a stockholder of the Company at the time of the Award except as otherwise provided in the applicable Award.

(c) ***Amendment of Plan.*** Subject to Section 8(j) and Section 8(l), the Board may amend, suspend, or terminate the Plan or any portion thereof at any time, subject to such stockholder approval as the Board determines to be necessary or advisable.

(d) ***Governing Law.*** The provisions of the Plan shall be governed by and interpreted in accordance with the laws of the Commonwealth of Massachusetts.

(e) ***Effective Date and Term of Plan.*** ~~Subject to the approval of~~ The Plan has been approved most recently by the stockholders of the Company~~, the~~ on May 26, 2004. This amendment and restatement of the Plan shall be effective on ~~May 26, 2004.~~ the date it is approved by the stockholders of the Company. Unless earlier terminated by the Board, or extended by approval of the stockholders, the term of the Plan shall expire on the tenth anniversary of the effective date of the most recent stockholder approval for purposes of Section 422 of the ~~amendment and restatement of the Plan~~ Code and the regulations thereunder, and no further Awards hereunder shall be made thereafter.

* * * *

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2006

or

■ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission File No. 0-21794

2006 Form 10-K

GTC BIOTHERAPEUTICS, INC.

(Exact name of Registrant as Specified in Its Charter)

MASSACHUSETTS	04-3186494
(State or Other Jurisdiction of Incorporation or Organization)	*(I.R.S. Employer Identification No.)*
175 CROSSING BOULEVARD FRAMINGHAM, MASSACHUSETTS	01702
(Address of Principal Executive Offices)	*(Zip Code)*

(508) 620-9700
(Registrant's telephone number, including area code)

Common Stock, par value $0.01 Rights to Purchase Series C Junior Participating Cumulative Preferred Stock, par value $0.01 per share	Nasdaq Global Market
Title of each class	Name of each exchange on which registered

Securities registered pursuant to Section 12(b) of the Act:

Securities registered pursuant to Section 12(g) of the Act:
None

Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
Yes ■ No ☒

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.
Yes ■ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or Section 15 (d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ■

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ■

Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of "accelerated filer and large accelerated filer" in Rule 12b-2 of the Exchange Act. (check one)

Large accelerated filer ■ Accelerated filer ☒ Non-accelerated filer ■

Indicate by check mark whether the Registrant is a shell company (as defined by Rule 12b-2 of the Act). Yes ■ No ☒

The aggregate market value of voting stock held by non-affiliates of the Registrant as of July 2, 2006, the last business day of the registrant's most recently completed second fiscal quarter, was approximately $93,327,865, based on the closing sale price of the registrant's Common Stock as reported on the NASDAQ Global Market.

Number of shares of the registrant's Common Stock outstanding as of March 1, 2007: 77,577,355

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Proxy Statement for the Annual Meeting of Stockholders to be held May 23, 2007 are incorporated by reference into Part III of this Form 10-K.

GTC Biotherapeutics, Inc.
Form 10-K
For the Fiscal Year Ended December 31, 2006
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PART I

In this Annual Report on Form 10-K, the words "we", "our", "ours" and "us" refer only to GTC Biotherapeutics, Inc., its wholly-owned subsidiaries and its joint venture. Unless indicated otherwise, references to the years 2006, 2005 and 2004 refer to our fiscal years ended December 31, 2006, January 1, 2006 and January 2, 2005, respectively.

NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements, including statements regarding future revenues, research and development programs, clinical trials and collaborations and our future cash requirements. The words or phrases "will", "will likely result", "are expected to", "will continue", "is anticipated", "estimate", "project", "potential", "believe", "plan", "anticipate", "expect", "intend", or similar

expressions and variations of such words are intended to identify forward-looking statements. Statements that are not historical facts are based on our current expectations, beliefs, assumptions, estimates, forecasts and projections for our business and the industry and markets related to our business. The statements contained in this report are not guarantees of future performance and involve certain risks, uncertainties and assumptions which are difficult to predict. Therefore, actual outcomes and results may differ materially from what is expressed in such forward-looking statements. Important factors which may affect future revenues, research and development programs, clinical trials and collaborations and our future cash requirements include, without limitation, continued operating losses, our ability to raise additional capital, technology risks to our transgenically produced products, the performance of our collaboration partners and continuation of our collaborations, our ability to enter into collaborations in the future and the terms of such collaborations, regulatory approval of our transgenically produced products, preclinical and clinical testing of our transgenically produced products, and those factors set forth in "Risk Factors" in Item 1A of this Form 10-K.

ITEM 1. BUSINESS

Overview

We are a leader in the development and production of human therapeutic proteins through transgenic technology. Applying our transgenic production technology, we insert human protein-specific DNA into the genetic structure of an animal to enable it to produce what is known as a recombinant form of the corresponding human protein in the animal's milk. We then purify the protein from the milk to obtain the therapeutic product, which is typically administered by injection. Our transgenic technology is protected by our leading patent position, which includes a U.S. patent, issued in 2006 and expiring in 2021, that covers the production of therapeutic proteins in the milk of transgenic mammals.

In August 2006, we obtained the first regulatory approval of a transgenically produced therapeutic protein anywhere in the world when the European Commission approved the use of ATryn®, our recombinant form of human antithrombin, as a prophylactic treatment of patients with hereditary antithrombin deficiency, or HD, undergoing surgical procedures. Based on the expected results of our currently ongoing pivotal trial, we are planning to file for a Biologics License Application, or BLA, seeking approval of the U.S. Food and Drug Administration, or FDA, to begin marketing ATryn® for a similar indication in HD patients undergoing surgery or delivery.

Building upon the ATryn® approval in Europe, we are focusing our pipeline of proprietary programs on recombinant plasma proteins and monoclonal antibodies for use in hematology, including replacement therapies for genetic disorders, oncology and autoimmune diseases. In doing so, we focus on those potential therapeutic proteins that are difficult to express using traditional recombinant production methods, such as cell culture or bacteria production, or on those product candidates where production of commercial volumes using those methods requires significant capital investment for adequate production capacity, or where the cost of goods is a critical issue. Human plasma proteins that are used for therapeutics may have one or more of these characteristics. With the potential to produce large quantities of therapeutic proteins at a lower cost than using other recombinant methods, our production technology enables the pursuit of clinical indications requiring large amounts of the therapeutic protein and offers the opportunity to create markets significantly greater than those supported today by traditional recombinant produced and plasma-derived proteins.

In November 2005, we entered into an exclusive collaboration agreement with LEO Pharma, or LEO, of Denmark to develop and market ATryn® for markets in LEO's territories of Europe, the Middle East, and Canada. In September 2006, we entered into a collaboration agreement with LFB Biotechnologies, or LFB, of France to develop selected recombinant plasma proteins and monoclonal antibodies using our transgenic production platform. The first program in this collaboration is for the development of a recombinant form of human factor VIIa.

Production of monoclonal antibodies using our transgenic production technology may have economic advantages, such as significantly lower capital investment and lower cost of goods, particularly with large scale production. We anticipate commercially developing a monoclonal antibody to the CD137 receptor, which modulates the human immune system, with potential applications in oncology and autoimmune disorders.

The following summarizes our portfolio of proprietary products and product candidates in development:

- **ATryn®:** We have established a collaboration agreement with LEO for further development and commercialization of ATryn® in Europe, Canada, and the Middle East. LEO has selected disseminated intravascular coagulation, or DIC, associated with severe sepsis as an acquired antithrombin deficiency indication for development in Europe. LEO has obtained scientific advice from the European Medicines Agency, or EMEA, on the design of a Phase II dose ranging study of approximately 200 patients. Initial clinical sites are opening, and we anticipate patient enrollment lasting 12 months and results being available in mid-2008. We will have the right to use the Phase II data in the U.S. and all other territories outside of LEO's territories. LEO plans to seek further advice from the EMEA for a potential Phase III study once the Phase II data is available. We will supply the product for these clinical studies and receive payment for delivery of the material to LEO. We will receive a transfer price and royalties on commercial sales of ATryn® by LEO.

  We are currently conducting a further pivotal trial for surgery and childbirth in the HD indication for U.S. regulatory approval. We anticipate using the results of this pivotal study to apply to the EMEA to expand the HD label to include treatment of pregnant women during delivery. We intend to commercially develop ATryn® in the U.S. either ourselves or with a partner. We plan to develop ATryn® in Japan and the rest of Asia through further partnerships.

  We estimate that the future worldwide market for ATryn® for any acquired deficiency indication for which it may be approved, including for example, DIC, will be approximately $500 to $700 million annually.

- **rhFVIIa:** We are developing a recombinant human factor VIIa, or rhFVIIa, a blood coagulation factor as our first program in our strategic collaboration with LFB. We have begun developing the production system for rhFVIIa and we anticipate having a product available for clinical studies in approximately two years to evaluate its use in treating hemophiliacs that have developed inhibitors to Factors VIII or IX. An existing rhFVIIa product, marketed as NovoSeven® by Novo Nordisk, is commercially available today at a selling price of approximately $1,000/mg. An independent analyst estimates that the total annual market size for this product could be $2 billion in five years. We believe our rhFVIIa product will cost less to produce and offer attractive profit margins at a lower selling price, which in turn may expand patient usage.

- **rhAAT:** We have developed goats that produce a recombinant form of human alpha-1 antitrypsin, or rhAAT, an inhibitor of elastase. Scientists believe that uninhibited elastase activity may be the cause of several respiratory disorders. For example, hereditary deficiency of alpha-1 antitrypsin may lead to the onset of emphysema. The genetic defect leading to hereditary deficiency is estimated to exist in approximately 3.5 million people worldwide, although the deficiency is significantly under-diagnosed and under-treated. If shown to be safe and efficacious, successful treatment will require chronic dosing to maintain patients disease-free. There are also potential therapeutic applications in other respiratory disorders such as chronic obstructive pulmonary disease. We are currently planning the preclinical program and seeking partnership opportunities for a potential rhAAT product.

- **CD137:** The CD137 receptor on T-cells, also known as 4-1BB, is involved in the initiation and regulation of the human immune system. We have in-licensed from the Mayo Clinic an antibody to CD137 that is believed to be a modulator of the immune system with the potential for treatment of solid tumors and autoimmune diseases. We are currently planning our preclinical program and

seeking partnership opportunities for this product candidate with the objective of commencing clinical studies within two years. We have developed goats which produce this antibody in large quantities.

We believe that our transgenic approach is able to offer well-characterized supplies of recombinant forms of therapeutic human plasma proteins with easily scalable production capacity. Therapeutic human plasma proteins are derived from either the liquid portion of human blood, or plasma or are produced using recombinant DNA techniques. Plasma-derived proteins are in many cases currently available only in limited quantities and can be subject to recalls and shortages. Many plasma proteins are difficult to express in economically viable quantities in traditional recombinant production technologies such as mammalian cell culture or bacteria production. We believe that our transgenic recombinant production technology has;

- A greater capability to produce difficult to express recombinant plasma proteins in large quantities in a cost effective manner;
- the ability to expand the current markets for existing indications that are constrained by low production quantities and high production costs and prices; and
- the ability to create and support new markets based on the development of new indications due to a greater supply of these therapeutic proteins.

Our estimation of the potential market value of recombinant forms of plasma proteins is based, in part, on the sales experience of recombinant forms of the blood clotting proteins known as factors VIIa, VIII, and IX, which have generated $3 billion of annual sales worldwide compared to the $1 billion of annual sales worldwide for plasma-sourced clotting factor products. These products have been developed for multiple indications which have expanded their markets. By increasing the number of approved indications for our proprietary recombinant plasma proteins, we believe we have the opportunity for similar success in expanded markets.

In addition to our proprietary programs, we have an external program under contract with Merrimack Pharmaceuticals, Inc., or Merrimack, for transgenic production and purification of Merrimack's recombinant human alpha-fetoprotein, known as MM-093, a human plasma protein which has been difficult to express in traditional recombinant protein production systems and is not available in significant quantities from plasma sources. Merrimack has used our transgenically produced version of MM-093 in its Phase IIb human clinical studies for rheumatoid arthritis and Phase IIa clinical studies for psoriasis.

Until we become commercially successful we are entirely dependent upon funding from equity financings, partnering programs and proceeds from short and long-term debt to finance our operations. With the validation of our production technology from our ATryn® approval and our broad patent in the U.S. for transgenic production in animal milk, our strategy is to seek partnering arrangements to expand the number of proprietary programs and support additional indications and territories for our existing programs. We also plan to enter into additional external programs if appropriate opportunities arise to supply the partner's proprietary protein product using our transgenic production technology. Our criteria for entering these external partnerships include a strong commitment by the partner to our production technology.

Proprietary Programs

Recombinant Human Antithrombin (ATryn®)

Antithrombin is a protein found in the plasma of human blood that has anticoagulant and anti-inflammatory properties. Antithrombin, as is typical of many plasma proteins, is difficult to express economically in commercially viable quantities using traditional recombinant production methods. Scientists estimate that approximately 1 in 5,000 people has HD, which suggests that approximately 60,000 people in the U.S. and approximately 80,000 people in Europe have HD.

We have developed our transgenically produced recombinant form of antithrombin, known as ATryn®, which was approved for marketing in the EU by the European Commission in August 2006. The EU review process for ATryn® included inspections of our farm production facilities and the contract purification operations for ATryn® which are done under third-party contracts. The EMEA issued a positive opinion in June 2006 and was adopted by the European Commission in August 2006.

We have begun an additional clinical study in the HD indication under an amended Investigational New Drug, or IND, application with the FDA. The results of this study will be compared with data collected from patients who have been treated previously with plasma-sourced antithrombin. We believe that the results from this additional clinical study, together with the clinical trial data submitted in support of our successful application for marketing authorization, or MAA, in Europe will provide the basis for a BLA submission to the FDA. Recruitment has been slower than previously planned in this rare patient population, however we anticipate filing our BLA around the end of 2007.

We have a collaboration agreement with LEO for further development of ATryn® in Europe, Canada, and the Middle East for use in acquired antithrombin deficiencies, or AD, such as in DIC associated with severe sepsis. These deficiencies result when a medical condition leads to consumption or loss of native antithrombin in a patient's bloodstream at a rate significantly in excess of the body's ability to replace it. The AD may lead to subsequent complications that increase patient risk for morbidity. Other examples of AD conditions include severe burns, coronary artery bypass surgery, and bone marrow transplant procedures. LEO is a well established, vertically integrated private pharmaceutical company based in Denmark. LEO has selected DIC associated with severe sepsis as the first acquired antithrombin deficiency indication in which to conduct additional clinical studies. In DIC, the septic infection consumes the patient's native antithrombin faster than the body can replace it leading to clotting and inflammation problems that can cause death. Of the approximately 220,000 cases in the European Union and 250,000 patients in the U.S. with DIC in severe sepsis, approximately 50% of these patients die from the condition. A subgroup analysis performed on a previous large study of plasma derived antithrombin in sepsis by Aventis showed a significant reduction in mortality for those patients who received antithrombin without concomitant heparin, an anticoagulant that is often used as part of the current standard of care for acute care patients. The patients who received both antithrombin and heparin did not show a survival benefit. LEO obtained scientific advice from the EMEA for a dose ranging Phase II study of antithrombin as a treatment without the use of heparin. The study will involve a comparison of the use of antithrombin alone against standard of care. The Phase II study is principally designed to establish optimum dosage for a subsequent Phase III study. Clinical sites for this study are being opened and enrollment is expected to take 12 months with results anticipated in mid-2008.

In our collaboration with LEO we will continue to be responsible for the production of ATryn® for which we will receive payment. LEO will pay us a royalty on all commercial sales, as well as a transfer price that we believe will provide us a margin on our cost of production at full scale. LEO will pay us, based on our fully burdened costs subject to a maximum transfer price, for all product used in clinical studies and will be responsible for all other clinical study costs for approval in Europe. We will have the right to use all data generated from all studies up through the completion of Phase II trials in regulatory filings in territories outside of LEO's territories of Europe, Canada, and the Middle East. We will be able to use the results of any Phase III studies in regulatory filings made outside the LEO territories if we participate in funding the Phase III studies. If we do not help fund the Phase III studies, we will also have the option to pay to use the data at a price to be determined. The market authorization in Europe for the HD indication has been transferred to LEO, enabling the initiation of the price reimbursement process. LEO plans to begin the commercial launch of ATryn® in Europe in the HD indication on a country-by-country basis as prices are finalized in each country.

LEO has agreed to pay a total of up to $73 million in potential success-based milestone fees as follows:

- $2 million non-refundable signing fee paid in 2005
- $3 million to complete HD approval in Europe, comprised of:

- $1 million for EMEA positive opinion paid in June 2006
- $2 million for European Commission approval paid in August 2006
- $35 million for achieving AD clinical study milestones
- $3 million for regulatory approval in certain countries within the LEO territories outside of Europe
- $30 million for achieving specified ATryn® sales milestones. We expect that to achieve the sales milestones we will have to obtain regulatory approval and market acceptance in at least one AD indication.

Our strategy is to leverage the availability of ATryn® with easily scalable production capacity to support the development of additional clinical indications and the creation of markets significantly in excess of those supported by today's plasma-sourced products. We also plan to seek approval for acquired deficiency indications in the U.S. We intend to commercially develop ATryn® in the U.S. either ourselves or with a partner. We plan to develop ATryn® in Japan and the rest of Asia through further partnerships.

We estimate that the existing worldwide annual sales for plasma-sourced antithrombin is approximately $250 million, split principally between Japan and Europe with less than $10 million being sold in the U.S. due to limited availability from a single supplier. We estimate the worldwide market for ATryn® will be $500 to $700 million annually once there is an approval of an acquired deficiency indication such as DIC.

Recombinant Factor VIIa (rhFVIIa)

We are developing rhFVIIa as the first program under our strategic collaboration with LFB to develop recombinant human plasma proteins and monoclonal antibodies.

Factor VIIa is used in Type A and Type B hemophilia patients that have developed inhibitors to other blood coagulation products. Type A hemophilia is a genetic deficiency in the production of factor VIII. Type B hemophilia is a genetic deficiency in the production of factor IX. Both factors VIII and IX are involved in the body's production of blood clots. A deficiency in either factor can prevent normal blood coagulation. Patients develop inhibitors when their immune system incorrectly recognizes supplemental factors VIII or IX as foreign and generates antibodies to impede them. Providing supplemental factor VIIa, which is already present in blood, reduces the likelihood of initiating an immune response and enables the formation of blood clots even with the existing factor VIII or IX deficiency. This is the indication that is anticipated to be developed initially. There are also potential indications in excessive bleeding states where a factor VIIa product may have therapeutic value in establishing an effective blood clot.

NovoNordisk recently announced NovoSeven® sales of $250 million for the fourth quarter of 2006, representing an annualized sales rate of $1 billion from approximately one kilogram of product. An independent financial analyst report has estimated that the annual market for rhVIIa may reach $2 billion in 2012. Our transgenic production technology may support the pricing of our rhFVIIa at levels which would enable utilization in a broader range of indications and geographical territories.

The research program for rhFVIIa was initiated approximately three years ago and LFB has determined that transgenic rabbits are capable of expressing sufficient quantities of this product to support expanded development. A joint steering committee will agree on product development and commercialization plans. We will be responsible for developing the production system and will retain exclusive commercial rights in North America for all products developed in the collaboration. LFB will be responsible for clinical development and regulatory review of the rhFVIIa program and will have exclusive commercial rights in Europe. GTC and LFB will have co-exclusive commercial rights to all products of the collaboration in the rest of the world.

The collaboration anticipates an equal sharing of costs and profits. However, it also provides us and LFB the ability to suspend funding for a period of time in exchange for a prorated decrease in ownership interest with the option to buy back our initial intended ownership interest at a later time.

Recombinant Alpha-1 Antitrypsin (rhAAT)

We have begun development of rhAAT, which, like antithrombin, is a product that is currently sourced from fractionated human plasma. We believe that our rhAAT can provide a highly pure and unconstrained supply to the market.

Alpha-1 antitrypsin, or AAT, is currently used to treat the congenital deficiency of this protein which can lead to emphysema. AAT supplementation using pulmonary delivery has also been considered as a therapeutic approach as a treatment for acute respiratory distress syndrome, chronic obstructive pulmonary disease, severe asthma and cystic fibrosis. Similar to many other plasma proteins, AAT is difficult to express in traditional recombinant production systems in economically viable quantities.

We have developed goats that produce rhAAT in significant quantities. We have also developed a bench scale purification process and are in the process of defining the clinical and regulatory program for this product. Our goal over the next two years is to develop a preclinical program that will support initiation of clinical studies and to determine the partnership opportunities available for further development. The level and speed of development of this product will be dependent upon our financial resources and partnering opportunities. Under our agreement with LFB, they have been granted a right of first negotiation to partner with us for the development of rhAAT.

We estimate that plasma-sourced AAT products currently generate worldwide annual sales of approximately $250 million. Similar to our other recombinant plasma protein programs, we believe the market for our product may be expanded significantly beyond the market for the current plasma-derived products as a result of its expected unconstrained production capacity and the opportunity for multiple indications.

Monoclonal Antibodies (MAbs) and Immunoglobulin (Ig) Fusion Proteins

Our strategy is to use our transgenic production technology to develop monoclonal antibodies and immunoglobulin fusion proteins. Monoclonal antibodies, or MAbs, are proteins generated by an immune system that bind to a specific target. MAbs typically express at reasonable levels in traditional recombinant production systems, but are often required in large quantities due to their applications to chronic disease indications. Immunoglobulin, or Ig fusion proteins, which consist of a MAb fragment linked to a second protein fragment, may be difficult to express due to their complexity.

We have been granted several patents covering the production of MAbs in the milk of transgenic mammals, along with other transgenic process patents, which we believe establish a strong proprietary position in the field. This intellectual property position enables development and commercial production of MAbs without relying on patents normally associated with cell culture and bacteria production technologies. We believe that MAbs and Ig fusion proteins are well suited to our technological and commercial interests as both in-licensed programs for our pipeline and for our external portfolio of products.

CD137 Antibody

We have developed animals that produce an antibody to CD137, also known as 4-1BB receptor, which is present on T-cells of the human immune system as well as some cancer cells. Our CD137 antibody may have therapeutic value primarily through the modulation of the immune system. As a result, we believe it has potential for use in multiple clinical applications including cancer and autoimmune diseases. We anticipate that the potential quantities of our CD137 antibody required for future treatment could be very large. We believe that the increase in production capacity necessary to merit this anticipated demand for a CD137 antibody can be achieved more economically by using our transgenic production technology rather than traditional cell culture and bacteria production methods.

We have obtained our patent rights to the CD137 antibody from the Mayo Clinic. These rights extend to any patents issued under its patent applications. The level and speed of development of a CD137 antibody product will be dependent upon our financial resources and our ability to partner this program. This program is currently funded by a Small Business Innovation Research, or SBIR, grant. Our goal over the next two years is to define the preclinical program to support the initiation of clinical studies and to seek a partner.

Malaria Vaccine

We are developing a recombinant form of a malaria surface protein known as MSP-1 for use as an antigen in a malaria vaccine. This protein is normally expressed by the malaria parasite. Malaria is a disease that has an annual incidence of more than 300 million people worldwide and results in several million deaths annually, primarily among children. We have been working with the National Institute of Allergy and Infectious Disease, or NIAID, an institute that is part of the National Institutes of Health, or NIH, and the Federal Malaria Vaccine Coordinating Committee to develop transgenic production of the MSP-1 protein as an antigen for a vaccine and to examine the options for commercializing the vaccine. The MSP-1 protein produced in the milk of transgenic mice successfully protected Aotus nancymai monkeys from a lethal challenge of malaria in a preclinical vaccine study conducted by and co-authored with the NIAID. MSP-1 is difficult to express in other recombinant systems, with those other systems producing it in very limited quantities or in forms that may not induce the necessary immune response. The NIAID had funded a contract for the development and production of clinical grade MSP-1 as a malaria vaccine. Due to budgetary constraints at NIAID, no funding was committed for the malaria program beyond mid-August 2005 and it is uncertain if funding will be reinstated. We have developed founder animals, which are animals that have the appropriate genetic profile and are the potential start of a herd of transgenic animals capable of producing the desired therapeutic protein and we are in the process of evaluating the milking characteristics of these animals. The budget and activities for this program have been reduced until the NIAID resumes funding or we establish new funding sources.

Recombinant Human Albumin (rhA)

We have developed cattle that have produced recombinant human albumin, or rhA, in their milk. Albumin sourced from the human blood supply is currently being used principally as a blood volume expander and also as a stabilizer of other biological formulations. Other sources of albumin, primarily from bovine plasma, have been used as part of the nutrient media used in cell culture systems. We have developed initial purification processes for our rhA that could be used for cell culture applications. As a result of prioritizing our resources to other development programs, we are minimizing further investment in this program at this time.

External Programs

Our external programs are ones in which the partner owns the underlying product rights. We believe the advantages to an external partner of using our transgenic production technology include enabling the development of proteins that are difficult to produce in traditional recombinant production systems, requiring significantly lower capital investment, assuring lower cost of goods, and providing for flexibility in production capacity expansion. To date, we have typically developed a transgenically produced version of an external partner's protein on a service contract basis.

Our principal external program is with Merrimack for their MM-093 product, a recombinant form of human alpha-fetoprotein, or rhAFP. Alpha-fetoprotein is a human plasma protein normally produced during pregnancy and, therefore, is not commercially available from human plasma. MM-093 has been difficult to express in traditional recombinant systems. We have developed goats for Merrimack that express this protein in their milk and we have successfully produced MM-093 for Merrimack's clinical trials. If MM-093 is found to be safe and efficacious in their clinical program, there is a potential for us to earn

PROPOSAL 2 –
APPROVAL OF AMENDMENT AND RESTATEMENT OF THE 2002 PLAN

Stockholders are being asked to approve an amendment and restatement of our 2002 Plan to provide for:

- an increase in the number of shares of common stock available for issuance under the 2002 Plan by 2,000,000 shares (subject to adjustment in the event of stock splits and other similar events); and
- an automatic annual increase in the number of shares of our common stock available for issuance under the 2002 Plan, which annual increase will be added on December 31 of each year beginning in 2008, and will be equal to the lesser of:
    - 1,500,000 shares, and
    - such other amount as may be determined by our Board;

  provided that any increase will not cause the maximum number of shares that may be issued under the 2002 Plan to exceed the lesser of:
    - 10% of the shares of common stock outstanding as of the date of issuance (including, on an as-converted basis, all outstanding Series D preferred stock convertible into common stock); and
    - 15,000,000 shares (subject to adjustment in the event of stock spits and other similar events).

The full text of the proposed amended and restated 2002 Plan is set forth in the attached *Annex A* (which is marked to show changes to the current 2002 Plan and also reflects a previous amendment, unrelated to this proposal, approved by our Board to confirm the authority to grant awards of unrestricted stock under the 2002 Plan). Our Board has adopted the provisions included in the proposed amendment and restatement as set forth in this Proposal 2, subject to stockholder approval at the Annual Meeting.

Reasons for Amendment and Restatement

Approximately only 700 shares of common stock remain currently available for issuance under the 2002 Plan. An increase of 2,000,000 shares available for issuance would provide us with a sufficient current source of equity awards under the 2002 Plan for our planned awards during 2007 and 2008 to attract, retain and motivate key employees essential to our long-term growth and success. As is the case for most biotechnology companies, equity awards are a significant component of the compensation we pay to our employees and allow us to preserve available cash for other corporate uses. In light of the intense competition among our competitors, and biotechnology companies in general, for top scientists, researchers, and other skilled employees, our Board strongly believes that we must be able to grant meaningful equity awards broadly among our employees in order to attract and retain top talent and help provide for our long-term success, and that our ability to make these grants is in the best interests of our stockholders. The Board also believes that equity awards granted pursuant to the 2002 Plan to eligible non-employee directors similarly helps to attract and retain quality directors and aligns those directors' financial interests with our success by promoting director ownership of our equity. In addition, we believe that it is desirable to provide a mechanism for automatic increases in the number of shares available for issuance under the 2002 Plan to help ensure a reliable source of future equity awards needed to continue to attract, retain and motivate key employees going forward. However, unlike similar provisions in other plans, the mechanism for automatic increases being proposed would limit the maximum number of shares of common stock that are reserved under the 2002 Plan to the lesser of 10% of our capital stock outstanding (which would currently be a limit of 9,223,507 shares) or 15,000,000 shares. Under the proposed amendment and restatement, in no event shall the maximum number of shares issuable under the 2002 Plan exceed 15,000,000 shares, which is equal to approximately 19.3% of our capital stock currently outstanding on an as-converted basis.

Vote Required

The affirmative vote by the holders of a majority of the shares present, or represented by proxy, and entitled to vote at the meeting is required to approve the proposed amendment and restatement of the 2002 Plan. Broker non-votes will not be counted as present or represented for this purpose. Abstentions will be counted as present and entitled to vote and, accordingly, will have the effect of a negative vote.

Recommendation of our Board of Directors

OUR BOARD RECOMMENDS THAT STOCKHOLDERS VOTE FOR THE APPROVAL OF PROPOSAL 2.

Summary of the 2002 Plan

The following is a summary description of the principal terms of the 2002 Plan. It is subject to, and qualified by, the actual provisions of the 2002 Plan, a copy of which was filed as Exhibit 10.6 to our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2002 (File No. 0-21794) filed on June 27, 2002.

Background

The 2002 Plan was initially approved by our Board in February 2002 and initially approved by our stockholders in May 2002. The 2002 Plan replaced our 1993 Equity Incentive Plan, referred to as the 1993 Plan, which expired in 2003. An amendment and restatement of the 2002 Plan was approved by our Board in April 2004 and approved by our stockholders in May 2004. The 2002 Plan is currently the only equity incentive plan we have under which we may make equity-based awards.

We are currently authorized to issue up to approximately 6,700,000 shares of common stock (subject to adjustment in the event of stock splits or other similar events) pursuant to awards granted under the 2002 Plan, including up to approximately 2,200,000 shares of common stock subject to awards outstanding under our prior 1993 Plan which may become available for awards under the 2002 Plan if they expire or terminate unexercised or are forfeited or settled in a manner that results in fewer shares outstanding than were awarded. As of April 5, 2007, under the 2002 Plan:

- 4,520,813 shares of common stock had been issued;
- 3,960,658 shares of common stock were subject to outstanding options, at a weighted average exercise price of $1.91 per share; and
- 717 shares of common stock remained available for future grants.

If any award expires, or is terminated unexercised, or is forfeited or settled in cash or in a manner that results in fewer shares outstanding than were initially awarded, the shares that would have been issuable will again be available for awards granted under the 2002 Plan.

Awards

The 2002 Plan provides for the following categories of awards:

Stock Options. Our Compensation Committee may grant options to purchase shares of common stock that are either incentive stock options, or ISOs, eligible for the special tax treatment described below or nonstatutory stock options. No option may have an exercise price that is less than the fair market value of the common stock on the date of grant or a term of more than ten years. An option may be exercised by the payment of the option price in cash or with such other lawful consideration as our Compensation Committee may determine, including by delivery or attestation of ownership of shares of common stock valued at their fair market value on the date of delivery, and for consideration received by us under a broker-assisted cashless exercise program.

Restricted Stock. Our Compensation Committee may grant shares of common stock that are only earned if specified conditions, such as a completing a term of employment or satisfying pre-established performance goals, are met and that are otherwise subject to forfeiture. Shares of restricted stock may not be sold, transferred or otherwise encumbered until earned, unless the Compensation Committee provides otherwise.

Restricted Stock Units. Our Compensation Committee may grant the right to receive shares of common stock in the future, also based on meeting specified conditions and subject to forfeiture. These awards are to be made in the form of "units," with each unit representing the equivalent of one share of common stock, although they may be settled in either cash or stock. Restricted stock unit awards would represent an unfunded and unsecured obligation of ours. In the discretion of the Compensation Committee, units may be awarded with rights to the payment of dividend equivalents.

Unrestricted Stock. Our Compensation Committee may grant shares of common stock that are not subject to restrictions or forfeiture. Historically, these shares have been awarded only in lieu of an otherwise earned cash bonus amounts.

Stock Appreciation Rights. Our Compensation Committee may grant stock appreciation rights, or SARs, where the participant receives cash, shares of common stock, or other property, or a combination thereof, as determined by the Compensation Committee, equal in value to the difference between the exercise price of the SAR and the fair market value of the common stock on the date of exercise. SARs may be granted in tandem with options (at or after award of the option) or alone and unrelated to an option. SARs in tandem with an option terminate to the extent that the related option is exercised, and the related option terminates to the extent that the tandem SAR is exercised. The exercise price of a SAR may not be less than the fair market value of the common stock on the date of grant or in the case of a tandem SAR, the exercise price of the related option.

Awards under the 2002 Plan may contain such terms and conditions consistent with the 2002 Plan as our Compensation Committee in its discretion approves. In setting the terms of each award, except as noted above, the Compensation Committee has full discretion to determine the number of shares or units subject to the award, the exercise price or other consideration, if any, to be paid by the participant, the term and exercise period of each option granted, the conditions under which and the time or times at which an option becomes exercisable or under which the option, shares or units may be forfeited to us, and the other terms and conditions of the award. Our Compensation Committee may provide, at the time an award is made or at any time thereafter, for the acceleration of a participant's rights or cash settlement if we undergo a change-in-control. The terms and conditions of awards need not be the same for each participant. In general, our Compensation Committee has discretion to administer the 2002 Plan in the manner that it determines, from time to time, is in our best interest.

The maximum aggregate number of shares that may be granted to a 2002 Plan participant in any fiscal year is 400,000 (600,000 in the case of a new hire) shares, subject to adjustment for changes in capitalization. Incorporation of these limits are intended to qualify awards as performance-based compensation that is not subject to the $1 million limit on the Federal income tax deduction we may take for compensation paid to certain senior officers.

Eligible Participants

Our and our affiliates' employees, consultants and directors are eligible to participate in the 2002 Plan. Actual participants are chosen by our Compensation Committee. As of April 5, 2007, we and our subsidiaries had approximately 150 employees, and nine non-employee directors. We have not granted any awards to consultants since 2002.

Administration

The 2002 Plan is administered by our Compensation Committee. Awards under the plan are granted at the discretion of the Compensation Committee, which determines the recipients and establishes the terms and conditions of each award, including the exercise price, the form of payment of the exercise price, the number of shares subject to options or other equity rights and the time at which options become exercisable. Our Compensation Committee may delegate to one or more officers the power to make awards to employees who are not executive officers of ours subject to the reporting requirements of Section 16 of the Securities Exchange Act of 1934, as amended.

Our Compensation Committee has adopted guidelines for the number of annual and new hire options awarded to our employees, other than employees who are subject to Section 16 of the Exchange Act. These guidelines are based on the salary grade of the employee and provide for the grant of ISOs at fair market value on the date of grant. Our Compensation Committee has delegated to our Chief Executive Officer the power to make awards under the 2002 Plan, in amounts consistent with the guidelines, to employees that are not subject to Section 16 of the Exchange Act. Our Compensation Committee may change the guidelines at any time.

Adjustments

The number and kind of shares that have been, or may be, issued and the exercise price of any awards granted pursuant to the 2002 Plan are subject to adjustment by our Compensation Committee to reflect stock dividends, mergers, recapitalizations, or other changes affecting our common stock. If our Compensation Committee determines that we have undergone a change-in-control, it may accelerate any time period relating to exercise or payment, provide for payment in cash or other property with a fair market value equal to that amount that would have been received upon exercise, adjust terms, cause awards to be assumed or substituted by another entity or make such other provision as the Compensation Committee may consider equitable to the participants and in our best interests. Our Compensation Committee also has the authority to determine the effect on awards of a participant's retirement, disability, death or other termination of employment, including the time periods relating to exercise or payment of the awards.

Amendment or Termination

Our Board may amend the 2002 Plan, subject to any stockholder approval, as it determines to be necessary or advisable. Subject to the special limitations on the repricing of stock options which require stockholder approval, our Compensation Committee has authority to amend outstanding awards, including changing the date of exercise and converting an incentive stock option to a nonstatutory stock option, if the Compensation Committee determines that:

- such action would not materially and adversely affect the participant;
- the award is canceled and the participant receives the net value in cash or other property of what would have been received upon exercise;
- the change reduces the benefit of a performance-based vesting award; or
- our Compensation Committee determines that such action is reasonably necessary to comply with any regulatory, accounting, or stock market listing requirement.

Unless terminated earlier by our Board or extended by approval of our stockholders of the proposed amendment and restatement of the 2002 Plan at the 2007 annual meeting, no further awards may be granted under the 2002 Plan after May 26, 2014, which is the tenth anniversary of the approval of the most recent amendment and restatement of the 2002 Plan. If the proposed amendment and restatement is approved, awards may be made until the tenth anniversary of that approval.

U.S. Federal Income Tax Consequences Relating to Awards

The following is a brief summary description of the material United States federal income tax consequences relating to awards granted pursuant to the 2002 Plan based on the applicable tax law in effect as of the date of this proxy statement.

Incentive Stock Options.

An optionee does not realize taxable income for regular tax purposes upon the grant or exercise of an ISO under the 2002 Plan. If no disposition of shares issued to an optionee pursuant to the exercise of an ISO is made by the optionee within two years from the date of grant or within one year from the date of exercise, then (a) upon sale of such shares, any amount realized in excess of the option price (the amount paid for the shares) is taxed to the optionee as long-term capital gain and any loss sustained will be a long-term capital loss, and (b) no deduction is allowed to us for Federal income tax purposes. The exercise of ISOs gives rise to an adjustment in computing alternative minimum taxable income that may result in alternative minimum tax liability for the optionee in the year of option exercise. Under current tax laws, the optionee would pay the greater of the regular tax liability or the alternative minimum tax liability. In certain circumstances, optionees may recover all or substantially all of the alternative minimum tax liability created due to the exercise of an ISO in later tax years, including the year of sale of the shares. If shares of common stock acquired upon the exercise of an ISO are disposed of before the expiration of the two-year and one-year holding periods described above (a "disqualifying disposition"), then (a) the optionee realizes ordinary income in the year of disposition in an amount equal to the excess (if any) of the fair market value of the shares at exercise (or, if less, the amount realized on a sale of such shares) over the option price thereof, and (b) we are entitled to deduct such amount. Any further gain realized is taxed as a short or long-term capital gain and does not result in any deduction to us. A disqualifying disposition in the year of exercise will generally avoid the alternative minimum tax consequences of the exercise of an ISO.

Nonstatutory Stock Options.

No income is realized by the optionee at the time a nonstatutory option is granted. Upon exercise, (a) ordinary income is realized by the optionee in an amount equal to the difference between the option price and the fair market value of the shares on the date of exercise, and (b) we receive a tax deduction for the same amount. Upon disposition of the shares, appreciation or depreciation after the date of exercise is treated as a short or long-term capital gain or loss and will not result in any further deduction by us.

Restricted Stock.

Generally, a recipient will be taxed at the time the conditions to earning the award are met. The excess of the fair market value of the shares at that time over the amount paid, if any, by the recipient for the shares will be treated as ordinary income. The recipient may instead elect at the time of grant to be taxed (as ordinary income) on the excess of the then fair market value of the shares over the amount paid, if any, for the shares. In either case, we receive a tax deduction for the amount reported as ordinary income to the recipient, subject to the limitations of Internal Revenue Code Section 162(m) discussed below. Upon disposition of the shares, any appreciation or depreciation after the taxable event is treated as a short or long-term capital gain or loss and will not result in any further deduction by us.

Unrestricted Stock.

Generally, a recipient will be taxed at the time of the grant of the award. The fair market value of the shares at that time will be treated as ordinary income. We receive a tax deduction for the amount reported as ordinary income to the recipient subject to the limitations of Internal Revenue Code Section 162(m). Upon disposition of the shares, any appreciation or depreciation after the taxable event is treated as short or long-term capital gain or loss and will not result in any further deduction by us.

Restricted Stock Units.

A recipient does not realize taxable income upon the grant or vesting of a restricted stock unit. The recipient must include as ordinary income when an award is settled an amount equal to the excess of the fair market value of the shares (or the amount of cash) distributed to settle the award. Subject to the limitations of Internal Revenue Code Section 162(m), we receive a corresponding tax deduction at the time of settlement. If the award is settled in shares, then any subsequent appreciation or depreciation is treated as short or long-term capital gain or loss and will not result in any further deduction by us.

Internal Revenue Code Section 162(m).

United States tax laws generally do not allow publicly-held companies to obtain tax deductions for compensation of more than $1 million paid in any year to any of the chief executive officer and the next four highest paid executive officers (each, a "covered employee") unless the compensation is "performance-based" as defined in Internal Revenue Code Section 162(m). Stock options and SARs granted under an equity compensation plan are performance-based compensation if (a) stockholders approve a maximum aggregate per person limit on the number of shares that may be granted each year, (b) any stock options or SARs are granted by a committee consisting solely of outside directors, and (c) the stock options or SARs have an exercise price that is not less than the fair value of common stock on the date of grant.

Our Compensation Committee has designed the 2002 Plan with the intention of satisfying Section 162(m) with respect to stock options and SARs granted to covered employees.

In the case of restricted stock and restricted stock units, Section 162(m) requires that the general business criteria of any performance goals that are established by our Compensation Committee be approved and periodically reapproved by stockholders (generally, every five years) in order for such awards to be considered performance-based and deductible by the employer. Generally, the performance goals must be established before the beginning of the relevant performance period. Furthermore, satisfaction of any performance goals during the relevant performance period must be certified by the Compensation Committee.

Our Compensation Committee has approved the following list of business criteria upon which it may establish performance goals for deductible performance-based awards made to covered persons: (a) increases in the price of the common stock, (b) product or service sales or market share, (c) revenues, (d) return on equity, assets, or capital, (e) economic profit (economic value added), (f) total shareholder return, (g) costs, (h) expenses, (i) margins, (j) earnings or earnings per share, (k) cash flow, (l) cash balances, (m) customer satisfaction, (n) operating profit, (o) research and development progress, (p) clinical trial progress, (q) licensing, (r) product development, (s) manufacturing, or (t) any combination of the foregoing, including without limitation goals based on any of such measures relative to appropriate peer groups or market indices. Performance goals may be particular to a participant or may be based, in whole or in part, on the performance of the division, department, line of business, subsidiary, or other business unit in which the participant works, or on our performance generally. Our Compensation Committee has the authority to reduce (but not to increase) the amount payable at any given level of performance to take into account factors that the Compensation Committee may deem relevant.

Equity Awards Granted

Under the 2002 Plan, which includes for this purpose stock options granted under our predecessor plans, we have granted, as of April 5, 2007, the following equity awards to the individuals and groups indicated:

Named Executives	Number of Stock Options Granted Under 2002 Plan	Number of Stock Options Outstanding Under 1993 Plan (1)	Number of Shares of Unrestricted Stock Granted Under 2002 Plan
Geoffrey F. Cox ..... Chairman, Chief Executive Officer and President	491,000	425,000	1,000
John B. Green ..... Senior Vice President, Chief Financial Officer and Treasurer	205,000	184,401	1,000
Gregory F. Liposky ..... Senior Vice President, Operations	281,000	62,000	1,000
Harry M. Meade ..... Senior Vice President, Research and Development	215,000	143,576	1,000
Daniel S. Woloshen ..... Senior Vice President and General Counsel	193,000	58,000	1,000
All current executive officers as a group (6 persons)	1,385,000	872,977	6,000
All current directors (excluding current nominees) who are not executive officers as a group (6 persons)	193,500	63,500	—
Each nominee for election as a director			—
Robert W. Baldridge	22,500	37,500	—
James A. Geraghty	22,500	125,000	—
Michael J. Landine	22,500	—	—
Other employees as a group (including all current officers who are not executive officers)	2,119,938		126,000
Total Awards to Date	3,765,938		132,000

(1) Includes options granted under our prior 1993 Plan and our 1993 Director Option Plan, both of which were previously merged into the 2002 Plan.

No person other than those listed above has received more than five percent of the equity awards granted under the 2002 Plan.

Securities Authorized for Issuance Under Equity Compensation Plans

The following table sets forth information about the securities authorized for issuance under our equity compensation plans as of December 31, 2006:

Equity Compensation Plan Information

Plan Category	(a) Number of securities to be issued upon exercise of outstanding options, warrants and rights	(b) Weighted-average exercise price of outstanding options, warrants and rights	(c) Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (3)(4)
Equity compensation plans/arrangements approved by stockholders (1)	4,941,501(2)	$4.2556	967,210
Equity compensation plans/arrangements not approved by stockholders	—	—	—
Total	4,941,501		967,210

(1) Includes our prior 1993 Plan, the 2002 Plan and our 2003 Employee Stock Purchase Plan.

(2) Excludes purchase rights accruing under the 2003 Employee Stock Purchase Plan because the purchase price (and therefore the number of shares to be purchased) is not determined until the end of each purchase period.

(3) Includes 209,138 shares issuable under the 2003 Employee Stock Purchase Plan and 758,072 shares issuable under the 2002 Plan.

(4) Up to 10% of the awards under the 2002 Plan may be issued as restricted or unrestricted stock awards. For purposes of this limitation, awards subject to performance vesting and awards granted in lieu of cash bonuses are disregarded.

BOARD OF DIRECTORS AND COMMITTEES

General

Our Board of Directors has responsibility for establishing broad corporate policies and reviewing our overall performance rather than day-to-day operations. Our Board's primary responsibility is to oversee management and, in so doing, to serve the best interests of us our stockholders. Our Board reviews and approves corporate objectives and strategies, and evaluates significant policies and proposed major commitments of corporate resources. It participates in decisions that have a potential major economic impact on us. Management keeps the directors informed of company activities through regular written reports and presentations at Board and committee meetings.

Independence

Our Board has determined that Messrs. Baldridge, Bauer, Bullock, Geraghty, Landine, Miller, Tuck, and Ms. McNamara are "independent directors" under the applicable NASDAQ listing standards.

Board Meetings and Committees

Our Board held nine meetings during fiscal year 2006, five of which included executive sessions at which no members of management were present. Each of the directors then in office attended at least 75% of the aggregate of all meetings of the Board and all meetings of the committees of the Board on which such director then served. Directors are asked to attend each annual meeting of stockholders, barring significant commitments or special circumstances. All directors attended our 2006 Annual Meeting.

Stockholder Communications

Any stockholder wishing to communicate with our Board, any committee of the Board or a particular director may do so by sending written correspondence to our principal executive offices, c/o Vice President, Corporate Communications. All such communications will be delivered to the Board or the appropriate director or committee chair.

Our Board has three standing committees: Audit Committee, Compensation Committee and Nominating and Corporate Governance Committee. The members of all of our standing committees are non-employee directors.

Audit Committee

The Audit Committee has authority to select and engage our independent registered public accountants and is responsible for reviewing our audited financial statements, accounting processes and reporting systems and discussing the adequacy of our internal financial controls with our management and our independent registered public accountants. The Audit Committee also reviews the performance of the independent registered public accountants in the annual audit and in assignments unrelated to the audit, assesses the independence of the independent registered public accountants, and reviews their fees. The Audit Committee also develops and recommends to the Board a set of related person guidelines applicable to the Board and us and reviews and approves any related person transactions in accordance with those guidelines. The current members of the Audit Committee are Messrs. Tuck (Chair), Baldridge and Landine and Ms. McNamara. Our Board has considered and determined that each of the members of the Audit Committee satisfies the independence and financial literacy requirements under the applicable NASDAQ listing standards. The Board has also determined that Mr. Tuck, who has an M.B.A. degree and has served as the chief executive officer of a biotechnology company, qualifies as an "audit committee financial expert" as defined under the rules of the Securities and Exchange Commission. The Board has also noted that Mr. Baldridge has substantial experience in investment banking and consulting and has served as the chief executive officer of a biotechnology company, and that Ms. McNamara has served as the chief executive officer of an international consulting firm and currently serves as the chief executive officer of a clinical

trial data management and mobile technology company. Mr. Landine is a Certified Public Accountant and has served for over seventeen years as a senior officer of a biotechnology company, including ten years as its chief financial officer.

The Audit Committee held five meetings during fiscal year 2006. The Audit Committee operates pursuant to a written charter, which is available on the Investor Relations Section of our website at www.gtc-bio.com. For more information about the Audit Committee, see "Report of the Audit Committee" in this proxy statement.

Compensation Committee

Our Compensation Committee is responsible for establishing cash compensation policies with respect to our executive officers and directors, determining the compensation to be paid to our executive officers and administering our equity incentive and stock purchase plans. The current members of the Compensation Committee are Messrs. Bullock (Chair), Bauer, Miller and Tuck. The Compensation Committee held six meetings during fiscal year 2006. The Compensation Committee operates pursuant to a written charter, which is available on the Investor Relations section of our website at www.gtc-bio.com. Our Board has determined that all of the Compensation Committee members meet the independence requirements under the applicable NASDAQ listing standards.

Nominating and Corporate Governance Committee

Our Nominating and Corporate Governance Committee identifies individuals qualified to become Board members and recommends to the Board the director nominees for the next annual meeting of stockholders and candidates to fill vacancies on the Board. Additionally, the Nominating and Corporate Governance Committee recommends to the Board the directors to be appointed to Board committees. The Nominating and Corporate Governance Committee also develops and recommends to the Board a set of corporate governance guidelines applicable to the Board and to us and oversees the effectiveness of our corporate governance in accordance with those guidelines. The Nominating and Corporate Governance Committee currently consists of the eight non-management directors, Messrs. Bullock, Bauer, Miller, Tuck, Geraghty, Baldridge, Landine and Ms. McNamara, each of whom the Board has determined meets the independence requirements under the applicable NASDAQ listing standards. The committee held two meetings during fiscal year 2006, in addition to five executive sessions conducted in conjunction with regular meetings of the Board. The Nominating and Corporate Governance Committee operates pursuant to a written charter, which is available on the Investor Relations section of our website at www.gtc-bio.com.

The Nominating and Corporate Governance Committee considers candidates for Board membership suggested by its members and other Board members. Additionally, in selecting nominees for directors, the Nominating and Corporate Governance Committee will review candidates recommended by stockholders in the same manner and using the same general criteria as candidates recruited by the committee and/or recommended by the Board. The Nominating and Corporate Governance Committee will also consider whether to nominate any person nominated by a stockholder in accordance with the provisions of our by-laws relating to stockholder nominations as described in "Deadline for Stockholder Proposals and Director Nominations" below.

Once the Nominating and Corporate Governance Committee has identified a prospective nominee, a subcommittee of the Nominating and Corporate Governance Committee makes an initial determination as to whether to conduct a full evaluation of the candidate. This initial determination is based on the information provided to the subcommittee with the recommendation of the prospective candidate, as well as the subcommittee's own knowledge of the prospective candidate, which may be supplemented by inquiries of the person making the recommendation or others. The preliminary determination is based primarily on the need for additional Board members to fill vacancies or expand the size of the Board and the likelihood that

the prospective nominee can satisfy the evaluation factors described below. Based on the recommendation of the subcommittee, the full committee then evaluates the prospective nominee against the standards and qualifications set out in our Corporate Governance Guidelines, which include among others:

- whether the prospective nominee meets the independence requirements defined under the applicable NASDAQ listing standards and audit committee financial expert requirements defined under applicable Securities and Exchange Commission rules and regulations;
- the extent to which the prospective nominee's skills, experience and perspective add to the range of talent appropriate for the Board and whether such attributes are relevant to our industry;
- the prospective nominee's ability to dedicate the time and resources sufficient for the diligent performance of Board duties; and
- the extent to which the prospective nominee holds any position that would conflict with responsibilities to us.

If the Nominating and Corporate Governance Committee's internal evaluation is positive, the subcommittee and possibly others will interview the candidate. Upon completion of this evaluation and interview process, the Nominating and Corporate Governance Committee makes a recommendation and report to the Board as to whether the candidate should be nominated by the Board and the Board determines whether to approve the nominee after considering this recommendation and report.

Compensation Committee Interlocks and Insider Participation

No person serving on the Compensation Committee at any time during fiscal year 2006 was a present or former officer or employee of ours or any of our subsidiaries during that year. During fiscal year 2006, no executive officer of ours served as a member of the board of directors or compensation committee (or other board committee performing equivalent functions) of any other entity that had an executive officer serving on our Board or Compensation Committee.

EXECUTIVE OFFICER AND DIRECTOR COMPENSATION

Compensation Discussion & Analysis

General

Our Compensation Committee, which consists of four independent directors, is responsible for establishing our compensation philosophy and objectives and implementing them by approving the principal elements of compensation for each of our executive officers. Our Compensation Committee is also responsible for administering all of our equity-based plans, including all plan awards made to our executive officers. Our Compensation Committee acts pursuant to a written charter, a copy of which is available on the Investor Relations section of our website at www.gtc-bio.com.

In reviewing and determining the elements of compensation and the amount of each element payable to executive officers, our Compensation Committee relies upon survey data from the Radford Biotechnology Survey described below, as well as the business experience of the members of our Compensation Committee and advice that our Compensation Committee seeks from time to time from outside advisors. Our Compensation Committee did not retain compensation consultants for fiscal 2006.

Philosophy and Objectives of Our Compensation Program

Our Compensation Committee's philosophy is to align our compensation program with our goal of building shareholder value, while at the same time assuring that we hire and retain skilled executives who are knowledgeable and experienced in our business. The objectives for our named executives' compensation program are to attract, retain and motivate qualified executives and to give them specific incentives to achieve goals that are designed to advance our broader corporate strategy and that are approved by our Compensation Committee. Specifically, we want to give our named executives incentives to perform as members of an integrated executive team and to achieve designated goals relating to our strategic objectives and financial and operating performance. Accordingly, our named executives' compensation program is designed to provide:

- current cash compensation that is competitive with other opportunities for our named executives in our industry and that takes into account the cost of living near our headquarters location of Framingham, Massachusetts, which exceeds that of most major suburban areas;
- individual and corporate performance bonuses to encourage effective individual and team performance against our current financial, operating and strategic goals and objectives.
- equity compensation that provides the potential for our named executives to share in the our growth over the long term as they build value for all equity holders.

Our Compensation Committee determines the allocation between total compensation amounts to be paid in cash and those to be awarded in the form of stock and stock options, based in part on our cash position. For example, in early 2006 we were very focused on conserving cash and, therefore, we deferred increases in salaries for senior executives, including our named executives, and we paid a significant portion of 2005 performance bonuses in shares of our common stock, which were issued in the first quarter of 2006.

Our Compensation Committee considers its compensation program, in the aggregate, to have achieved its objectives if:

- we are successful in achieving key goals that are consistent with the corporate strategy reviewed and approved annually by our Board, such as obtaining marketing approval of ATryn® in Europe during 2006;
- the cash compensation paid to named executives is consistent with their performance; and
- we are successful in retaining our key executives in the face of intense competition for management talent.

Benchmark Data and Compensation Consultants

Our named executives' cash compensation programs are benchmarked against industry survey data compiled by Radford Surveys + Consulting in its annual Radford Biotechnology Survey. This survey groups companies by their number of employees. We do not select the specific biotechnology companies in each grouping in the survey. Based on the size of our operations in the recent past, and the complexity of our operations relative to our stage of development, we have compared the cash compensation of our named executives to the survey's data for executives of companies with 150 to 499 employees. The Radford survey data we used in 2006 was based on approximately 75 companies in that data group. We generally try to achieve total compensation for our named executives at the 50th percentile of this benchmark group in the survey.

While members of our Compensation Committee believe that compensation survey data are useful guides for comparative purposes, they also believe that successful incentive compensation programs require the application of judgment and subjective determinations. To that extent, our Compensation Committee applies its collective judgment in reconciling our incentive program's objectives for our named executives with the realities of marketplace demands for the position and possible additional or fewer responsibilities relative to the survey group.

Neither management nor our Compensation Committee has made any significant use of compensation consultants. However, in anticipation of the change in accounting for equity-based compensation, at the end of 2005 we engaged a compensation specialist from PricewaterhouseCoopers LLP, our independent auditors, to provide us information on alternatives and emerging trends in equity compensation under the new accounting required by Statement of Financial Accounting Standards No. 123 (2002 revised), *Share-Based Payment*, or SFAS 123(R).

Role of Executive Officers in Compensation Decisions

Our Compensation Committee makes all determinations affecting the compensation for our named executives, including our Chief Executive Officer, or CEO. Our Compensation Committee receives and carefully considers our CEO's evaluations of all named executives other than himself, as well as his recommendations with respect to all components of compensation of the other named executives. Our Compensation Committee expressly retains the right to exercise, and regularly does exercise, its discretion in modifying any adjustments or awards recommended by the CEO. In the case of our CEO's compensation, our Compensation Committee conducts its own evaluation of his performance and does not request any recommendation from our CEO regarding his compensation. The only time that our CEO has made a recommendation regarding his compensation was when he requested that his salary not be increased, as was the case with the deferred salary increase in 2006.

In the case of the performance targets for the corporate performance component of cash bonus compensation for named executives and other employees, our CEO proposes targets to our Compensation Committee from which there follows discussion to decide an appropriate set of targets. Our Compensation Committee then seeks input from our Board regarding our strategic priorities and works with our Chief Executive Officer to finalize the key operating and strategic goals against which our Compensation Committee will ultimately evaluate both the individual and team performance of our named executives.

Elements of our 2006 Executive Compensation Program

The principal elements of compensation for our named executives during our fiscal year ended December 31, 2006 were:

- basc salary
- a performance bonus component based on performance of our business against corporate objectives
- a performance bonus component based on individual executive performance

- annual and other periodic equity awards under our equity incentive plans
- other benefits

Base Salaries

Our Compensation Committee reviews and determines annually the base salaries for each of our named executives relative to Radford survey data for executives with similar titles and responsibilities to those of the named executive. In addition to this data, factors such as each named executive's salary history and internal pay equity may be considered. Base salaries are also typically reviewed upon promotion or other significant change in job responsibilities.

In March 2006, our Compensation Committee reviewed the base salaries of our named executives and, at the recommendation of our Chief Executive Officer, agreed to continue the recent practice of keeping increases in base salaries, if any, at the same percentage level for all named executives. However, in light of the fact that we received in February 2006 an initial denial of our marketing authorization application for ATryn® from the EMEA, our Compensation Committee deferred any 2006 salary increases for our named executives and instead authorized future cash payments to each of them equal to 5% of the named executive's respective base salary if we had a specified minimum cash balance at the end of fiscal 2006. The 5% amount of the deferred salary increase was determined based on the Radford survey data, current rates of inflation and the fact that the increase could have been deferred for up to twelve months.

After the European Commission's August 2006 approval of ATryn® as a treatment for hereditary antithrombin deficiency and the successful completion of our registered direct share offering in July 2006, our Compensation Committee determined there was sufficient assurance that we would satisfy the requirement for a specified minimum cash balance at the end of fiscal 2006 so that payment of the deferred increase could be accelerated. Accordingly, our Compensation Committee approved 5% salary increases for all the named executives effective as of September 1, 2006 and payment as contingent compensation the amount that would have been paid to each executive if the 5% increase had been in effect since January 1, 2006.

Performance Bonus Program

Our Compensation Committee reviews and determines annually the target amounts for performance bonuses to our named executives. They are defined as a percentage of base salary and the amount can be exceeded by up to 20% for exceptional corporate and individual performance. In determining these percentages for our named executives for 2006, our Compensation Committee considered the Radford survey data and our CEO's request that senior executives be given the same target bonuses as executives at comparable positions in the Radford Survey peer companies. After considering our financial position in early 2006, our Compensation Committee determined not to change the target bonus amounts for any of our named executives for 2006. The target bonus amount for our Chief Executive Officer in 2006 was 40% of his base salary, and for our other named executives it was 30% of their base salaries.

Our Compensation Committee makes its own determination of what portion of potential cash bonus awards should be based on corporate performance and what portion should be based on individual performance. In recent years our Compensation Committee has favored increased weighting toward corporate performance goals in order to emphasize achievement of our strategic objectives and promote the significant teamwork required of our named executive team. Accordingly, for 2006 potential cash performance bonuses for each of our named executives were set at two-thirds based on corporate performance and one-third based on individual performance.

Bonuses for Corporate Performance. Two-thirds of the potential cash performance bonuses in 2006 were tied to achievement of company-wide goals, which were determined in early 2006 between our CEO and our chairman of our Compensation Committee, with input from other members of the committee and our Board. These goals were based in substantial part on the annual review of corporate strategy, which our Board and management conduct. The goals for one-half of this portion of the cash incentive bonuses included

achievement of strategic and operating goals for total use of cash, achieving a specified year-end cash balance, raising additional capital from debt, equity or partnering transactions, meeting patient enrollment goals in our pivotal clinical trial for submission of a Biological License Application in the United States, achieving sufficient production of ATryn® to support LEO Pharma's Phase II clinical trial for a DIC/sepsis indication, completion of work in support of our external programs and maintaining the quality of our financial reporting, all of which were considered essential but likely achievable goals in 2006. The goals for the other half of this portion of the cash incentive bonuses were for successful re-examination of the CHMP's opinion on ATryn® and for new partnering deals, neither of which were considered likely when the goals were set in early 2006, as well as for achievement of more challenging, or stretch, goals in conserving total use of cash, achievement of a higher specified year-end cash balance, raising a higher level of additional capital from debt, equity or partnering transactions, and achieving further goals in our pivotal clinical trial for submission of a Biological License Application on ATryn® in the United States. Our Compensation Committee determined that corporate goals representing approximately half of the corporate performance for 2006 were achieved, including successful re-examination of the CHMP's opinion on ATryn®, signing of the new partnering deal with LFB Biotechnologies, completion of work in support of our external programs, raising additional capital, refinancing our debt, achieving a year-end cash balance in excess of $30 million, achieving cash receipts of approximately $10 million (exclusive of financings), and maintaining the quality of our financial reporting.

In February 2007, our Compensation Committee reviewed with our CEO the 2006 corporate performance against the company-wide goals and determined that the goals representing approximately 60% of the target for corporate performance bonuses had been achieved. Accordingly, the total cash incentive compensation awarded to our named executives in 2006 resulted in cash payments to these executive officers equaling approximately 34% of their base salary for the CEO and 26% of base salary for the other named officers.

Bonuses for Individual Performance. Of the one-third potential cash bonus for individual performance in 2006, one half was for performance against specific goals for the executive and one half was determined on purely qualitative criteria such as teamwork and management style. Our CEO determined these goals in each case, except those for himself, which were determined by our Compensation Committee. After the end of 2006, our CEO evaluated each named executive and presented our Compensation Committee with a summary of his evaluation and his recommendation regarding the individual performance component. In each case our committee accepted his recommendation. In the case of our CEO, our Compensation Committee determined that he should be awarded an individual bonus of $69,716, in addition to his bonus for corporate performance.

Equity Incentive Plan Awards

In addition to the portion of our annual performance bonuses that from time to time have been paid in shares of our common stock as noted above, our Compensation Committee considers stock options to be an important part of total compensation for our named executives. Annual and periodic equity awards, including stock options awards upon hiring, provide them long-term incentives. The purpose of these awards is to:

- highlight and reinforce the mutual, long-term alignment of interests between employees and the stockholders
- provide incentive for our named executives to create value over the long term
- assist in the attraction and retention of important key executives, managers and individual contributors who are essential to growth and development of our business

In March 2006, our Compensation Committee approved annual stock option awards to each of our employees, including our named executives. The stock option awards are determined by our Compensation Committee based on its own judgment and general knowledge of equity award practices in the biotechnology industry, but without reference to any specific benchmarks. Our Compensation Committee generally intends our equity awards to reflect the significance of each named executive's current and anticipated contributions to our overall performance. For each stock option award, 20% vested immediately and the balance vests 20% annually over four years. The exercise price per share of the stock options is equal to the last sale price of a share of our common stock on the date of grant. Prior to the exercise of a stock option, our named executives have no rights to vote the underlying shares or receive any distributions that might be made with respect to the shares.

Our Compensation Committee typically makes annual equity awards in connection with the regular Board meeting in February of each year. In 2006, however, our Compensation Committee had an additional follow-up meeting in March before it finalized all elements of compensation for our named executives, including approval of stock option awards.

In August 2006, in recognition of our extraordinary achievement in obtaining the European Commission's approval of ATryn® as a treatment for hereditary antithrombin deficiency, the first human pharmaceutical product produced in a transgenic animal to be approved anywhere in the world, our Compensation Committee made a special bonus award of 1,000 shares of our common stock to each of our employees, including each of our named executives.

Other Benefits

We provide our named executives the same medical, dental, disability insurance and life insurance as we provide to all our employees, and they may participate in our 401(k) Savings Plan. We do not provide any material perquisites to our named executives.

Named Executive Agreements

In prior years, as any of our named executives were hired by us or promoted to be executive officers, we entered into agreements with them pursuant to which they will be entitled to receive severance benefits upon termination by us without cause or upon the occurrence of certain enumerated events following a change-in-control. These agreements generally renew automatically from year to year, and in 2006 there was no adjustment in any of these agreements. The events that trigger payment are generally those related to termination of employment without cause or detrimental changes in the executive's terms and conditions of employment. See "Severance and Change-in-Control Agreements and Provisions" below for a more detailed description of these triggering events and the resulting benefits. We believe that this structure will help: (i) assure that the named executives' can give their full attention and dedication to us, free from distractions caused by personal uncertainties and risks related to a pending or threatened change-in-control, (ii) assure the named executives' objectivity in considering stockholders' interests, (iii) assure the named executives of fair treatment in case of involuntary termination following a change-in-control, and (iv) attract and retain key executive talent during uncertain times.

Impact of Tax and Accounting Issues

Compensation Deductibility

Section 162(m) of the Internal Revenue Code denies a tax deduction to a public corporation for annual compensation in excess of $1 million paid to its Chief Executive Officer and its four other highest compensated officers. This provision excludes certain types of "performance based compensation" from the compensation subject to the limit. Our Compensation Committee did not pay any one covered employee salary and bonus for 2006 that exceeded $1 million. In addition, our 2002 Plan contains an individual annual limit on the number of stock options and stock appreciation rights that may be granted under the plan so that such awards will qualify for the exclusion from the limitation on deductibility for performance-based

compensation. Our Compensation Committee believes, however, that factors other than tax deductibility are more important in determining the forms and levels of executive compensation most appropriate and in the best interests of our stockholders. Given our industry and business, as well as the competitive market for outstanding executives, our Compensation Committee believes that it is important to retain the flexibility to design compensation programs consistent with our executive compensation philosophy, even if some executive compensation is not fully deductible. Accordingly, our Compensation Committee may from time to time approve elements of compensation for certain executives that are not fully deductible.

Accounting for Stock-Based Compensation

Beginning on January 1, 2006, we began accounting for stock-based payments, including awards under our 2002 Plan, in accordance with SFAS 123(R).

Compensation Committee Report

Our Compensation Committee has reviewed and discussed the foregoing Compensation Discussion and Analysis with management of the company and, based on such review and discussion, we recommended to the Board of Directors that the Compensation Discussion and Analysis be included in this Proxy Statement.

By the Compensation Committee,

Francis J. Bullock, Chair
Kenneth A. Bauer
Marvin L. Miller
Alan W. Tuck

Summary Compensation Table

The following table sets forth information concerning compensation paid to, or earned by, our named executives in fiscal year 2006:

Name and Principal Position	Year	Salary ($)	Bonus ($)(1)	Stock Awards ($)(2)	Option Awards ($)(3)	Non-Equity Incentive Plan Compensation ($)(4)	Total ($)
Geoffrey F. Cox ..... Chairman and CEO	2006	458,640	69,716	1,230	50,423	87,509	667,518
John B. Green ..... Senior Vice President and CFO	2006	294,840	34,496	1,230	30,071	42,192	402,829
Gregory F. Liposky ..... Senior Vice President, Operations	2006	278,460	32,580	1,230	37,239	39,848	389,357
Harry M. Meade ..... Senior Vice President, Research and Development	2006	287,196	31,879	1,230	33,397	41,098	394,800
Daniel S. Woloshen ..... Senior Vice President and General Counsel	2006	250,068	27,007	1,230	23,371	35,785	337,461

(1) Reflects payments of the portion of cash performance bonuses for 2006 based on individual performance. These payments were made in March 2007.

(2) Reflects the full grant date fair value of 1,000 shares of unrestricted common stock based on the grant date price of $1.23 per share on August 10, 2006.

(3) Reflects the amount recognized for financial statement reporting purposes for fiscal year 2006 in accordance with SFAS 123(R) and therefore includes amounts relating to awards granted in, and prior to, 2006. For the assumptions underlying the valuation of these awards see Note 9 to the Consolidated Financial Statements included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2006 filed with the SEC on March 7, 2007 and Note 2 to the Consolidated Financial Statements included in our Quarterly Reports for the fiscal quarters ended April 2, 2006, July 2, 2006 and October 1, 2006 filed with the SEC on May 10, 2006, August 4, 2006 and November 3, 2006, respectively.

(4) Reflects payments of the portion of cash performance bonuses for 2006 based on corporate performance. These payments were made in March 2007.

Employment Agreements

Several of our named executives have employment agreements that include compensation provisions unrelated to termination and change-in-control payments. These agreements provide for a minimum base salary and eligibility to receive performance and incentive bonuses. Each of these agreements is summarized below.

Geoffrey F. Cox, PhD, Chairman, President and Chief Executive Officer. We entered into an employment agreement with Dr. Cox in July 2001. Pursuant to this agreement, he is entitled to a minimum annual base salary of $380,000, and is eligible to receive performance and incentive bonuses of not less than 40% of his then current base salary, based on the achievement of certain individual and corporate objectives established jointly by Dr. Cox and our Compensation Committee. In calendar year 2006, Dr. Cox received a base salary of $458,640.

John B. Green, Senior Vice President, Chief Financial Officer *and Treasurer.* We entered into an employment agreement with Mr. Green in August 1997. Pursuant to this agreement, he is entitled to a minimum base salary of $150,000 per year, plus performance and incentive bonuses as determined by our Compensation Committee. In calendar year 2006, Mr. Green received a base salary of $294,840.

Harry Meade, PhD, Senior Vice President, Research and Development. We entered into an employment agreement with Dr. Meade in May 1996. Pursuant to this agreement, he is entitled to a minimum base salary of $126,000 per year, plus performance and incentive bonuses as determined by our Compensation Committee. In calendar year 2006, Dr. Meade received a base salary of $287,196.

Grants of Plan-Based Awards

The following table sets forth additional information regarding stock, option and non-equity incentive plan awards granted to our named executives during the fiscal year 2006:

Name	Grant Date	Estimated Future Payouts Under Non-Equity Incentive Plan Awards (1) Threshold ($)	Target ($)	Maximum ($)	All Other Stock Awards: Number of Shares of Stock or Units (#)	All Other Option Awards: Number of Securities Underlying Options (#)	Exercise or Base Price of Option Awards ($/Sh)	Grant Date Fair Value of Stock and Option Awards
Geoffrey F. Cox	—	3,669	73,382	146,765				
	3/10/06					90,000	1.03	23,200
	8/10/06				1,000			1,230
John B. Green.....	—	1,769	35,381	70,762				
	3/10/06					35,000	1.03	10,001
	8/10/06				1,000			1,230
Gregory F. Liposky...	—	1,671	33,415	66,830				
	3/10/06					50,000	1.03	14,287
	8/10/06				1,000			1,230
Harry M. Meade.....	—	1,723	34,464	68,927				
	3/10/06					50,000	1.03	14,287
	8/10/06				1,000			1,230
Daniel S. Woloshen ..	—	1,506	30,008	60,016				
	3/10/06					25,000	1.03	14,287
	8/10/06				1,000			1,230

(1) Reflect the range of potential payments of the portion of cash performance bonuses for 2006 based on corporate performance. Actual payments of these bonuses were made in February 2007 and equaled approximately 60% of the targeted payout for each named executive.

Outstanding Equity Awards at Fiscal Year-End 2006

The following table sets forth additional information regarding the equity awards granted to our named executives and outstanding as of December 31, 2006:

Name	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price ($)	Option Expiration Date
Geoffrey F. Cox	15,000	—	8.81	5/23/2011
	285,000	—	8.00	7/17/2011
	125,000	—	3.80	2/14/2012
	15,000	—	1.89	5/22/2012
	100,000(1)	25,000(1)	1.45	2/14/2013
	75,000(2)	—	3.96	2/13/2014
	600(3)	400(3)	2.25	12/9/2014
	30,000(4)	45,000(4)	1.71	2/15/2015
	18,000(5)	72,000(5)	1.03	3/10/2016
John B. Green	25,000	—	7.375	5/28/2007
	25,000	—	9.125	5/27/2008
	26,401	—	4.5625	5/25/2009
	33,000	—	17.3125	5/24/2010
	35,000	—	5.0313	3/14/2011
	50,000	—	3.80	2/14/2012
	40,000(1)	10,000(1)	1.45	2/14/2013
	25,000(2)	—	3.96	2/13/2014
	600(3)	400(3)	2.25	12/9/2014
	15,600(4)	23,400(4)	1.71	2/15/2015
	7,000(5)	28,000(5)	1.03	3/10/2016
Gregory F. Liposky	12,000	—	6.125	1/4/2009
	12,500	—	17.3125	5/24/2010
	12,500	—	31.0625	8/2/2010
	25,000	—	5.0313	3/14/2011
	50,000	—	3.80	2/14/2012
	36,000(1)	9,000(1)	1.45	2/14/2013
	35,000(2)	—	3.96	2/13/2014
	600(3)	400(3)	2.25	12/9/2014
	22,000(4)	33,000(4)	1.71	2/15/2015
	10,000(5)	40,000(5)	1.03	3/10/2016
Harry M. Meade	5,000	—	7.375	5/28/2007
	24,261	—	9.125	5/27/2008
	21,315	—	4.5625	5/25/2009
	33,000	—	17.3125	5/24/2010
	20,000	—	5.0313	3/14/2011
	50,000	—	3.80	2/14/2012
	36,000(1)	9,000(1)	1.45	2/14/2013
	25,000(2)	—	3.96	2/13/2014
	600(3)	400(3)	2.25	12/9/2014
	15,600(4)	23,400(4)	1.71	2/15/2014
	10,000(5)	40,000(5)	1.03	3/10/2016

Name	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price ($)	Option Expiration Date
Daniel S. Woloshen.....	15,000	—	5.5625	8/2/2009
	12,500	—	17.3125	5/24/2010
	12,500	—	31.0625	8/2/2010
	18,000	—	5.0313	3/14/2011
	35,000	—	3.80	2/14/2012
	36,000(1)	9,000(1)	1.45	2/14/2013
	25,000(2)	—	3.96	2/13/2014
	600(3)	400(3)	2.25	12/9/2014
	10,800(4)	16,200(4)	1.71	2/15/2015
	5,000(5)	20,000(5)	1.03	3/10/2016

(1) Granted on February 14, 2003. One-fifth vested upon grant and one-fifth vests on each of the next four annual anniversaries of grant.

(2) Granted on February 13, 2004. On December 22, 2005, in anticipation of the effective date of SFAS 123(R), our Compensation Committee approved the acceleration of vesting of all unvested stock options that had an exercise price of $3.75 or above which were held by current employees as of December 22, 2005, including executive officers. All other options with an exercise price below $3.75 per share continued to vest under their normal vesting schedule: one-fifth upon grant and one-fifth on each of the next four annual anniversaries of grant.

(3) Granted on December 9, 2004. One-fifth vested upon grant and one-fifth vests on each of the next four annual anniversaries of grant.

(4) Granted on February 15, 2005. One-fifth vested upon grant and one-fifth vests on each of the next four annual anniversaries of grant.

(5) Granted on March 10, 2006. One-fifth vested upon grant and one-fifth vests on each of the next four annual anniversaries of grant.

Option Exercises and Stock Vested

No stock options were exercised by our named executives during fiscal year 2006. The following table sets forth information regarding vesting during fiscal year 2006 of stock awards granted to our named executives:

	Stock Awards(1)	
Name	Number of Shares Acquired on Vesting (#)	Value Realized on Vesting ($)
Geoffrey F. Cox	1,000	1,230
John B. Green.....	1,000	1,230
Gregory F. Liposky.....	1,000	1,230
Harry M. Meade.....	1,000	1,230
Daniel S. Woloshen.....	1,000	1,230

(1) Reflects grant of 1,000 shares of unrestricted common stock at $1.23 per share on August 10, 2006 as part of a company-wide grant of 1,000 shares each to all employees.

Director Compensation

The following table sets forth information concerning the compensation paid to, or earned by, our directors in fiscal year 2006:

Name	Fees Earned or Paid in Cash ($)	Option Awards ($)(1)(2)	Total ($)
Robert W. Baldridge	30,500	3,898	34,398
Kenneth A. Bauer	27,500	2,562(3)	30,062
Christian Béchon	500	6,605	7,105
Francis J. Bullock	20,250(4)	—	20,250
James A. Geraghty	16,000(5)	3,898	19,898
Michael J. Landine	29,500(6)	7,985	37,485
Pamela W. McNamara	29,000(7)	2,562(3)	31,562
Marvin L. Miller	26,700	2,562(3)	29,262
Alan W. Tuck	35,500	—	35,500

(1) The following aggregate number of option awards were outstanding as of December 31, 2006 for each director included in the table:

Director	Option Awards
Robert W. Baldridge	60,000
Kenneth A. Bauer	37,500
Christian Béchon	22,500
Francis J. Bullock	65,500
James A. Geraghty	147,500
Michael J. Landine	22,500
Pamela W. McNamara	52,500
Marvin L. Miller	52,500
Alan W. Tuck	43,000

(2) Reflects the amount recognized for financial statement reporting purposes for fiscal year 2006 in accordance with SFAS 123(R) and therefore includes amounts relating to awards granted in, and prior to, 2006. For the assumptions underlying the valuation of these awards see Note 9 to the Consolidated Financial Statements included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2006 filed with the SEC on March 7, 2007 and Note 2 to the Consolidated Financial Statements included in our Quarterly Reports for the fiscal quarters ended April 2, 2006, July 2, 2006 and October 1, 2006 filed with the SEC on May 10, 2006, August 4, 2006 and November 3, 2006, respectively.

(3) Includes the amount recognized for financial statement reporting purposes for fiscal year 2006 in accordance with SFAS 123(R) of 22,500 options granted to this director upon his or her re-election as a director on May 24, 2006. The full grant date fair value of the options was $17,632, based upon the current market price on the grant date.

(4) Includes $1,875 in fees earned by Dr. Bullock which were paid in shares of our common stock in lieu of cash payment.

(5) Includes $3,250 in fees earned by Mr. Geraghty which were paid in shares of our common stock in lieu of cash payment.

(6) Includes $1,400 in fees earned by Mr. Landine which were paid in shares of our common stock in lieu of cash payment.

(7) Includes $1,000 in fees earned by Ms. McNamara which were paid in shares of our common stock in lieu of cash payment.

We pay our non-employee directors a combination of cash and stock options for their service on our Board and its committees. We do not pay directors who are also our employees for their service as directors. Director compensation is determined and reviewed annually by the Compensation Committee which recommends any changes to our Board for its approval.

Director Fees. We pay our non-employee directors an annual retainer of $12,000, payable in quarterly installments. Directors who also serve as non-Chair members of the Compensation Committee or the Nominating and Corporate Governance Committee receive for each committee an additional annual retainer of $2,000, payable quarterly. Directors who serve as the Chair of a committee receive for each committee an additional annual retainer of $3,000, payable quarterly. Directors who serve as non-Chair members of the Audit Committee receive an additional annual retainer of $4,000, payable quarterly. The director who serves as the Chair of the Audit Committee receives an additional annual retainer of $6,000, payable quarterly. In addition to these retainers, each non-employee director receives $1,000 for attendance in person (or $500 for participation by conference call) for each Board meeting and each standing committee meeting (other than meetings of the Nominating and Governance Committee held in conjunction with a Board meeting), plus reimbursement of reasonable expenses incurred in attending or otherwise participating in such meetings. Non-employee directors may elect to have part or all of their director fees paid in the form of our common stock. An election to be paid in common stock must be made prior to the payment date of the quarterly installment effected. The number of shares to be issued as payment is determined based on the amount of the quarterly installment to be paid in the form of common stock divided by the per share closing price of our common stock on the last trading day of the quarter preceding payment.

Stock Options. Our non-employee directors are currently eligible to participate in our 2002 Plan. Our Board has discretion to determine the size, type and exerciseability of any awards granted to our non-employee directors under the 2002 Plan. Non-employee directors are granted options at the annual meeting of stockholders when they are elected or re-elected as director. Each eligible director, other than the Chairman of the Board, receives an option to purchase 7,500 shares of common stock for each year of the term of office to which the director is elected (normally 22,500 shares for election to a three-year term of office). A non-employee Chairman of the Board would receive an option to purchase 15,000 shares for each year of the term of office to which the Chairman is elected (normally 45,000 shares for a three-year term of office). Upon an eligible director's election other than at an annual meeting, the director is automatically granted an option to purchase 7,500 shares in the case of a non-Chairman and 15,000 shares in the case of a non-employee Chairman, for each year or portion of a year of the term of office to which he or she is elected. Options for non-employee directors other than the Chairman vest as to 7,500 shares on the date the option is granted and on the date of each subsequent annual meeting of stockholders, so long as the optionee is still a director. The options have a term of ten years and an exercise price, payable in cash or common stock, equal to the closing per share price of our common stock on the date of grant, as reported on the NASDAQ Global Market.

Payments Upon Termination or Change-In-Control

We have entered into certain agreements and maintain certain plans that may require us to make payments and provide benefits to our named executives in the event of a termination of their employment, including upon a change-in-control of us. For purposes of the description of the potential payments and benefits set forth below, we have assumed that the triggering event with respect to a termination or change-in-control occurred as of December 29, 2006, the last business day of our last fiscal year, and that the per share price of our common stock was $1.11, the closing price on that date. The actual amounts of any payments and the value of any benefits can only be determined at the time of a named executive's termination or a change-in-control.

The following table sets out the circumstances in which we are obligated to make payments to our named executives at, following or in connection with a termination of their employment. The table excludes information with respect to payments or benefits provided under arrangements or plans that do not

discriminate in favor of the named executives and that are generally available to all our of salaried employees. The table also excludes circumstances in which our obligation is limited to payments of earned, but unpaid compensation such as unpaid base salary, vacation earned and unpaid bonus for a previous year.

	Payments Upon Termination				
Named Executive and Payment Categories	By us without cause	By us upon a change-in-control	By employee upon our breach	By employee upon change-in-control	By employee upon change-in-control with good reason
Geoffrey C. Cox					
Chairman, President and CEO					
Bonus	$ 230,400	$ 230,400	$ 230,400	$ —	$ 230,400
Base Salary	960,000	960,000	960,000	—	960,000
Continuation of Benefits(1)	32,572	32,572	32,572	—	32,572
Acceleration of Options	72,897	72,897	72,897	—	72,897
Total	$ 1,295,869(2)	$ 1,295,869(3)	$1,295,869	$ —	$ 1,295,869(3)(4)
John B. Green					
Senior Vice President, CFO and Treasurer					
Bonus	$ 110,282	$ 110,282	—	$ 110,282	—
Base Salary	306,340	612,680	—	612,680	—
Continuation of Benefits(5)	14,356	28,711	—	28,711	—
Acceleration of Options	—	56,623	—	56,623	—
Total	$ 430,978(2)	$ 808,296(3)	—	$ 808,296(3)	—
Harry M. Meade					
Senior Vice President, Research and Development					
Bonus	$ 107,531	$ 72,977	—	—	$ 72,977
Base Salary	298,696	298,696	—	—	298,696
Continuation of Benefits	14,356(5)	15,493(1)	—	—	15,493(1)
Acceleration of Options	—	11,792	—	—	11,792
Total	$ 420,583	$ 398,958(6)	—	—	$ 398,958(6)(7)
Gregory F. Liposky					
Senior Vice President, Operations					
Bonus	$ —	$ 72,427	—	—	$ 72,427
Base Salary	289,960	289,960	—	—	289,960
Continuation of Benefits	14,356(5)	15,457(1)	—	—	15,457(1)
Acceleration of Options	—	12,341	—	—	12,341
Total	$ 304,316	$ 390,185(6)	—	—	$ 390,185(6)(7)
Daniel S. Woloshen					
Senior Vice President and General Counsel					
Bonus	$ —	$ 62,792	—	—	$ 62,792
Base Salary	260,318	260,318	—	—	260,318
Continuation of Benefits	14,356(5)	15,345(1)	—	—	15,345(1)
Acceleration of Options	—	6,605	—	—	6,605
Total	$ 274,674	$ 345,060(6)	—	—	$ 345,060(6)(7)

(1) Benefits include life, medical, dental, accident and disability insurance.

(2) "Cause" means (i) continued breach of a material duty or obligation under the agreement; (ii) intentional or grossly negligent conduct by the executive that is materially injurious to us or (iii) his continued willful failure to follow our Board's instructions.

(3) "Change-in-control" means (i) the acquisition by a person resulting in that person owning or controlling 50% or more of our common stock; (ii) a merger or similar combination after which 49% or more of the voting stock of the surviving corporation is held by persons who were not our stockholders immediately prior to the merger or combination; (iii) acquisition, merger or similar combination or divestiture of our business after which the executive's role is not substantially the same as prior to

the transaction; (iv) the election by our stockholders of 20% or more directors other than pursuant to nomination of our management; or (iv) the sale by us of all or substantially all of our assets or business.

(4) "Good reason" means termination by the executive following a change-in-control upon any of: (i) a change in his responsibilities, titles or duties inconsistent with those immediately prior to the change-in-control, or the termination of the executive's employment by us or a successor of ours (except for "cause," the executive's retirement, death or disability or termination by the executive other than for "good reason"); (ii) a reduction in the executive's base salary; (iii) a requirement that the executive be based more than 60 miles from his office location immediately prior to the change-in-control; or (iv) our failure to obtain our successor's assumption of our obligations under his employment agreement.

(5) Benefits include health and dental insurance.

(6) "Change-in-control" means (i) the acquisition by a person resulting in that person owning or controlling 50% or more of our common stock; (ii) a merger or similar combination after which 50% or more of the voting stock of the surviving corporation is held by persons who were not our stockholders immediately prior to the merger or combination; (iii) the election by our stockholders of 50% or more directors other than pursuant to nomination of our management; or (iv) the sale by us of all or substantially all of our assets or business.

(7) "Good reason" means termination by the executive following a change-in-control upon any of (i) a material diminution of the duties and responsibilities that the executive had immediately prior the change-in-control; (ii) a reduction in the executive's base salary, (iii) a requirement that the executive be based more than 60 miles from his office location immediately prior to the change-in-control, or (iv) our failure to obtain our successor's assumption of our obligations under his employment agreement.

Severance and Change-in-Control Agreements and Provisions

We have entered into various agreements with our named executives that provide for, or contain provisions relating to, severance or change-in-control payments. The following descriptions summarize these agreements and provisions. Except in the case of Mr. Green, these agreements limit the aggregate amount of benefits payable to the named executive upon a change-in-control to 2.99 times the "base amount" as defined in Section 280G of the Internal Revenue Code. In addition, unless indicated below, any options or other equity awards granted to our named executives subject to vesting or exercise terminate upon the three month anniversary of the date of termination of the named executive's employment.

Dr. Cox, Chairman, President and Chief Executive Officer

Pursuant to our employment agreement with Dr. Cox, if:

(i) we terminate his employment without cause;

(ii) we or our successor terminate his employment within 12 months after a change-in-control (except upon his death or disability, retirement or without cause);

(iii) he terminates his employment upon our continued breach of a material duty or obligation under the agreement for 30 days after we receive written notice of the breach; or

(iv) he terminates his employment for good reason within 12 months after a change-in-control;

then Dr. Cox is entitled to receive a severance amount equal to 24 months of his then current base salary plus his maximum incentive bonus that would next be payable to him for the then current bonus period prorated based on the number of days worked of the then current bonus period. The severance amount would be payable to Dr. Cox in monthly installments over 24 months following his termination. In addition, Dr. Cox would be entitled to continue receiving his then current benefits for 24 months. Further, Dr. Cox's outstanding unvested options would become fully vested and exercisable and remain exercisable for 24 months following

the termination of his employment. As a condition to our obligations under his agreement, Dr. Cox entered into a confidentiality and non-competition agreement providing for a five-year non-disclosure period and a one-year non-compete period.

Mr. Green, Senior Vice President, Chief Financial Officer and Treasurer

Pursuant to our employment agreement with Mr. Green, if we terminate his employment without cause or he terminates his employment for any reason within 24 months following a change-in-control, he is entitled to receive a severance amount equal to:

(i) 12 months of his then current base salary, if we terminate his employment without cause either outside the period from 180 days before and 24 months after a change-in-control; or

(ii) 24 months of his then current base salary if:

(a) we terminate his employment without cause during the period 180 days before and 24 months after a change-in-control; or

(b) he terminates his employment within 24 months after a change-in-control.

In addition to his base salary payment, Mr. Green would also be entitled to an amount equal to the maximum incentive bonus that would next be payable to him for the then current bonus period, prorated based on the number of days worked during that then current bonus period. The severance payment would be payable to Mr. Green within 10 days after the date his employment is terminated. In addition, Mr. Green would be entitled to continue to receive his then current benefits for either a 12 or 24 month period, corresponding to the period on which his applicable base salary payment was based. Further, if Mr. Green's employment is terminated pursuant to (ii) above, his outstanding unvested options would become fully vested and exercisable and remain exercisable pursuant to their duration as if his employment had not been terminated.

Dr. Meade, Senior Vice President, Research and Development

Pursuant to our employment agreement with Dr. Meade, if we terminate his employment without cause, then he is entitled to receive a severance amount equal to 12 months of his then current base salary plus the maximum incentive bonus that would next be payable to him for the then current bonus period, prorated based on the number of days worked of the then current bonus period. The severance amount would be payable to Dr. Meade in a lump sum payment within 10 days after his employment is terminated. In addition, Dr. Meade would be entitled to continue receiving his then current benefits for 12 months after his employment is terminated.

In addition to his employment agreement, we entered into an executive change-in-control agreement with Dr. Meade in August 2004. Pursuant to this agreement, if:

(i) we or our successor terminate his employment within 12 months after a change-in-control (except upon his death or disability, retirement or termination for cause); or

(ii) he terminates his employment for good reason within 12 months after a change-in-control;

then Dr. Meade is entitled to a severance amount equal to 12 months of then current base salary plus the incentive bonus most recently paid to him, prorated based on the number of days worked in the then current bonus period. The severance amount will be payable to Dr. Meade in monthly installments over 12 months following the termination of his employment. In addition, Dr. Meade will be entitled to continue receiving his then current benefits for 12 months after his employment is terminated. Also, Dr. Meade's outstanding unvested stock options will become fully vested and exercisable upon the termination of his employment.

Mr. Liposky, Senior Vice President, Operations

We entered into a management agreement with Mr. Liposky in June 2000. Pursuant to that agreement, if we terminate his employment without cause, he is entitled to receive a severance amount equal to 12 months of his then current base salary payable in biweekly installments over 12 months commencing the first month after his employment is terminated. In addition, Mr. Liposky would be entitled to continue receiving his then current benefits for 12 months. The agreement also obligates Mr. Liposky to a one-year non-compete period commencing upon the termination of his employment. In order to enforce this obligation, we must pay, if not otherwise required under the agreement, the severance amount to Mr. Liposky.

In addition to his management agreement, we entered into an executive change-in-control agreement with Mr. Liposky in August 2004. Pursuant to this agreement, if:

(i) we or our successor terminate his employment within 12 months after a change-in-control (except upon his death or disability, retirement or termination for cause); or

(ii) he terminates his employment for good reason within 12 months after a change-in-control;

then Mr. Liposky is entitled to a severance amount equal to 12 months of then current base salary plus the incentive bonus most recently paid to him, prorated based on the number of days worked in the then current bonus period. The severance amount will be payable to Mr. Liposky in monthly installments over 12 months following the termination of his employment. In addition, Mr. Liposky will be entitled to continue receiving his then current benefits for 12 months after his employment is terminated. Also, Mr. Liposky's outstanding unvested stock options will become fully vested and exercisable upon the termination of his employment. As a condition to our obligations under this agreement, Mr. Liposky entered into a confidentiality agreement providing for a three-year non-disclosure period.

Mr. Woloshen, Senior Vice President and General Counsel

We entered into a management agreement with Mr. Woloshen in May 1999. Pursuant to that agreement, if we terminate Mr. Woloshen's employment without cause, he is entitled to receive a severance amount equal to 12 months of his then current base payable in biweekly installments over 12 months commencing the first week following the termination of his employment. In addition, Mr. Woloshen is entitled to continue receiving his then current benefits for 12 months after his employment is terminated. The agreement also obligates Mr. Woloshen to a one-year non-compete period commencing upon the termination of his employment. In order to enforce this obligation, we must pay, if we not otherwise required to do so under the agreement, the severance amount to Mr. Woloshen.

In addition to his management agreement, we entered into an executive change-in-control agreement with Mr. Woloshen in August 2004. Pursuant to this agreement, if:

(i) we or our successor terminate his employment within 12 months after a change-in-control (except upon his death or disability, retirement or termination for cause); or

(ii) he terminates his employment for good reason within 12 months after a change-in-control;

then Mr. Woloshen is entitled to a severance amount equal to 12 months of then current base salary plus the incentive bonus most recently paid to him, prorated based on the number of days worked in the then current bonus period. The severance amount will be payable to Mr. Woloshen in monthly installments over 12 months following the termination of his employment. In addition, Mr. Woloshen will be entitled to continue receiving his then current benefits for 12 months after his employment is terminated. Also, Mr. Woloshen's outstanding unvested stock options will become fully vested and exercisable upon the termination of his employment. As a condition to our obligations under this agreement, Mr. Woloshen entered into a confidentiality agreement providing for a three-year non-disclosure period.

RELATED PERSON TRANSACTIONS

Policy on Related Person Transactions

Our Board of Directors has recently adopted a written Policy on Related Person Transactions that sets forth our policies and procedures for the reporting, review, and approval or ratification of each related person transaction. Our Audit Committee is responsible for implementing this policy and determining that any related person transaction is in our best interests. The policy applies to transactions and other relationships that would need to be disclosed in this proxy statement as related person transactions pursuant to new SEC rules. In general, these transactions and relationships are defined as those involving a direct or indirect interest of any of our executive officers, directors, nominees for director and 5% stockholders, as well as specified members of the family or household of any of these individuals or stockholders, where we or any of our affiliates have participated in the transaction as a direct party or by arranging the transaction and the transaction involves more than $120,000. In adopting this policy, our Board expressly excluded from its coverage any transactions, among others, involving compensation of our executive officers or directors that it or our Compensation Committee has expressly approved. The material terms of our existing agreements and arrangements with LFB Biotechnologies and Genzyme Corporation, each of which beneficially owns more than 5% of our common stock, have previously been approved by our Board before this policy was implemented. Any material modification to the material terms of these agreements and arrangements will be subject to review by our Audit Committee under this policy.

LFB Biotechnologies

In September 2006, we entered into a joint development and collaboration agreement with LFB Biotechnologies, S.A.S.U. of France, or LFB, to develop selected recombinant plasma proteins and monoclonal antibodies using our transgenic production platform. In connection with entering into the joint development and collaboration agreement, we sold to LFB an aggregate of $25 million of our securities, consisting of common stock, Series D preferred stock and a convertible note. In addition, Christian Béchon, one of our directors and board representative for LFB, serves as Chairman and Chief Executive Officer of LFB and Laboratoire français du Fractionnement et des Biotechnologies S.A., LFB's parent company.

Equity Position. LFB is our largest stockholder. As of March 31, 2007, LFB owned 3,630,000 shares of our common stock, 14,615 shares, or 100%, of our Series D preferred stock, each share of which is convertible into 1,000 shares of our common stock, and beneficially owned, on an as-converted basis, 18,245,000 shares, or approximately 19.8%, of our then outstanding common stock. As sole shareholder of our Series D preferred stock, LFB is entitled to nominate and elect one director to our Board. LFB also has a five-year right to participate in our future offerings of common stock, if any, upon conversion of the convertible note to the extent that its participation will not result in LFB owning, on an as-converted basis, more than 19.9% of our shares of common stock outstanding upon completion of the offerings. Beginning in October 2007, LFB will have registration rights with respect to up to 10,000,000 shares of common stock it beneficially owns.

Convertible Note. In December 2006, we entered into a five-year convertible note with LFB in the amount of $2.6 million. The convertible note accrues interest at a rate of 2% per annum and will automatically convert into shares of our common stock in conjunction with any future common stock offerings at the per share offering price of the respective offering, but only to the extent that any conversion does not result in LFB owning, on an as-converted basis, more than 19.9% of our common stock.

Joint Development and Collaboration Agreement. Under our joint development and collaboration agreement, we and LFB will share equally in the cost of the development and commercialization of each product and will be entitled to 50% of any profits derived from products developed through the collaboration provided we each contribute equally to their development. In the event that contributions to development are not equal, the profit allocation will be adjusted based on development costs incurred. Under the agreement, a joint steering committee of our and LFB's representatives will determine product development and commercialization plans. We are responsible for development of the production system for the products and

will retain exclusive commercial rights to the products in North America. LFB is responsible for clinical development and regulatory review of the first program in this collaboration, and will have exclusive commercial rights in Europe. We will hold co-exclusive rights with LFB in the rest of the world to any products developed through the collaboration. The initial term of the agreement is fifteen years, subject to extension or termination by mutual consent, and the terms for any product developed through the collaboration will continue until the later of the initial term or ten years beyond regulatory approval of that product.

Genzyme Corporation

In fiscal year 2006, we paid Genzyme Corporation an aggregate of approximately $874,735 under the research and development agreement and the sublease agreement described below. In addition, Mr. Geraghty, one of our directors, is a senior executive of Genzyme.

. *Equity Position.* Genzyme is one of our largest stockholders. As of April 5, 2007, Genzyme beneficially owned 4,299,032 shares, or approximately 5.5%, of our then outstanding common stock. Included in these shares are 288,000, 55,833 and 29,491 shares of common stock issuable upon exercise of warrants having exercise prices of $4.88, $6.30 and $6.30 per share, respectively, which were the market prices of the common stock at the time the respective warrants were issued. The expiration dates of these warrants range from December 2008 through November 2009. Genzyme has registration rights with respect to all of the shares it beneficially owns.

Promissory Note. On April 4, 2002, we repurchased 2.82 million shares of our common stock directly from Genzyme which was recorded as treasury stock. We bought the shares for an aggregate consideration of approximately $9.6 million, consisting of approximately $4.8 million in cash and a promissory note to Genzyme for the remaining $4.8 million. Our common stock was valued at $3.385 per share in this transaction, using the simple average of the high and low transaction prices quoted on the NASDAQ Global Market on the previous trading day. Genzyme agreed to a 24-month lock-up provision on their remaining 4.92 million shares of common stock, which was released on April 4, 2004. The promissory note accrued interest at LIBOR plus 1% (LIBOR equaled 4.5% at January 1, 2006). Pursuant to the terms of the note, we repaid $2.4 million in April 2005 and repaid the remaining $2.4 million in January 2006.

Research and Development Agreement. In July 2001, we entered into a services agreement with Genzyme under which it may perform manufacturing, research and development and regulatory services for our ATryn® program on a cost plus 5% basis. In fiscal year 2006, we paid Genzyme approximately $85,000 under this arrangement, which will be substantially completed once we complete the EMEA process for reexamination of our Marketing Authorization Application for ATryn®.

Sublease Agreement. Under a sublease agreement, we sublease approximately 4,100 square feet of laboratory, research and office space from Genzyme in exchange for fixed monthly rent payments which approximate the estimated current rental value for such space. In addition, we reimburse Genzyme for our pro rata share of appropriate facilities' operating costs such as maintenance, cleaning, utilities and real estate taxes. The sublease is automatically renewed each year and is cancelable by us. Under the sublease agreement, we made payments for the fiscal year 2006 of $428,000, and are committed to make a minimum annual rental payment of approximately $440,000 in fiscal year 2007.

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Report of the Audit Committee

The following is the report of the Audit Committee with respect to the company's audited financial statements for the year ended December 31, 2006.

The purpose of the Audit Committee is to assist the Board in fulfilling its responsibility to oversee the company's accounting and financial reporting, internal control and audit functions. The Audit Committee is comprised entirely of independent directors as defined by applicable NASDAQ Stock Market standards.

Management is responsible for our internal controls and the financial reporting process. The independent registered public accounting firm is responsible for performing independent audits of our consolidated financial statements and management's assessment of the effectiveness of internal controls over financial reporting in accordance with the standards established by the Public Company Accounting Oversight Board (United States) and issuing a report thereon. The Committee's responsibility is to monitor these processes. The Audit Committee has reviewed and discussed the consolidated financial statements with management and PricewaterhouseCoopers LLP, our independent registered public accounting firm.

In the course of its oversight of the company's financial reporting process, the Audit Committee has:

- reviewed and discussed with management and PricewaterhouseCoopers LLP, GTC's audited financial statements for the fiscal year ended December 31, 2006;
- discussed with the independent registered public accountant the matters required to be discussed by Statement on Auditing Standards No. 61, *Communication with Audit Committees*;
- received the written disclosures and the letter from the independent registered public accountant required by Independence Standards Board Standard No. 1, *Independence Discussions with Audit Committees*;
- reviewed with management and the independent registered public accountant the company's critical accounting policies;
- discussed with management the quality and adequacy of the company's internal controls over financial reporting;
- discussed with PricewaterhouseCoopers LLP any relationships that may impact their objectivity and independence; and
- considered whether the provision of non-audit services by the independent registered public accountant is compatible with maintaining the independent registered public accountant's independence.

Based on the foregoing review and discussions, the Committee recommended to the Board that the audited financial statements be included in the company's Annual Report on Form 10-K for the year ended December 31, 2006 for filing with the Securities and Exchange Commission.

By the Audit Committee,

Alan W. Tuck, Chair
Robert W. Baldridge
Michael J. Landine
Pamela W. McNamara

Independent Registered Public Accountants' Fees and Other Matters

The firm of PricewaterhouseCoopers LLP, an independent registered public accounting firm, has audited our consolidated financial statements for the year ended December 31, 2006 and management's assessment of the effectiveness of internal controls over financial reporting at December 31, 2006. Our Audit Committee appointed PricewaterhouseCoopers LLP to serve as our independent registered public accountants for the 2006 year-end audit and to review our quarterly financial reports for filing with the Securities and Exchange Commission during fiscal year 2007. Representatives of PricewaterhouseCoopers LLP are expected to attend the annual meeting and will be available to respond to appropriate questions. They will also have the opportunity to make a statement if they desire.

The following table shows the fees paid or accrued by us for professional services performed by PricewaterhouseCoopers LLP for auditing our financial statements for fiscal years 2006 and 2005:

	2006	2005
Audit Fees(1)	$465,175	$457,703
Audit-Related Fees(2)	4,000	—
Tax Fees(3)	38,353	50,259
All Other Fees	31,675(4)	1,500(5)
Total	$539,203	$509,462

(1) Represents fees for professional services provided in connection with the audits of our year-end annual consolidated financial statements and management's assessment of the effectiveness of internal controls over financial reporting and review of our quarterly financial statements and audit services provided in connection with other statutory or regulatory filings.

(2) Represents fees for assurance and related services and consisted of the audit of executive compensation disclosure in connection with preparation of our 2006 proxy statement. All audit-related services were pre-approved by the Audit Committee.

(3) Represents fees for tax return review, preparation and compliance services.

(4) Represents fees for services in support of litigation activities and compensation consulting, primarily supporting the implementation of SFAS 123(R).

(5) Represents fees for research materials.

Pre-Approval Policy

In accordance with its written charter, our Audit Committee pre-approves the proposed services, including the scope of services contemplated and the related fees, associated with the current year audit. Our Audit Committee has adopted policies and procedures for the pre-approval of non-audit services for the purpose of maintaining the independence of our independent registered public accountant. Management must obtain the specific prior approval of the Audit Committee for each engagement of the independent registered public accountant to perform any non-audit services that exceed the pre-approved amounts. For fiscal year 2006, our Audit Committee pre-approved specific non-audit services subject to cost limits to be performed by PricewaterhouseCoopers LLP in order to assure that these services do not impair the independent registered public accountant's independence. All of the non-audit services rendered by PricewaterhouseCoopers LLP in fiscal year 2006 were pre-approved by our Audit Committee in accordance with these limits.

ADDITIONAL INFORMATION

Deadline for Stockholder Proposals and Director Nominations

If the 2007 Annual Meeting is not held before April 24, 2007 or after June 23, 2007, and if you wish to bring business before or propose director nominations at the 2008 Annual Meeting of Stockholders, you must notify us in writing by March 10, 2007 (the date 75 days before the anniversary of the 2007 Annual Meeting).

If you intend to bring such a proposal or nomination at the 2008 Annual Meeting, and you would like us to consider the inclusion of your proposal or nomination in our proxy statement for the meeting, you must notify us in writing of your proposal or nomination prior to December 25, 2006.

Any stockholder wishing to recommend a director candidate for consideration by the Nominating and Corporate Governance Committee should provide the following information to Vice President, Corporate Communications, c/o GTC Biotherapeutics, Inc., 175 Crossing Boulevard, Framingham, Massachusetts 01702:

- a brief statement outlining the reasons the nominee would be an effective director;
- the name, age and business and residence addresses of the candidate;
- the principal occupation or employment of the candidate for the past five years, as well as information about any other board of directors and board committee on which the candidate has served during that period;
- the number of shares of our common stock, if any, beneficially owned by the candidate;
- details of any business or other significant relationship the candidate has ever had with us or our affiliates;
- the stockholder's name and record address and the name and address of the beneficial owner of shares of our common stock, if any, on whose behalf the proposal is made; and
- the number of shares of our common stock that the stockholder and any such beneficial owner beneficially own.

The Nominating and Corporate Governance Committee may seek further information from or about the stockholder making the recommendation, the candidate, or any such beneficial owner, including information about all business and other relationships between the candidate and the stockholder and between the candidate and any such beneficial owner.

Householding of Annual Meeting Materials

Some banks, brokers and other nominee record holders may be participating in the practice of "householding" proxy statements and annual reports. This means that only one copy of our proxy statement or annual report may have been sent to multiple stockholders in your household. We will promptly deliver a separate copy of either document to you if you write or call us at the following address or phone number: GTC Biotherapeutics, Inc., 175 Crossing Boulevard, Framingham, Massachusetts 01702, Attention: Vice President, Corporate Communications (508-620-9700 x5374). If you wish to receive separate copies of our annual report and proxy statement in the future, or if you are receiving multiple copies and would like to receive only one copy for your household, you should contact your bank, broker, or other nominee record holder, or you may contact us at the above address and phone number.

Annual Report and Other SEC Filings

Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K are available on our website at www.gtc-bio.com. These and other SEC filings, including our proxy statement, are also available on the SEC's website at www.sec.gov.

A copy of these filings, including our Annual Report on Form 10-K for the fiscal year ended December 31, 2006 (excluding exhibits) may be obtained, at no cost, by writing to the Vice President, Corporate Communications, GTC Biotherapeutics, Inc., 175 Crossing Boulevard, Framingham, Massachusetts 01702.

Our Annual Report for the year ended December 31, 2006, which is being mailed to stockholders with this proxy statement, is not incorporated into this proxy statement and is not deemed to be part of the proxy soliciting material.

* * * * *

[As proposed for approval by the stockholders on May 23, 2007. For reference this document has been marked to show changes from the current 2002 Equity Incentive Plan. In addition to the proposed amendment and restatement, these changes also reflect a previously adopted amendment to Section 8(l) unrelated to this proposal.]

ANNEX A

PROPOSED
GTC BIOTHERAPEUTICS, INC.
AMENDED AND RESTATED 2002 EQUITY INCENTIVE PLAN

1. **Purpose.**

The purpose of the 2002 Equity Incentive Plan as amended and restated (the "Plan") of GTC Biotherapeutics, Inc. (f/k/a Genzyme Transgenics Corporation) is to attract, retain and motivate persons who are expected to make important contributions to the Company and its Affiliates, to provide an incentive for them to achieve performance goals, and to enable them to participate in the growth of the Company by granting Awards with respect to the Company's Common Stock. Certain capitalized terms are used herein as defined in Section 9 below.

2. **Administration.**

The Plan shall be administered by the Committee; provided that the Board may (subject to any regulatory or exchange listing requirements) in any instance perform any of the functions of the Committee hereunder. The Committee shall select the Participants to receive Awards and, subject to the provisions of the Plan, shall determine the terms and conditions of the Awards. The Committee shall have authority to adopt, alter and repeal such administrative rules, guidelines and practices governing the operation of the Plan as it shall from time to time consider advisable, to interpret the provisions of the Plan, and to remedy any inconsistencies or ambiguities. The Committee's decisions shall be final and binding. To the extent permitted by applicable law, the Committee may delegate to one or more executive officers of the Company the power to make Awards to Participants who are not Reporting Persons or Covered Employees and all determinations under the Plan with respect thereto, provided that the Committee shall fix the maximum amount of such Awards for all such Participants, a maximum for any one Participant, and such other features of the Awards as may be required by applicable law.

3. **Eligibility.**

All directors, employees and consultants of the Company or any Affiliate capable of contributing to the successful performance of the Company are eligible to be Participants in the Plan. Incentive Stock Options may be granted only to persons eligible to receive such Options under the Code.

4. **Stock Available for Awards.**

(a) ***Amount.*** Subject to adjustment under Section 4(b), Awards may be made under the Plan for up to ~~Four~~ Six Million ~~(4,000,000)~~ Five Hundred Thousand (6,500,000) shares of Common Stock, plus (1) the number of additional shares of Common Stock subject to awards under the Company's Amended and Restated 1993 Equity Incentive Plan (the "1993 Plan") which on or after April 2, 2004, expire or terminate unexercised or are forfeited or settled in a manner that results in fewer shares outstanding than were awarded under the 1993 Plan, which number of additional shares will not exceed 2,178,388 shares (the maximum if all 1993 Plan shares become available), plus (2) an annual increment of additional shares to be added on December 31 of each year (an "Increase Date"), beginning in 2008, equal to the lesser of (i) 1,500,000 shares

or (ii) such other amount as may be determined by the Board; provided, however, that in no event shall any such annual increment cause the total maximum aggregate number of shares of Common Stock which may be optioned and issued under the Plan to exceed the lesser of (a) 10% of the shares of Common Stock deemed to be outstanding on the applicable Increase Date (including for this purpose on an as-converted basis all outstanding shares of capital stock then outstanding that are convertible into Common Stock), and (b) 15,000,000 shares (which number shall be subject to adjustment under Section 4(b)); and provided further that no more than 10% of the maximum number of shares to be issued under the Plan may be granted as Restricted Stock or Unrestricted Stock Awards. For purposes of calculating such percentage limitation on Restricted Stock and Unrestricted Stock Awards, the following Awards shall be disregarded: (i) any Award that is granted for consideration of at least 100% of the Fair Market Value of the Common Stock on the date of the respective grant (including Awards granted in lieu of the payment of cash bonuses that would be consistent in amount with past cash bonus practices), and (ii) Awards that are subject to performance-based vesting (including Awards subject to Section 8(k)). If any Award made under the Plan expires or terminates unexercised or is forfeited or settled in a manner that results in fewer shares outstanding than were awarded, the shares subject to such Award, to the extent of such expiration, termination, forfeiture or decrease, shall again be available for award under the Plan. Common Stock issued outside of the Plan through the assumption or substitution of outstanding grants from an acquired company shall not reduce the shares available for Awards under the Plan. Shares issued under the Plan may consist of authorized but unissued shares or treasury shares.

(b) ***Adjustment.*** In the event that the Committee determines that any stock dividend, extraordinary cash dividend, recapitalization, reorganization, merger, consolidation, split-up, spin-off, combination, exchange of shares or other transaction affects the Common Stock such that an adjustment is required in order to preserve the benefits intended to be provided by the Plan, then the Committee shall (subject in the case of Incentive Stock Options to any limitation required under the Code) equitably adjust any or all of (i) the number and kind of shares in respect of which Awards may be made under the Plan, (ii) the number and kind of shares subject to outstanding Awards and (iii) the exercise price with respect to any of the foregoing, provided that the number of shares subject to any Award shall always be a whole number, and if considered appropriate, the Committee may make provision for a cash payment with respect to an outstanding Award.

(c) ***Limit on Individual Grants.*** The maximum number of shares of Common Stock that may be granted in connection with all Awards within any fiscal year to any one Covered Employee under the Plan shall not exceed 400,000 shares, except for grants to new hires during the fiscal year of hiring which shall not exceed 600,000 shares, in each case subject to adjustment under Section 4(b).

5. **Stock Options.**

(a) ***Grant of Options.*** Subject to the provisions of the Plan, the Committee may grant options ("Options") to purchase shares of Common Stock (i) complying with the requirements of Section 422 of the Code or any successor provision and any regulations thereunder ("Incentive Stock Options") or (ii) not intended to comply with such requirements ("Nonstatutory Stock Options"). The Committee shall determine the number of shares subject to each Option and the exercise price therefor, which shall not be less than 100% of the Fair Market Value of the Common Stock on the date of grant; provided that a Nonstatutory Stock Option granted to a new employee or consultant in connection with his or her hiring may have a lower exercise price so long as it is not less than 100% of Fair Market Value on the date he or she accepts the Company's offer of employment or the date employment commences, whichever is lower. No Option shall be an Incentive Stock Option if not granted within ten years from the date on which the Plan or an amendment thereto was last approved for purposes of Section 422 of the Code (the date of such approval being the date on which the Plan or the respective amendment was approved by the Board or the stockholders, whichever was earlier).

(b) ***Terms and Conditions.*** Subject to the provisions of the Plan, each Option shall be exercisable at such times and subject to such terms and conditions as the Committee may specify in the applicable grant or thereafter. The Committee may impose such conditions with respect to the exercise of Options, including conditions relating to applicable securities laws, as it considers necessary or advisable.

(c) ***Payment.*** No shares shall be delivered upon exercise of any Option until payment in full of the exercise price therefor is received by the Company. Such payment may be made in whole or in part in cash or, to the extent permitted by the Committee at or after the grant of the Option pursuant to any of the following methods: (i) by actual delivery or attestation of ownership of shares of Common Stock owned by the Participant, including vested Restricted Stock, (ii) by retaining shares of Common Stock otherwise issuable pursuant to the Option, (iii) for consideration received by the Company under a broker-assisted cashless exercise program acceptable to the Company, or (iv) for such other lawful consideration as the Committee may determine.

(d) ***Term of Option.*** The term of each Option granted under this Section 5 shall not exceed ten years from the date the Option is granted.

6. **Stock Equivalents.**

Subject to the provisions of the Plan, the Committee may grant rights to receive payment from the Company based in whole or in part on the value of the Common Stock ("Stock Equivalents") upon such terms and conditions as the Committee determines. Stock Equivalents may include without limitation phantom stock, restricted stock units, unrestricted stock units, performance units, dividend equivalents and stock appreciation rights ("SARs"). SARs granted in tandem with an Option will terminate to the extent that the related Option is exercised, and the related Option will terminate to the extent that the tandem SARs are exercised. An SAR will have an exercise price determined by or in the manner specified by the Committee of not less than 100% of the Fair Market Value of the Common Stock on the date of the grant, or of not less than the exercise price of the related Option in the case of an SAR granted in tandem with an Option. The Committee will determine at the time of grant or thereafter whether Stock Equivalents are to be settled in cash, Common Stock or other securities of the Company, Awards or other property.

7. **Stock Awards.**

Subject to the provisions of the Plan, the Committee may grant shares of Common Stock subject to forfeiture ("Restricted Stock") and determine the duration of the period (the "Restricted Period") during which, and the conditions under which, the shares may be forfeited to the Company and the other terms and conditions of such Awards. Shares of Restricted Stock may not be sold, assigned, transferred, pledged or otherwise encumbered, except as permitted by the Committee, during the Restricted Period. Shares of Restricted Stock shall be evidenced in such manner as the Committee may determine. Any certificates issued in respect of shares of Restricted Stock shall be registered in the name of the Participant and unless otherwise determined by the Committee, deposited by the Participant, together with a stock power endorsed in blank, with the Company. At the expiration of the Restricted Period, the Company shall deliver such certificates to the Participant or if the Participant has died, to the Participant's Designated Beneficiary. Subject to the provisions of the Plan, the Committee also may make Awards of shares of Common Stock that are not subject to restrictions or forfeiture, on such terms and conditions as the Committee may determine from time to time ("Unrestricted Stock").

8. **General Provisions Applicable to Awards.**

(a) ***Documentation.*** Each Award under the Plan shall be evidenced by a writing delivered to the Participant or agreement executed by the Participant specifying the terms and conditions thereof and containing such other terms and conditions not inconsistent with the provisions of the Plan as the Committee considers necessary or advisable to achieve the purposes of the Plan or to comply with applicable tax and regulatory laws and accounting principles. Subject to the provisions of the Plan, the terms of any Award may include such continuing restrictions and forfeiture and/or other penalty provisions relating to competition or other activity detrimental to the Company as the Committee determines.

(b) ***Committee Discretion.*** Each type of Award may be made alone, in addition to or in relation to any other Award. The terms of each type of Award need not be identical, and the Committee need not treat Participants uniformly. Except as otherwise provided by the Plan or a particular Award, any determination with respect to an Award may be made by the Committee at the time of grant or at any time thereafter.

(c) ***Dividend, Cash Awards and Loans.*** Subject to the provisions of the Plan, in the discretion of the Committee, any Award under the Plan may provide for (i) dividends or dividend equivalents payable (in cash or in the form of Awards under the Plan) currently or deferred with or without interest and (ii) cash payments in lieu of or in addition to an Award or (iii) one or more loans to a Participant (other than a Participant who is a director or executive officer for purposes of Section 13(k) of the Exchange Act) to permit exercise of, or the payment of any tax liability with respect to, any Award.

(d) ***Termination of Service.*** The Committee shall determine the effect on an Award of the disability, death, retirement or other termination of employment or other service of a Participant and the extent to which, and the period during which, the Participant's legal representative, guardian or Designated Beneficiary may receive payment of an Award or exercise rights thereunder. Unless the Committee otherwise provides in any case, a Participant's employment or other service shall have terminated for purposes of this Plan at the time the entity by which the Participant is employed or to which he or she renders such service ceases to be an Affiliate of the Company.

(e) ***Change-in-Control.*** In order to preserve a Participant's rights under an Award in the event of a change-in-control of the Company (as defined by the Committee), the Committee in its discretion may, at the time an Award is made or at any time thereafter, take one or more of the following actions: (i) provide for the acceleration of any time period relating to the exercise or payment of the Award, (ii) provide for payment to the Participant of cash or other property with a Fair Market Value equal to the amount that would have been received upon the exercise or payment of the Award had the Award been exercised or paid upon the change-in-control, (iii) adjust the terms of the Award in a manner determined by the Committee to reflect the change-in-control, (iv) cause the Award to be assumed, or new rights substituted therefor, by another entity, or (v) make such other provision as the Committee may consider equitable to Participants and in the best interests of the Company.

(f) ***Transferability.*** In the discretion of the Committee, any Award may be made transferable upon such terms and conditions and to such extent as the Committee determines, provided that Incentive Stock Options may be transferable only to the extent permitted by the Code. The Committee may in its discretion waive any restriction on transferability.

(g) ***Withholding Taxes.*** The Participant shall pay to the Company, or make provision satisfactory to the Committee for payment of, any taxes required by law to be withheld in respect of Awards under the Plan no later than the date of the event creating the tax liability. The Company and its Affiliates may, to the extent permitted by law, deduct any such tax obligations from any payment of any kind due to the Participant hereunder or otherwise. In the Committee's discretion, the minimum tax obligations required by law to be withheld in respect of Awards may be paid in whole or in part in shares of Common Stock, including shares retained from the Award creating the tax obligation, valued at their Fair Market Value on the date of retention or delivery.

(h) ***Foreign National Awards.*** Notwithstanding anything to the contrary contained in this Plan, Awards may be made to Participants who are foreign nationals or employed or performing services outside the United States on such terms and conditions different from those specified in the Plan as the Committee considers necessary or advisable to achieve the purposes of the Plan or to comply with applicable laws.

(i) ***Amendment of Award.*** Except as provided in Section 8(j) and Section 8(l), the Committee may amend, modify, or terminate any outstanding Award, including substituting therefor another Award of the same or a different type, changing the date of exercise or realization and converting an Incentive Stock Option to a Nonstatutory Stock Option. Any such action shall require the Participant's consent unless:

(i) in the case of a termination of, or a reduction in the number of shares issuable under, an Option, any time period relating to the exercise of such Option or the eliminated portion, as the case may be, is waived or accelerated before such termination or reduction (and in such case the Committee may provide for the Participant to receive cash or other property equal to the net value that would have been received upon exercise of the terminated Option or the eliminated portion, as the case may be);

(ii) the Committee determines that the action is permitted by the terms of Section 8(k);

(iii) the Committee determines that the action is reasonably necessary to comply with any regulatory, accounting, or exchange or stock market listing requirement; or

(iv) in any other case, the Committee determines that the action, taking into account any related action, would not materially and adversely affect the Participant.

(j) ***No Repricing of Options.*** Notwithstanding anything to the contrary in the Plan, the Company shall not engage in any repricing of Options granted under this Plan without further stockholder approval. For this purpose, the term "repricing" shall mean any of the following or other action that has the same effect: (i) lowering the exercise price of an Option after it is granted, (ii) any other action that is treated as a repricing under generally accepted accounting principles, or (iii) canceling an Option at a time when its exercise price exceeds the fair market value of the underlying stock in exchange for another Option, Restricted Stock, or other equity of the Company, unless the cancellation and exchange occurs in connection with a merger, acquisition, spin-off, or similar corporate transaction.

(k) ***Code Section 162(m) Provisions.*** If the Committee determines at the time an Award is granted to a Participant that such Participant is, or may be as of the end of the tax year for which the Company would claim a tax deduction in connection with such Award, a Covered Employee, then the Committee may provide that the Participant's right to receive cash, shares of Common Stock, or other property pursuant to such Award shall be subject to the satisfaction of Performance Goals during a Performance Period. Prior to the payment of any Award subject to this Section 8(k), the Committee shall certify in writing that the Performance Goals and other material terms applicable to such Award were satisfied. Notwithstanding the attainment of Performance Goals by a Covered Employee, the Committee shall have the right to reduce (but not to increase) the amount payable at a given level of performance to take into account additional factors that the Committee may deem relevant. The Committee shall have the power to impose such other restrictions on Awards subject to this Section 8(k) as it may deem necessary or appropriate to ensure that such Awards satisfy all requirements for "performance-based compensation" within the meaning of Section 162(m) of the Code.

(l) ***Minimum Vesting Requirements.*** Each Award ~~granted~~ under the Plan shall vest in accordance with a schedule which does not permit more than one-third of each such Award to vest on each of the three succeeding anniversaries of the date of grant of the Award. This minimum vesting requirement shall not, however, preclude the Committee from exercising its discretion to (i) accelerate the vesting of any Award upon retirement, termination of employment by the Company, death, or disability, (ii) accelerate the vesting of an Award in accordance with Section 8(e), (iii) establish a shorter vesting schedule for consultants, directors, or newly-hired employees, (iv) establish a shorter vesting schedule for Awards that are granted in exchange for or in lieu of the right to receive the payment of an equivalent amount of salary, bonus, or other cash compensation, ~~or~~ (v) establish a shorter performance-based vesting schedule, including a schedule in accordance with Section 8(k)~~.~~ or (vi) grant Awards of Unrestricted Stock in accordance with Section 7.

9. **Certain Definitions.**

"Affiliate" means any business entity in which the Company owns directly or indirectly 50% or more of the total voting power or has another significant financial interest as determined by the Committee.

"Award" means any Option, Stock Equivalent, Restricted Stock, Unrestricted Stock, or Foreign National Award granted under the Plan.

"Board" means the Board of Directors of the Company.

"Code" means the Internal Revenue Code of 1986, as amended from time to time, or any successor law.

"Committee" means any committee of one or more directors appointed by the Board to administer the Plan or a specified portion thereof. Unless otherwise determined by the Board, if a Committee is authorized to grant Awards to a Reporting Person or a Covered Employee it shall be comprised of not less than two directors, each of whom shall be a "non-employee director" within the meaning of Rule 16b-3 under the Exchange Act or an "outside director" within the meaning of Section 162(m) of the Code, respectively.

"Common Stock" or "Stock" means the Common Stock, $0.01 par value, of the Company.

"Company" means GTC Biotherapeutics, Inc., a Massachusetts corporation and, unless the context otherwise requires, includes each "subsidiary corporation" of GTC Biotherapeutics, Inc., as defined in Section 424(f) of the Code, from time to time.

"Covered Employee" means, at any time that Section 162(m) of the Code applies to the Company, a "covered employee" within the meaning of such section.

"Designated Beneficiary" means the beneficiary designated by a Participant, in a manner determined by the Committee, to receive amounts due or exercise rights of the Participant in the event of the Participant's death. In the absence of an effective designation by a Participant, "Designated Beneficiary" means the Participant's estate.

"Exchange Act" means the Securities Exchange Act of 1934, as amended from time to time, or any successor law.

"Fair Market Value" means, with respect to Common Stock or any other property, the fair market value of such property as determined by the Committee in good faith or in the manner established by the Committee from time to time.

"Non-Employee Director" means a director of the Company who is not an employee of the Company or of any subsidiary of the Company.

"Participant" means a person selected by the Committee to receive an Award under the Plan.

"Performance Goals" means with respect to any Performance Period, one or more objective performance goals based on one or more of the following objective criteria established by the Committee prior to the beginning of such Performance Period or within such period after the beginning of the Performance Period as shall meet the requirements to be considered "pre-established performance goals" for purposes of Code Section 162(m): (i) increases in the price of the Common Stock, (ii) product or service sales or market share, (iii) revenues, (iv) return on equity, assets, or capital, (v) economic profit (economic value added), (vi) total shareholder return, (vii) costs, (viii) expenses, (ix) margins, (x) earnings or earnings per share, (xi) cash flow, (xii) cash balances (xiii) customer satisfaction, (xiv) operating profit, (xv) research and development progress, (xvi) clinical trial progress, (xvii) licensing, (xviii) product development, (xix) manufacturing, or (xx) any combination of the foregoing, including without limitation, goals based on any of such measures relative to appropriate peer groups or market indices. Such Performance Goals may be particular to a Participant or may be based, in whole or in part, on the performance of the division, department, line of business, subsidiary, or other business unit, whether or not legally constituted, in which the Participant works or on the performance of the Company generally.

"Performance Period" means the period of service designated by the Committee applicable to an Award subject to Section 8(k) during which the Performance Goals will be measured.

"Reporting Person" means a person subject to Section 16 of the Exchange Act.

10. **Miscellaneous.**

(a) ***No Right to Employment.*** No person shall have any claim or right to be granted an Award. Neither the adoption, maintenance, nor operation of the Plan nor any Award hereunder shall confer upon any employee or consultant of the Company or of any Affiliate any right with respect to the continuance of his/her employment by or other service with the Company or any such Affiliate nor shall they interfere with the rights of the Company or Affiliate to terminate any employee at any time or otherwise change the terms of employment, including, without limitation, the right to promote, demote or otherwise re-assign any employee from one position to another within the Company or any Affiliate.

(b) ***No Rights as Stockholder.*** Subject to the provisions of the applicable Award, no Participant or Designated Beneficiary shall have any rights as a stockholder with respect to any shares of Common Stock to be issued under the Plan until he or she becomes the holder thereof. A Participant to whom Common Stock is awarded shall be considered a stockholder of the Company at the time of the Award except as otherwise provided in the applicable Award.

(c) ***Amendment of Plan.*** Subject to Section 8(j) and Section 8(l), the Board may amend, suspend, or terminate the Plan or any portion thereof at any time, subject to such stockholder approval as the Board determines to be necessary or advisable.

(d) ***Governing Law.*** The provisions of the Plan shall be governed by and interpreted in accordance with the laws of the Commonwealth of Massachusetts.

(e) ***Effective Date and Term of Plan.*** ~~Subject to the approval of~~ The Plan has been approved most recently by the stockholders of the Company~~, the~~ on May 26, 2004. This amendment and restatement of the Plan shall be effective on ~~May 26, 2004~~ the date it is approved by the stockholders of the Company. Unless earlier terminated by the Board, or extended by approval of the stockholders, the term of the Plan shall expire on the tenth anniversary of the effective date of the most recent stockholder approval for purposes of Section 422 of the ~~amendment and restatement of the Plan~~ Code and the regulations thereunder, and no further Awards hereunder shall be made thereafter.

* * * *

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 10-K

(Mark One)

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2006

or

■ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission File No. 0-21794

GTC BIOTHERAPEUTICS, INC.

(Exact name of Registrant as Specified in Its Charter)

MASSACHUSETTS	04-3186494
(State or Other Jurisdiction of Incorporation or Organization)	*(I.R.S. Employer Identification No.)*
175 CROSSING BOULEVARD FRAMINGHAM, MASSACHUSETTS	01702
(Address of Principal Executive Offices)	*(Zip Code)*

(508) 620-9700
(Registrant's telephone number, including area code)

Common Stock, par value $0.01 Rights to Purchase Series C Junior Participating Cumulative Preferred Stock, par value $0.01 per share	Nasdaq Global Market
Title of each class	Name of each exchange on which registered

Securities registered pursuant to Section 12(b) of the Act:

Securities registered pursuant to Section 12(g) of the Act:
None

Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
Yes ■ No ☒

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.
Yes ■ No ☒

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Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or Section 15 (d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ■

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. ■

Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of "accelerated filer and large accelerated filer" in Rule 12b-2 of the Exchange Act. (check one)

Large accelerated filer ■ Accelerated filer ☒ Non-accelerated filer ■

Indicate by check mark whether the Registrant is a shell company (as defined by Rule 12b-2 of the Act). Yes ■ No ☒

The aggregate market value of voting stock held by non-affiliates of the Registrant as of July 2, 2006, the last business day of the registrant's most recently completed second fiscal quarter, was approximately $93,327,865, based on the closing sale price of the registrant's Common Stock as reported on the NASDAQ Global Market.

Number of shares of the registrant's Common Stock outstanding as of March 1, 2007: 77,577,355

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Proxy Statement for the Annual Meeting of Stockholders to be held May 23, 2007 are incorporated by reference into Part III of this Form 10-K.

GTC Biotherapeutics, Inc.
Form 10-K
For the Fiscal Year Ended December 31, 2006
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PART I

In this Annual Report on Form 10-K, the words "we", "our", "ours" and "us" refer only to GTC Biotherapeutics, Inc., its wholly-owned subsidiaries and its joint venture. Unless indicated otherwise, references to the years 2006, 2005 and 2004 refer to our fiscal years ended December 31, 2006, January 1, 2006 and January 2, 2005, respectively.

NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements, including statements regarding future revenues, research and development programs, clinical trials and collaborations and our future cash requirements. The words or phrases "will", "will likely result", "are expected to", "will continue", "is anticipated", "estimate", "project", "potential", "believe", "plan", "anticipate", "expect", "intend", or similar

expressions and variations of such words are intended to identify forward-looking statements. Statements that are not historical facts are based on our current expectations, beliefs, assumptions, estimates, forecasts and projections for our business and the industry and markets related to our business. The statements contained in this report are not guarantees of future performance and involve certain risks, uncertainties and assumptions which are difficult to predict. Therefore, actual outcomes and results may differ materially from what is expressed in such forward-looking statements. Important factors which may affect future revenues, research and development programs, clinical trials and collaborations and our future cash requirements include, without limitation, continued operating losses, our ability to raise additional capital, technology risks to our transgenically produced products, the performance of our collaboration partners and continuation of our collaborations, our ability to enter into collaborations in the future and the terms of such collaborations, regulatory approval of our transgenically produced products, preclinical and clinical testing of our transgenically produced products, and those factors set forth in "Risk Factors" in Item 1A of this Form 10-K.

ITEM 1. BUSINESS

Overview

We are a leader in the development and production of human therapeutic proteins through transgenic technology. Applying our transgenic production technology, we insert human protein-specific DNA into the genetic structure of an animal to enable it to produce what is known as a recombinant form of the corresponding human protein in the animal's milk. We then purify the protein from the milk to obtain the therapeutic product, which is typically administered by injection. Our transgenic technology is protected by our leading patent position, which includes a U.S. patent, issued in 2006 and expiring in 2021, that covers the production of therapeutic proteins in the milk of transgenic mammals.

In August 2006, we obtained the first regulatory approval of a transgenically produced therapeutic protein anywhere in the world when the European Commission approved the use of ATryn®, our recombinant form of human antithrombin, as a prophylactic treatment of patients with hereditary antithrombin deficiency, or HD, undergoing surgical procedures. Based on the expected results of our currently ongoing pivotal trial, we are planning to file for a Biologics License Application, or BLA, seeking approval of the U.S. Food and Drug Administration, or FDA, to begin marketing ATryn® for a similar indication in HD patients undergoing surgery or delivery.

Building upon the ATryn® approval in Europe, we are focusing our pipeline of proprietary programs on recombinant plasma proteins and monoclonal antibodies for use in hematology, including replacement therapies for genetic disorders, oncology and autoimmune diseases. In doing so, we focus on those potential therapeutic proteins that are difficult to express using traditional recombinant production methods, such as cell culture or bacteria production, or on those product candidates where production of commercial volumes using those methods requires significant capital investment for adequate production capacity, or where the cost of goods is a critical issue. Human plasma proteins that are used for therapeutics may have one or more of these characteristics. With the potential to produce large quantities of therapeutic proteins at a lower cost than using other recombinant methods, our production technology enables the pursuit of clinical indications requiring large amounts of the therapeutic protein and offers the opportunity to create markets significantly greater than those supported today by traditional recombinant produced and plasma-derived proteins.

In November 2005, we entered into an exclusive collaboration agreement with LEO Pharma, or LEO, of Denmark to develop and market ATryn® for markets in LEO's territories of Europe, the Middle East, and Canada. In September 2006, we entered into a collaboration agreement with LFB Biotechnologies, or LFB, of France to develop selected recombinant plasma proteins and monoclonal antibodies using our transgenic production platform. The first program in this collaboration is for the development of a recombinant form of human factor VIIa.

Production of monoclonal antibodies using our transgenic production technology may have economic advantages, such as significantly lower capital investment and lower cost of goods, particularly with large scale production. We anticipate commercially developing a monoclonal antibody to the CD137 receptor, which modulates the human immune system, with potential applications in oncology and autoimmune disorders.

The following summarizes our portfolio of proprietary products and product candidates in development:

- **ATryn®:** We have established a collaboration agreement with LEO for further development and commercialization of ATryn® in Europe, Canada, and the Middle East. LEO has selected disseminated intravascular coagulation, or DIC, associated with severe sepsis as an acquired antithrombin deficiency indication for development in Europe. LEO has obtained scientific advice from the European Medicines Agency, or EMEA, on the design of a Phase II dose ranging study of approximately 200 patients. Initial clinical sites are opening, and we anticipate patient enrollment lasting 12 months and results being available in mid-2008. We will have the right to use the Phase II data in the U.S. and all other territories outside of LEO's territories. LEO plans to seek further advice from the EMEA for a potential Phase III study once the Phase II data is available. We will supply the product for these clinical studies and receive payment for delivery of the material to LEO. We will receive a transfer price and royalties on commercial sales of ATryn® by LEO.

  We are currently conducting a further pivotal trial for surgery and childbirth in the HD indication for U.S. regulatory approval. We anticipate using the results of this pivotal study to apply to the EMEA to expand the HD label to include treatment of pregnant women during delivery. We intend to commercially develop ATryn® in the U.S. either ourselves or with a partner. We plan to develop ATryn® in Japan and the rest of Asia through further partnerships.

  We estimate that the future worldwide market for ATryn® for any acquired deficiency indication for which it may be approved, including for example, DIC, will be approximately $500 to $700 million annually.

- **rhFVIIa:** We are developing a recombinant human factor VIIa, or rhFVIIa, a blood coagulation factor as our first program in our strategic collaboration with LFB. We have begun developing the production system for rhFVIIa and we anticipate having a product available for clinical studies in approximately two years to evaluate its use in treating hemophiliacs that have developed inhibitors to Factors VIII or IX. An existing rhFVIIa product, marketed as NovoSeven® by Novo Nordisk, is commercially available today at a selling price of approximately $1,000/mg. An independent analyst estimates that the total annual market size for this product could be $2 billion in five years. We believe our rhFVIIa product will cost less to produce and offer attractive profit margins at a lower selling price, which in turn may expand patient usage.

- **rhAAT:** We have developed goats that produce a recombinant form of human alpha-1 antitrypsin, or rhAAT, an inhibitor of elastase. Scientists believe that uninhibited elastase activity may be the cause of several respiratory disorders. For example, hereditary deficiency of alpha-1 antitrypsin may lead to the onset of emphysema. The genetic defect leading to hereditary deficiency is estimated to exist in approximately 3.5 million people worldwide, although the deficiency is significantly under-diagnosed and under-treated. If shown to be safe and efficacious, successful treatment will require chronic dosing to maintain patients disease-free. There are also potential therapeutic applications in other respiratory disorders such as chronic obstructive pulmonary disease. We are currently planning the preclinical program and seeking partnership opportunities for a potential rhAAT product.

- **CD137:** The CD137 receptor on T-cells, also known as 4-1BB, is involved in the initiation and regulation of the human immune system. We have in-licensed from the Mayo Clinic an antibody to CD137 that is believed to be a modulator of the immune system with the potential for treatment of solid tumors and autoimmune diseases. We are currently planning our preclinical program and

seeking partnership opportunities for this product candidate with the objective of commencing clinical studies within two years. We have developed goats which produce this antibody in large quantities.

We believe that our transgenic approach is able to offer well-characterized supplies of recombinant forms of therapeutic human plasma proteins with easily scalable production capacity. Therapeutic human plasma proteins are derived from either the liquid portion of human blood, or plasma or are produced using recombinant DNA techniques. Plasma-derived proteins are in many cases currently available only in limited quantities and can be subject to recalls and shortages. Many plasma proteins are difficult to express in economically viable quantities in traditional recombinant production technologies such as mammalian cell culture or bacteria production. We believe that our transgenic recombinant production technology has;

- A greater capability to produce difficult to express recombinant plasma proteins in large quantities in a cost effective manner;
- the ability to expand the current markets for existing indications that are constrained by low production quantities and high production costs and prices; and
- the ability to create and support new markets based on the development of new indications due to a greater supply of these therapeutic proteins.

Our estimation of the potential market value of recombinant forms of plasma proteins is based, in part, on the sales experience of recombinant forms of the blood clotting proteins known as factors VIIa, VIII, and IX, which have generated $3 billion of annual sales worldwide compared to the $1 billion of annual sales worldwide for plasma-sourced clotting factor products. These products have been developed for multiple indications which have expanded their markets. By increasing the number of approved indications for our proprietary recombinant plasma proteins, we believe we have the opportunity for similar success in expanded markets.

In addition to our proprietary programs, we have an external program under contract with Merrimack Pharmaceuticals, Inc., or Merrimack, for transgenic production and purification of Merrimack's recombinant human alpha-fetoprotein, known as MM-093, a human plasma protein which has been difficult to express in traditional recombinant protein production systems and is not available in significant quantities from plasma sources. Merrimack has used our transgenically produced version of MM-093 in its Phase IIb human clinical studies for rheumatoid arthritis and Phase IIa clinical studies for psoriasis.

Until we become commercially successful we are entirely dependent upon funding from equity financings, partnering programs and proceeds from short and long-term debt to finance our operations. With the validation of our production technology from our ATryn® approval and our broad patent in the U.S. for transgenic production in animal milk, our strategy is to seek partnering arrangements to expand the number of proprietary programs and support additional indications and territories for our existing programs. We also plan to enter into additional external programs if appropriate opportunities arise to supply the partner's proprietary protein product using our transgenic production technology. Our criteria for entering these external partnerships include a strong commitment by the partner to our production technology.

Proprietary Programs

Recombinant Human Antithrombin (ATryn®)

Antithrombin is a protein found in the plasma of human blood that has anticoagulant and anti-inflammatory properties. Antithrombin, as is typical of many plasma proteins, is difficult to express economically in commercially viable quantities using traditional recombinant production methods. Scientists estimate that approximately 1 in 5,000 people has HD, which suggests that approximately 60,000 people in the U.S. and approximately 80,000 people in Europe have HD.

We have developed our transgenically produced recombinant form of antithrombin, known as ATryn®, which was approved for marketing in the EU by the European Commission in August 2006. The EU review process for ATryn® included inspections of our farm production facilities and the contract purification operations for ATryn® which are done under third-party contracts. The EMEA issued a positive opinion in June 2006 and was adopted by the European Commission in August 2006.

We have begun an additional clinical study in the HD indication under an amended Investigational New Drug, or IND, application with the FDA. The results of this study will be compared with data collected from patients who have been treated previously with plasma-sourced antithrombin. We believe that the results from this additional clinical study, together with the clinical trial data submitted in support of our successful application for marketing authorization, or MAA, in Europe will provide the basis for a BLA submission to the FDA. Recruitment has been slower than previously planned in this rare patient population, however we anticipate filing our BLA around the end of 2007.

We have a collaboration agreement with LEO for further development of ATryn® in Europe, Canada, and the Middle East for use in acquired antithrombin deficiencies, or AD, such as in DIC associated with severe sepsis. These deficiencies result when a medical condition leads to consumption or loss of native antithrombin in a patient's bloodstream at a rate significantly in excess of the body's ability to replace it. The AD may lead to subsequent complications that increase patient risk for morbidity. Other examples of AD conditions include severe burns, coronary artery bypass surgery, and bone marrow transplant procedures. LEO is a well established, vertically integrated private pharmaceutical company based in Denmark. LEO has selected DIC associated with severe sepsis as the first acquired antithrombin deficiency indication in which to conduct additional clinical studies. In DIC, the septic infection consumes the patient's native antithrombin faster than the body can replace it leading to clotting and inflammation problems that can cause death. Of the approximately 220,000 cases in the European Union and 250,000 patients in the U.S. with DIC in severe sepsis, approximately 50% of these patients die from the condition. A subgroup analysis performed on a previous large study of plasma derived antithrombin in sepsis by Aventis showed a significant reduction in mortality for those patients who received antithrombin without concomitant heparin, an anticoagulant that is often used as part of the current standard of care for acute care patients. The patients who received both antithrombin and heparin did not show a survival benefit. LEO obtained scientific advice from the EMEA for a dose ranging Phase II study of antithrombin as a treatment without the use of heparin. The study will involve a comparison of the use of antithrombin alone against standard of care. The Phase II study is principally designed to establish optimum dosage for a subsequent Phase III study. Clinical sites for this study are being opened and enrollment is expected to take 12 months with results anticipated in mid-2008.

In our collaboration with LEO we will continue to be responsible for the production of ATryn® for which we will receive payment. LEO will pay us a royalty on all commercial sales, as well as a transfer price that we believe will provide us a margin on our cost of production at full scale. LEO will pay us, based on our fully burdened costs subject to a maximum transfer price, for all product used in clinical studies and will be responsible for all other clinical study costs for approval in Europe. We will have the right to use all data generated from all studies up through the completion of Phase II trials in regulatory filings in territories outside of LEO's territories of Europe, Canada, and the Middle East. We will be able to use the results of any Phase III studies in regulatory filings made outside the LEO territories if we participate in funding the Phase III studies. If we do not help fund the Phase III studies, we will also have the option to pay to use the data at a price to be determined. The market authorization in Europe for the HD indication has been transferred to LEO, enabling the initiation of the price reimbursement process. LEO plans to begin the commercial launch of ATryn® in Europe in the HD indication on a country-by-country basis as prices are finalized in each country.

LEO has agreed to pay a total of up to $73 million in potential success-based milestone fees as follows:

- $2 million non-refundable signing fee paid in 2005
- $3 million to complete HD approval in Europe, comprised of:

- $1 million for EMEA positive opinion paid in June 2006
- $2 million for European Commission approval paid in August 2006
- $35 million for achieving AD clinical study milestones
- $3 million for regulatory approval in certain countries within the LEO territories outside of Europe
- $30 million for achieving specified ATryn® sales milestones. We expect that to achieve the sales milestones we will have to obtain regulatory approval and market acceptance in at least one AD indication.

Our strategy is to leverage the availability of ATryn® with easily scalable production capacity to support the development of additional clinical indications and the creation of markets significantly in excess of those supported by today's plasma-sourced products. We also plan to seek approval for acquired deficiency indications in the U.S. We intend to commercially develop ATryn® in the U.S. either ourselves or with a partner. We plan to develop ATryn® in Japan and the rest of Asia through further partnerships.

We estimate that the existing worldwide annual sales for plasma-sourced antithrombin is approximately $250 million, split principally between Japan and Europe with less than $10 million being sold in the U.S. due to limited availability from a single supplier. We estimate the worldwide market for ATryn® will be $500 to $700 million annually once there is an approval of an acquired deficiency indication such as DIC.

Recombinant Factor VIIa (rhFVIIa)

We are developing rhFVIIa as the first program under our strategic collaboration with LFB to develop recombinant human plasma proteins and monoclonal antibodies.

Factor VIIa is used in Type A and Type B hemophilia patients that have developed inhibitors to other blood coagulation products. Type A hemophilia is a genetic deficiency in the production of factor VIII. Type B hemophilia is a genetic deficiency in the production of factor IX. Both factors VIII and IX are involved in the body's production of blood clots. A deficiency in either factor can prevent normal blood coagulation. Patients develop inhibitors when their immune system incorrectly recognizes supplemental factors VIII or IX as foreign and generates antibodies to impede them. Providing supplemental factor VIIa, which is already present in blood, reduces the likelihood of initiating an immune response and enables the formation of blood clots even with the existing factor VIII or IX deficiency. This is the indication that is anticipated to be developed initially. There are also potential indications in excessive bleeding states where a factor VIIa product may have therapeutic value in establishing an effective blood clot.

NovoNordisk recently announced NovoSeven® sales of $250 million for the fourth quarter of 2006, representing an annualized sales rate of $1 billion from approximately one kilogram of product. An independent financial analyst report has estimated that the annual market for rhVIIa may reach $2 billion in 2012. Our transgenic production technology may support the pricing of our rhFVIIa at levels which would enable utilization in a broader range of indications and geographical territories.

The research program for rhFVIIa was initiated approximately three years ago and LFB has determined that transgenic rabbits are capable of expressing sufficient quantities of this product to support expanded development. A joint steering committee will agree on product development and commercialization plans. We will be responsible for developing the production system and will retain exclusive commercial rights in North America for all products developed in the collaboration. LFB will be responsible for clinical development and regulatory review of the rhFVIIa program and will have exclusive commercial rights in Europe. GTC and LFB will have co-exclusive commercial rights to all products of the collaboration in the rest of the world.

The collaboration anticipates an equal sharing of costs and profits. However, it also provides us and LFB the ability to suspend funding for a period of time in exchange for a prorated decrease in ownership interest with the option to buy back our initial intended ownership interest at a later time.

Recombinant Alpha-1 Antitrypsin (rhAAT)

We have begun development of rhAAT, which, like antithrombin, is a product that is currently sourced from fractionated human plasma. We believe that our rhAAT can provide a highly pure and unconstrained supply to the market.

Alpha-1 antitrypsin, or AAT, is currently used to treat the congenital deficiency of this protein which can lead to emphysema. AAT supplementation using pulmonary delivery has also been considered as a therapeutic approach as a treatment for acute respiratory distress syndrome, chronic obstructive pulmonary disease, severe asthma and cystic fibrosis. Similar to many other plasma proteins, AAT is difficult to express in traditional recombinant production systems in economically viable quantities.

We have developed goats that produce rhAAT in significant quantities. We have also developed a bench scale purification process and are in the process of defining the clinical and regulatory program for this product. Our goal over the next two years is to develop a preclinical program that will support initiation of clinical studies and to determine the partnership opportunities available for further development. The level and speed of development of this product will be dependent upon our financial resources and partnering opportunities. Under our agreement with LFB, they have been granted a right of first negotiation to partner with us for the development of rhAAT.

We estimate that plasma-sourced AAT products currently generate worldwide annual sales of approximately $250 million. Similar to our other recombinant plasma protein programs, we believe the market for our product may be expanded significantly beyond the market for the current plasma-derived products as a result of its expected unconstrained production capacity and the opportunity for multiple indications.

Monoclonal Antibodies (MAbs) and Immunoglobulin (Ig) Fusion Proteins

Our strategy is to use our transgenic production technology to develop monoclonal antibodies and immunoglobulin fusion proteins. Monoclonal antibodies, or MAbs, are proteins generated by an immune system that bind to a specific target. MAbs typically express at reasonable levels in traditional recombinant production systems, but are often required in large quantities due to their applications to chronic disease indications. Immunoglobulin, or Ig fusion proteins, which consist of a MAb fragment linked to a second protein fragment, may be difficult to express due to their complexity.

We have been granted several patents covering the production of MAbs in the milk of transgenic mammals, along with other transgenic process patents, which we believe establish a strong proprietary position in the field. This intellectual property position enables development and commercial production of MAbs without relying on patents normally associated with cell culture and bacteria production technologies. We believe that MAbs and Ig fusion proteins are well suited to our technological and commercial interests as both in-licensed programs for our pipeline and for our external portfolio of products.

CD137 Antibody

We have developed animals that produce an antibody to CD137, also known as 4-1BB receptor, which is present on T-cells of the human immune system as well as some cancer cells. Our CD137 antibody may have therapeutic value primarily through the modulation of the immune system. As a result, we believe it has potential for use in multiple clinical applications including cancer and autoimmune diseases. We anticipate that the potential quantities of our CD137 antibody required for future treatment could be very large. We believe that the increase in production capacity necessary to merit this anticipated demand for a CD137 antibody can be achieved more economically by using our transgenic production technology rather than traditional cell culture and bacteria production methods.

We have obtained our patent rights to the CD137 antibody from the Mayo Clinic. These rights extend to any patents issued under its patent applications. The level and speed of development of a CD137 antibody product will be dependent upon our financial resources and our ability to partner this program. This program is currently funded by a Small Business Innovation Research, or SBIR, grant. Our goal over the next two years is to define the preclinical program to support the initiation of clinical studies and to seek a partner.

Malaria Vaccine

We are developing a recombinant form of a malaria surface protein known as MSP-1 for use as an antigen in a malaria vaccine. This protein is normally expressed by the malaria parasite. Malaria is a disease that has an annual incidence of more than 300 million people worldwide and results in several million deaths annually, primarily among children. We have been working with the National Institute of Allergy and Infectious Disease, or NIAID, an institute that is part of the National Institutes of Health, or NIH, and the Federal Malaria Vaccine Coordinating Committee to develop transgenic production of the MSP-1 protein as an antigen for a vaccine and to examine the options for commercializing the vaccine. The MSP-1 protein produced in the milk of transgenic mice successfully protected Aotus nancymai monkeys from a lethal challenge of malaria in a preclinical vaccine study conducted by and co-authored with the NIAID. MSP-1 is difficult to express in other recombinant systems, with those other systems producing it in very limited quantities or in forms that may not induce the necessary immune response. The NIAID had funded a contract for the development and production of clinical grade MSP-1 as a malaria vaccine. Due to budgetary constraints at NIAID, no funding was committed for the malaria program beyond mid-August 2005 and it is uncertain if funding will be reinstated. We have developed founder animals, which are animals that have the appropriate genetic profile and are the potential start of a herd of transgenic animals capable of producing the desired therapeutic protein and we are in the process of evaluating the milking characteristics of these animals. The budget and activities for this program have been reduced until the NIAID resumes funding or we establish new funding sources.

Recombinant Human Albumin (rhA)

We have developed cattle that have produced recombinant human albumin, or rhA, in their milk. Albumin sourced from the human blood supply is currently being used principally as a blood volume expander and also as a stabilizer of other biological formulations. Other sources of albumin, primarily from bovine plasma, have been used as part of the nutrient media used in cell culture systems. We have developed initial purification processes for our rhA that could be used for cell culture applications. As a result of prioritizing our resources to other development programs, we are minimizing further investment in this program at this time.

External Programs

Our external programs are ones in which the partner owns the underlying product rights. We believe the advantages to an external partner of using our transgenic production technology include enabling the development of proteins that are difficult to produce in traditional recombinant production systems, requiring significantly lower capital investment, assuring lower cost of goods, and providing for flexibility in production capacity expansion. To date, we have typically developed a transgenically produced version of an external partner's protein on a service contract basis.

Our principal external program is with Merrimack for their MM-093 product, a recombinant form of human alpha-fetoprotein, or rhAFP. Alpha-fetoprotein is a human plasma protein normally produced during pregnancy and, therefore, is not commercially available from human plasma. MM-093 has been difficult to express in traditional recombinant systems. We have developed goats for Merrimack that express this protein in their milk and we have successfully produced MM-093 for Merrimack's clinical trials. If MM-093 is found to be safe and efficacious in their clinical program, there is a potential for us to earn

significant additional revenue for production of MM-093 to supply further clinical trials and product for commercialization. We also own $1.25 million of Merrimack preferred stock that was issued in December 2003 in partial payment for services we had provided.

Transgenic Production Technology

Overview

Our transgenic production technology capabilities include the molecular biology expertise and intellectual property to generate transgenic animals, primarily goats, and, in some cases, cattle and rabbits, that express a specific recombinant protein in their milk and to collect and purify the proteins once produced. We also have the necessary regulatory and clinical development experience required to navigate clinical trials and engage in commercial activities.

Our technology is well suited to large volume applications, particularly 100 kilograms or more per year, in comparison to traditional recombinant protein production systems. These advantages include significantly reduced capital expenditures, greater flexibility in production capacity expansion and lower unit production costs. In the case of certain complex proteins that do not express well in traditional systems, transgenic production may represent the only technologically and economically feasible method of commercial production. Many human plasma proteins, as well as some Ig fusion proteins, are examples of recombinant proteins that may not express at economically viable levels in traditional systems.

We conduct our husbandry, breeding, milking and initial purification operations at our production facilities in central Massachusetts, where we have approximately 1,500 goats in a closed herd originally derived from New Zealand. Our goat husbandry operations include providing on site veterinary care. We have a biosecurity program that includes barriers to provide separation of our animals from wildlife and the public and control of access to our site. We also specify and carefully monitor feed quality. Milking is typically performed using modern milking and processing equipment. Filtration and purification are automated and performed at our facilities, the facilities of our partners, or in contracted facilities. We have also established capacity in our Framingham facilities for the purification of recombinant proteins suitable for clinical studies.

While we have both the technical capability and the patent protection to work with a wide range of mammals, we typically utilize goats in our development programs. However in some cases such as our rhFVIIa program where projected production requirements are more limited we may use rabbits. The species selected for a particular program will depend on a variety of factors, including the expected market size, desired herd size, and anticipated production level of the desired protein by the animal's mammary gland. We take great pride in the health and welfare of our animals. Our animal operations are subject to the review of our Institutional Animal Care and Use committee and are accredited by the Association for the Assessment and Accreditation of Laboratory Animal Care International, or AAALAC, and the U.S. Department of Agriculture, or USDA.

We use microinjection and nuclear transfer technology to develop our transgenic animals. Microinjection involves injecting the desired DNA into a fertilized single cell embryo using a needle. In a number of our programs, including our lead program, ATryn®, we used microinjection to generate the founder animal. Nuclear transfer technology involves generating cells that have the specific DNA for expression of the target protein in milk and inserting the cell's DNA in an animal's ovum in place of the ovum's DNA. Once the ovum is activated, the embryo is implanted in the womb of a surrogate female animal. Nuclear transfer technology may offer rapid development of large scale production capacity by producing a larger number of transgenic animals in one generation.

Advantages of Transgenic Production Technology

We believe our transgenic production technology provides significant advantages over traditional recombinant methods of therapeutic protein production, such as mammalian cell culture and bacterial systems, including:

- *Commercial Scale Production.* Transgenic production offers the ability to commercially produce therapeutic proteins for large volume indications while achieving consistent expression rates with complex molecules.
- *Lower Capital Investment.* Developing transgenic animals and maintaining appropriate production facilities can be accomplished with substantially lower capital investment than building a cell culture bioreactor production facility.
- *Lower Cost of Goods.* Lower amortization from reduced capital investment, lower cost of consumable materials used in production and high productivity levels in protein production we believe will provide an assured low cost of goods.
- *Flexible Production Capacity.* Transgenic production of recombinant proteins offers the ability to match production capacity to market demand once the first applicable transgenic animal is developed. If a product's market is larger than originally planned, the incremental investment to breed additional animals and collect and purify the related proteins is relatively small. In contrast, traditional cell culture and bacteria methods of purification generally use equipment with fixed production capacity. Increasing production capacity of traditional cell culture and bacteria production networks requires the construction or acquisition of additional bioreactor space with unit costs similar to the original capital investment and with construction times of generally three to five years.
- *Glycosylation Benefits.* Glycosylation refers to the process or result of adding sugars, or carbohydrates, to the amino acid structure of a protein during protein secretion. Glycosylation of therapeutic proteins produced in the mammary gland may have beneficial characteristics compared to those expressed in traditional cell culture and bacteria based technologies. Our production technology in many instances produces proteins with low fucose sugars which scientists believe can have beneficial effects in antibody dependent cell cytotoxicity, or ADCC. ADCC appears to be an important characteristic in the efficacy of many monoclonal antibodies where targeted cell death is a desired outcome.

Collaborations

LEO Pharma

In November 2005, we entered into a collaboration agreement with LEO to develop and market ATryn®, for markets in LEO's territories of Europe, the Middle East, and Canada. Our agreement with LEO includes up to $73 million in potential milestone payments from LEO to us for meeting regulatory, clinical and sales goals. These payments include a total of $5 million in non-refundable payments that we received upon entering the collaboration agreement and for achieving approval of ATryn® for the HD indication in Europe. These milestone revenues are being recognized over the life of the agreement on a straight-line basis beginning with the first delivery of ATryn® material to LEO, which occurred in the fourth quarter of 2006. In December 2005, we also received a payment of $1.4 million as an advance payment for the future sale to LEO of clinical material that LEO committed to purchase. The revenue related to the $1.4 million payment was recognized upon delivery of the material in the fourth quarter of 2006. As of December 31, 2006, $4.9 million of the total amount received from LEO was accounted for as deferred revenue.

In our collaboration with LEO we will continue to be responsible for the production of ATryn®. LEO will pay for all product used in clinical studies as well as for commercial sale. For product sold for approved therapeutic use, LEO will pay us a royalty on all commercial sales, as well as a transfer price that we believe will provide us a margin on our cost of production once we achieve full commercial scale. We will be paid by LEO for clinical material based on our fully burdened costs subject to a maximum price per unit. Although our current cost of production exceeds our agreed upon maximum price for clinical material, we anticipate that the price for future clinical supply as well as the commercial transfer price will exceed our costs of production once we reach higher production levels. LEO has exclusive rights for sales and

marketing of ATryn® in all indications in LEO's territories as well as responsibility for the initiation of the price reimbursement process. Sales of ATryn® for the HD indication will begin on a country-by-country basis as prices are finalized in each country. We will retain all rights to ATryn® in all other territories, including the United States and Japan.

LFB Biotechnologies

In September 2006, we entered into a collaboration agreement with LFB to develop selected recombinant plasma proteins and monoclonal antibodies using our transgenic production platform. LFB is a subsidiary of LFB S.A., a vertically integrated company based in Paris, France that currently markets 19 plasma-derived products in the areas of hemostasis, anesthesia-intensive care and immunology. LFB S.A. is currently 100% owned by the French government. The first program in this collaboration is for the development of rhFVIIa. Under this agreement, we and LFB will share equally in the cost of the development and commercialization of each product and will be entitled to 50% of any profits derived from products developed through the collaboration provided we each contribute equally to their development. In the event that contributions to development are not equal, the profit allocation will be adjusted based on development costs incurred. Under the agreement, a joint steering committee of our and LFB's representatives will determine product development and commercialization plans. We will be responsible for development of the production system for the products and will retain exclusive commercial rights to the products in North America. LFB will be responsible for clinical development and regulatory review of the first program in this collaboration, and will have exclusive commercial rights in Europe. We will hold co-exclusive rights with LFB in the rest of the world to any products developed through the collaboration. The initial term of the agreement is fifteen years, subject to extension or termination by mutual consent, and the terms for any product developed through the collaboration will continue until the later of the initial term or ten years beyond regulatory approval of that product.

Also in September 2006, LFB agreed to purchase $25 million of our securities consisting of 3.6 million shares of common stock, a $2.6 million five year note which automatically converts into shares of our common stock in conjunction with any future common stock offerings at the per share offering price of the respective offering but only to the extent that any conversion does not result in LFB's holdings exceeding 19.9% of our common stock on an as-converted basis, and 14,615 shares of preferred stock convertible into 14.6 million shares of common stock. The purchase occurred in three tranches, or closings, the last of which occurred in January 2007 (see Note 3 to the Notes to Consolidated Financial Statements included in Item 8 of this Report).

Patents and Proprietary Rights

We currently hold 25 issued or allowed U.S. patents and 180 corresponding foreign patents. We have received a U.S. patent, with claim coverage for the production of therapeutic proteins in the mammary glands of transgenic mammals. This patent has an expiration date of 2021. Our other patents generally expire between 2013 and 2015. In accordance with ongoing research and development efforts, we have 56 pending U.S. patent applications and 184 corresponding foreign applications covering relevant and newly developed portions of our transgenic technology. Several of these pending applications are included in various cross-licensing or out-licensing arrangements with other companies that in turn provide us access to their proprietary technologies. We have granted limited access to our technology to Pharming Group, N.V., or Pharming, and to PharmAthene, Inc. Recently issued U.S. patents provide us with claim coverage for protein purification from the milk of transgenic animals, the production of monoclonal and assembled antibodies at commercial levels in the milk of transgenic mammals, the production of recombinant antithrombin in the milk of transgenic goats and the production of prolactin in the milk of transgenic animals.

In addition, we hold exclusive and non-exclusive licenses from Genzyme Corporation, Biogen-Idec, Inc., and other individuals and corporations to rights under a number of issued patents and patent applications in the U.S. and the corresponding cases abroad for a variety of technologies enabling the transgenic production of proteins in the milk of non-human animals. We hold licenses to 34 issued U.S. patents and

30 pending U.S. applications. On an international basis, we hold licenses to 64 issued patents and have 116 pending applications. Certain of our in-licensed patents expired in 2006. Our principal in-licensed intellectual property surrounding our microinjection technology expired at the end of 2006 after which no royalties or other payments are due to the licensor. However, we will continue to have freedom to practice microinjection.

We have exclusive and nonexclusive licenses to specific technologies owned by other parties. Some of the licenses require us to pay royalties on sales of products which may be derived from or produced using the licensed technology. These licenses generally extend for the life of any applicable patent. We have concluded an extensive cross-licensing arrangement with Pharming providing broad access to the transgenic cattle platform as well as some additional nuclear transfer technology. In 2000, we entered into an exclusive world wide licensing agreement with Advanced Cell Technologies, Inc., or ACT, which focused on intellectual property concerning cloning and nuclear transfer for the production of therapeutic proteins in the milk of transgenic animals. ACT announced in 2006 that the Board of Patent Appeals and Interferences of the U.S. Patent Office entered a judgment that invalidated the key nuclear transfer patent (U.S. Patent No. 5,945,577) that we license from ACT in favor of a patent application of Geron Corporation. ACT appealed that decision in a proceeding in U.S. District Court. ACT reached a settlement agreement with Start Licensing, Inc. (a joint venture between Geron and Exeter Life Sciences, Inc.) that ended the appeal and confirmed the invalidity of the ACT patent. While we have also licensed nuclear transfer technology from Pharming, we do not know at this time what impact the settlement involving ACT and Start may ultimately have on our ability to practice nuclear transfer for the production of animals expressing therapeutic proteins in their milk. However, our current techniques for performing nuclear transfer do not, in our opinion, infringe any existing patents. If necessary, however, it is our intention to enter into appropriate licensing arrangements with one or more third parties to assure our continued freedom to operate in the field of nuclear transfer. Our principal product, ATryn®, does not utilize this technology, nor do our rhFVIIa or AAT programs.

We rely upon certain proprietary trade secrets, know-how and continuing technological advances to develop and maintain our competitive position. In an effort to maintain the confidentiality and ownership of trade secrets and proprietary information, we generally require employees, consultants and collaborators to execute confidentiality and invention assignment agreements upon commencement of a relationship with us.

Competition

Competition in the biotechnology and pharmaceutical industries is intense and comes from many and varied sources. We experience significant competition from specialized biotechnology firms and large pharmaceutical companies in the U.S., Europe and elsewhere. Some of our competitors have substantially greater financial, marketing, research and development and human resources than we have. Most large pharmaceutical and biotechnology companies have considerable experience in undertaking clinical trials and in obtaining regulatory approval to market pharmaceutical products. In addition to company and industry level competition, our proprietary programs face particular competitive challenges.

Competition for our lead product candidate ATryn® comes from a number of companies internationally producing and marketing human antithrombin sourced from the fractionation of human plasma. CSL Behring's antithrombin has a significant share of this market worldwide, but is not approved in the U.S. Talecris BioTherapeutics, or Talecris, is the only company that has commercially available fractionated antithrombin that is approved for sale in the U.S. Talecris' U.S. sales are a small portion of the worldwide antithrombin market. There are a number of providers of plasma-derived antithrombin in Europe, including Octopharma, Grifols, Baxter International, Pfizer, Inc., CSL Behring, LFB, Kedrion and BioProducts Laboratory. A Grifols plasma-derived antithrombin product is in clinical studies to support a planned request for approval with the FDA.

Arriva Pharmaceuticals, Inc., or Arriva, has developed technology for large-scale production of stable non-animal sourced recombinant proteins in *Saccharomyces cerevisiae*, or baker's yeast. Arriva is working with Baxter International to develop a recombinant form of alpha-1 antitrypsin using this technology, and

this product is in a Phase II study. Talecris has a significant market in the U.S. with its plasma sourced alpha-1 antitrypsin product, Prolastin®. There are a number of other providers of plasma- sourced alpha-1 antitrypsin worldwide.

Novo Nordisk is the manufacturer of the only available rhFVIIa product, NovoSeven® which is approved for the treatment of hemophilia with inhibitors. The NovoSeven® patents expire in 2012. There are insignificant sales of various plasma-derived products such as Porcine FVIII, or pFVIII, prothrombin complex concentrates, or PCC, and activated prothrombin complex concentrates, or APCC, that perform a similar function.

In addition there are many companies, including biotechnology and pharmaceutical companies, which are actively engaged in seeking efficient methods of producing proteins for therapeutic or diagnostic applications. These include companies that are developing transgenic technology using various mammalian, plant and avian systems, as well as many companies that are building their own cell-culture-based production systems or other traditional recombinant protein production methods, and contract manufacturers who are using those systems to produce proteins for others. Pharming and BioProtein Technologies are other companies known to us that are engaged in the application of transgenic technology in mammals for the production of proteins for therapeutic use in humans. Pharming, based in the Netherlands, is primarily engaged in the development of recombinant proteins in the milk of transgenic cows and rabbits. Pharming reports that it has filed for EMEA review of one product. Pharming has also submitted a request to the FDA to recognize their lactoferrin product as generally regarded as safe for nutritional applications. BioProtein Technologies is a contract manufacturing organization specializing in the production of human therapeutic proteins and vaccines in the milk of transgenic rabbits also under a technology license agreement. The companies developing transgenic technology in mammals, chickens, and in plants may be competitive with our technology with respect to their patents and proprietary rights.

Government Regulation

The manufacturing and marketing of our potential products and certain areas of research related to them are subject to regulation by federal and state governmental authorities in the U.S., including the FDA, the USDA and the Environmental Protection Agency. Comparable authorities are involved in other countries, including the EMEA in Europe.

The FDA issued its Points to Consider in August 1995, addressing the Manufacture and Testing of Therapeutic Products for Human Use Derived from Transgenic Animals. Points to Consider, which are not regulations or guidelines, are nonbinding published documents that represent the current thinking of the FDA on a particular topic. Earlier in 1995, comparable guidelines were issued by European regulatory authorities. We believe that our programs satisfactorily address the topics identified in these documents and generally view these publications as positive milestones in the acceptance of the transgenic form of production. Nonetheless, obtaining further regulatory approvals for our transgenically produced products may take several years to complete and is expensive and uncertain. To our knowledge, no therapeutic protein produced in the milk of a transgenic animal has been submitted to the FDA for final regulatory approval or to any other regulatory agency outside of Europe for final regulatory approval.

Legal requirements for the investigation and commercialization of drug products and medical devices are set forth in the Federal Food, Drug and Cosmetic Act and regulations issued thereunder. While similar in many respects, legal requirements for the development and licensure of biological products, including transgenic products, are set forth in the Public Health Service Act, or PHSA, and regulations issued under that statute. As with drug products, these regulations require FDA approval prior to marketing. This approval is based on the manufacturer's demonstration that the product is safe and effective for its labeled or indicated uses. The demonstration of safety and efficacy, is subject to a thorough review by FDA and consists of both preclinical laboratory and animal studies, which must demonstrate that the drug or biological product is sufficiently safe to be tested in humans, and extensive human clinical trials, which establish the product's safety and efficacy in humans at the doses it will be administered and for the uses for which it will be labeled and marketed. This testing is both lengthy and expensive, and its outcome is frequently uncertain. In general,

following testing in animals to establish that the drug is sufficiently safe for human testing, manufacturers apply for permission to study the drug in humans through the filing of an IND application which contains both the results of the animal testing as well as the plan or protocol for testing the drug in humans. Testing in humans usually encompasses three phases (I, II and III). Phase I studies, frequently conducted in healthy subjects, establish preliminary safety and kinetics in humans; Phase II studies are usually controlled and provide preliminary findings of efficacy and safety, while Phase III studies consist of much larger controlled trials and are used to establish the necessary proof of efficacy to support marketing. All testing in humans is subject to FDA oversight, and may be suspended or delayed if the agency determines that subjects may experience any unanticipated or unreasonable risks.

Following a manufacturer's conclusion of the testing paradigm, the details of which may differ depending on the type of drug, the medical need for it, and the seriousness of the condition it is intended to treat, the data are compiled by the manufacturer into either a New Drug Application, or NDA, for new drugs, or a BLA for biological products, in accordance with the classification for the molecule determined by the FDA, and submitted for review. In addition, manufacturers are required to also include extensive data regarding the composition and manufacture of the product to assure its purity, potency and quality. The FDA may request additional information or data from the manufacturer, and following its review will either approve or disapprove the application. As part of a decision to approve the drug, the FDA will approve product labeling setting forth the use or uses which have been shown to be safe and efficacious, summaries of the clinical studies, dosing information, and extensive information presented hierarchically about potential risks. It may also require further testing as a condition of approval (referred to as Phase IV) as well as inform the manufacturer of certain limitations it believes are appropriate for product promotion. The approval process is comparable in Western Europe and other modern countries, such as Japan, with respect to the need for both safety and efficacy to be demonstrated through rigorous clinical trials.

Following marketing approval, the FDA continues to regulate drug and biological products extensively. Manufacturers are required to supply the agency with reports of all adverse events submitted to them, to report product defects, to submit to routine facility inspections, and to notify the agency of any planned product changes, many of which may also require prior approval. The failure to meet continuing regulatory requirements can result in administrative and legal sanctions, such as products recalls, requests to issue new information to medical practitioners, and in severe cases, product withdrawals, seizures, injunctions, and criminal prosecutions. All marketing is also subject to continuing FDA monitoring which, if found deficient or in violation of requirements, may result in demands for corrective measures as well as potential imposition of the same sanctions. More recently, pharmaceutical marketing violations by several companies have been subject to extensive and serious sanctions of the Food and Drug Control Administration, or FDCA, the Medicare/Medicaid anti-kickback legislation and the False Claims Act by the federal and various state attorneys general and the Health and Human Services Office of Inspector General, including the imposition of both civil and criminal fines, the application of corporate integrity agreements, and in the most serious cases, potential disqualification from providing product to the agencies of the federal government.

Research and Development Costs

During 2006, 2005 and 2004, we incurred, $25.4 million, $21.1 million and $20 million, respectively, of development expenses including preclinical and clinical development expenses related to proprietary programs. Of the total spent on research and development, $20.3 million, $12.6 million and $11.4 million, was for our U.S. clinical trial, manufacturing costs spent on the ATryn® development program in fiscal years 2006, 2005 and 2004, respectively, which included manufacturing costs for our U.S. clinical trial, manufacturing costs of clinical material in excess or the maximum selling price to LEO as well as process development and validation costs for scale up of the ATryn® manufacturing process. These costs include labor, materials, supplies and overhead, as well as certain subcontracted service costs. Also included are the costs of operating the transgenic production facility such as feed and bedding, veterinary costs and utilities.

Employees

As of December 31, 2006, we employed 153 people, including 10 part-time and temporary employees. Of our total employees, 101 were engaged in farm operations, clarification processes, quality assurance and control, 15 were engaged in research and development and 37 were engaged in administration, business development and marketing. Of our employees, approximately 16 have Ph.D. degrees and 3 have D.V.M. degrees. None of our employees are covered by collective bargaining agreements. We believe our employee relations are satisfactory.

Executive Officers

Our executive officers and their respective ages and positions as of March 1, 2007 are as follows:

Name	Age	Position
Geoffrey F. Cox, Ph.D.	63	Chairman of the Board, President and Chief Executive Officer
John B. Green	52	Senior Vice President, Chief Financial Officer and Treasurer
Gregory F. Liposky	52	Senior Vice President, Operations
Harry M. Meade, Ph.D.	60	Senior Vice President, Research and Development
Richard A. Scotland	51	Senior Vice President, Regulatory
Daniel S. Woloshen	59	Senior Vice President and General Counsel

Dr. Cox was appointed Chairman of the Board, President and Chief Executive Officer in July 2001. From 1997 to 2001, Dr. Cox was Chairman and Chief Executive Officer of Aronex Pharmaceuticals, Inc., a biotechnology company. From 1984 to 1997, Dr. Cox was employed by Genzyme Corporation, where he most recently served as Executive Vice President, responsible for operations and the pharmaceutical, diagnostic and genetics business units. Prior to joining Genzyme, Dr. Cox was General Manager of the UK manufacturing operations for Gist-Brocades. Dr. Cox also serves as non-executive Chairman of the Board for Nabi Biopharmaceuticals, and serves on the Board of the Biotechnology Industry Organization and the Board of the Massachusetts Biotechnology Council. Dr. Cox received a Ph.D. in Biochemistry from the University of East Anglia U.K. and a BSc (Hons) in Biochemistry from the University of Birmingham U.K.

Mr. Green was appointed Senior Vice President in May 2002, having previously served as Vice President since 1994. Mr. Green has also served as our Chief Financial Officer since December 1994 and Treasurer since August 1997. Prior to joining us, Mr. Green was Vice President and Assistant Treasurer of TSI Corporation from December 1989 until our acquisition of TSI in 1994. Mr. Green is a Certified Public Accountant (CPA) with over 25 years of financial experience, including 18 within the biotechnology industry as Chief Financial Officer of GTC and Vice President and Assistant Treasurer for TSI Corporation. Mr. Green received a Master's degree in Business Administration from Boston University Graduate School of Management and a Bachelor's degree from the College of the Holy Cross.

Mr. Liposky was appointed Senior Vice President, Operations in May 2002, having previously served as Vice President, Operations since January 1999. Prior to joining us, Mr. Liposky served as Vice President, Contract Manufacturing for Creative Biomolecules, Inc. from 1992 through 1998 and Vice President, Bioprocessing and Operations and Projects Manager for Verax Corporation from 1987 to 1991. Mr. Liposky received his Master's degree in Business Administration from Monmouth University and a Bachelor's degree in Biology from Belmont Abbey College.

Dr. Meade was appointed Senior Vice President of Research and Development in May 2002. From 1994 to 2002, Dr. Meade was our Vice President of Transgenics Research, having served as Research Director since May 1993. Prior to joining us, Dr. Meade was a Scientific Fellow at Genzyme, where he was responsible for directing the transgenic molecular biology program. From 1981 to March 1990, Dr. Meade was a Senior Scientist at Biogen, Inc., where he helped develop the technology used for protein production in milk and was a named inventor on the first issued patent covering the related protein production process. Dr. Meade

received his Ph.D. in Biology from the Massachusetts Institute of Technology and completed his post-doctoral studies at Harvard University. He holds Bachelor's degrees in Chemistry and Electrical Engineering from Union College.

Mr. Scotland joined GTC Biotherapeutics in 2002 and holds the position of Senior Vice President, Regulatory Affairs. Mr. Scotland is responsible for directing worldwide regulatory activities pertaining to the development of therapeutic proteins derived from the milk of transgenic animals. Mr. Scotland has over 25 years of regulatory affairs experience with various biotechnology and pharmaceutical companies including Serono Laboratories, Genzyme Corporation and Astra Pharmaceuticals. Mr. Scotland holds a Bachelor's degree in Biology from St. Joseph's College in North Windham, Maine.

Mr. Woloshen was appointed Senior Vice President and General Counsel in May 2002, having previously served as Vice President and General Counsel since August 1999. Prior to joining us, Mr. Woloshen served as Vice President and General Counsel of Philips Medical Systems North America from April 1989 to July 1999. Mr. Woloshen received a Juris Doctor degree from Boston College Law School and holds a Bachelor's degree from Colby College.

Available Information

Our internet website is www.gtc-bio.com and through the "Investor Information" portion of the website, investors may access, free of charge, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, proxy statements on Schedule 14A and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, as soon as reasonably practicable after we electronically file such material with, or furnish it to, the Securities and Exchange Commission. Information on our Investor Information page and on our website is not part of this Annual Report on Form 10-K or any of our other securities filings unless specifically incorporated herein by reference.

ITEM 1A. RISK FACTORS

The following are certain factors that could affect our future results. They should be considered in connection with evaluating forward-looking statements made by us because these factors could cause actual outcomes and results to differ materially from the outcomes and results as expressed in those forward-looking statements.

RISKS RELATED TO OUR BUSINESS

We expect to continue to incur significant operating losses for the next several years and we may never become profitable.

We have had operating losses since our inception, and we expect losses to continue for the next several years. From our inception in 1993 to December 31, 2006, we have incurred cumulative losses of approximately $245 million. These losses have resulted principally from the costs of our research and development activities. Our net losses for fiscal years 2004, 2005 and 2006, have been $29.5 million, $30.1 million, and $35.3 million, respectively. We expect to continue incurring significant operating losses for at least the next several years. We may never receive material revenues from product sales or become profitable.

We may be unable to raise the additional capital needed to develop and commercialize our product programs successfully.

We will need additional capital to fund our operations, including research and development, manufacturing and commercialization. In order to develop and bring our transgenically produced products to market, we and our collaboration partners must commit substantial resources to costly and time-consuming research, preclinical testing and clinical trials. As of December 31, 2006, we had $25.4 million in cash and cash equivalents and $18.5 million in marketable securities, which were offset in part by our $18.8 million in

current liabilities. We expect our current cash resources and potential future cash payments from new or existing collaboration and licensing programs to be sufficient to fund operations to mid 2008. We will need additional capital to fund our operations, including our research and development, manufacturing and commercialization activities. If we do not have or cannot raise additional capital when needed, we would be forced to delay, scale back or eliminate one or more of our research and development programs.

Our drug development programs and the further development of ATryn® for approvals in the United States will require substantial additional cash to fund expenses that we will incur in connection with preclinical studies and clinical trials, regulatory review, manufacturing and sales and marketing efforts. Our cash requirements may vary materially from those now planned, depending upon the results of our research and development programs, competitive and technological advances, the terms of future collaborations, regulatory requirements and other factors. We expect we will need to obtain additional financing, through public or private sources, including debt or equity financing, in addition to any funding obtained through collaborative or other arrangements with corporate partners. Depending on the state of the capital markets, interest rates, our financial profile and other factors at that time, we may not be able to obtain adequate funds on acceptable terms when needed. If we raise capital through the sale of equity, or securities convertible into equity, existing shareholders' proportionate ownership in us will be reduced. If we cannot obtain financing, we could be forced to delay, scale back or eliminate some of our research and development programs.

Our transgenically produced products may be subject to technology risks that may restrict or prevent their development and commercialization.

Developing products based on transgenic technology is subject to significant development risks. Each DNA construct is unique and it is possible that it might not be expressed in the transgenic animal's milk at a level that is commercially viable. Purifying the recombinant protein out of the milk to use as a biotherapeutic may be too difficult to be commercially feasible. In addition, production of the recombinant protein may have negative effects on the health of either the mammary gland or more systematically on the animal as a whole. This would compromise the ability of the animal to produce the recombinant protein. Directing the mammary gland to produce additional proteins in the milk could negatively affect lactation, thereby shutting down milk production. The mammary gland may also modify a protein in such a manner that it is non-functional or harmful in humans. It is also possible that there may be disease agents present in goats or cows that would prevent the use of products derived from these animals. If an as yet unknown disease was identified that could not be effectively mitigated, government agencies may confiscate or destroy the animals, or prevent the utilization of their milk. Any of these governmental actions would prevent the use of the recombinant proteins.

Our collaboration partners may fail to perform satisfactorily or may terminate our collaboration agreements.

We are dependent on our collaboration partners for the development and commercialization of our approved product and our lead product candidates. We do not have adequate resources to develop our products and product candidates on our own. We also have neither the experience nor capabilities to sell, market or distribute products. We currently have a collaboration agreement with LEO to develop and market ATryn® and a collaboration agreement with LFB to develop selected recombinant plasma proteins and monoclonal antibodies. We also plan to enter into additional collaborations with other partners to develop and commercialize current and future products and product candidates. The performance of our collaboration partners is not within our control. For example,

- we may not be able to ensure that our collaboration partners dedicate sufficient time and resources to successfully meet their obligations under our collaboration agreements;
- disputes may arise between us and our partners that may result in the delay or termination of the development or commercialization of products or product candidates or that may subject us to costly litigation or arbitration;

- our collaboration partners may experience financial difficulties or undergo business combinations or significant changes in corporate strategy that may adversely affect their ability or willingness to meet their obligations under our collaboration agreements; and
- our collaboration partners may not adequately maintain and protect, or may improperly use, our proprietary information which could jeopardize our intellectual property rights or subject us to costly litigation or arbitration.

We depend on collaboration agreements for our current revenue.

Our revenues and business strategy depend largely on our entering into additional development and marketing agreements with third parties as well as existing agreements for our own therapeutic compounds. We may not be able to establish these agreements on commercially acceptable terms, if at all, depending on the market position of our technology and our compounds. The willingness of potential collaborators to enter into agreements with us depends on factors such as the perceived technological or economic advantages of transgenic production and our ability to structure a mutually acceptable collaboration arrangement. For existing and future development agreements, the collaborations may ultimately be unsuccessful, our partners could terminate the agreements or the agreements could expire before meaningful developmental milestones are reached. Depending upon the terms of any future collaborations, our role in the collaboration will often be limited to the production aspects of the proteins. As a result, we may also be dependent on collaborators for other aspects of the development of any transgenically produced product, including preclinical and clinical testing and regulatory approval, and marketing and distribution.

The majority of our collaborations to date have been external programs that involve proteins proprietary to our partners. Much of the continuing revenue, if any, that we may receive under these collaborations will depend upon our partners' willingness and ability to successfully develop and commercially introduce, market and sell the version of the collaborator's product derived from our transgenic production systems. Our partners may choose competitive production technologies or competitive products outside of their collaborations with us, which could have a material adverse effect on our business. The failure of any external collaboration could have a material adverse effect on our business.

We may fail to obtain the necessary regulatory approval to market and sell our transgenically produced products in the United States or in other countries.

Before we can market or sell any transgenically produced drug or biological products that we or our collaborators develop, we must receive regulatory approvals from federal, state and local governmental authorities, including the FDA and corresponding agencies in other countries, such as the EMEA in Europe. We received our only regulatory approval of any of our transgenically produced products in August 2006 from the European Commission for use of ATryn® as a prophylactic treatment of patients with hereditary antithrombin deficiency undergoing surgical procedures. Our Marketing Authorization Application for ATryn® was approved by the European Commission under exceptional circumstances, meaning that the license must be renewed on an annual basis as opposed to every five years, with certain post approval obligations that must be fulfilled to maintain approval. In addition, continuing marketing authorization approval must be obtained on an annual basis. To our knowledge, Pharming is the only other entity to have completed human clinical trials of a transgenically produced product. To date, none of our transgenically produced compounds have been approved for sale in the United States. Moreover, to our knowledge, no application for final regulatory approval of any therapeutic protein produced in the milk of a transgenic animal has been submitted to the FDA or, except for our application relating to ATryn® to the EMEA, or any other regulatory agency for final regulatory approval. The required regulatory approvals process for our transgenically produced products may take several years to complete and is expensive and uncertain. It is possible that the FDA or any other regulatory authority may not act quickly or favorably on our requests for approval or may require us to provide additional data that we may not have then available. For example, the FDA may impose restrictions and demands on our clinical trials that require additional resources and result in unexpected delays. In addition, the FDA may require us to conduct further clinical trials and post-

marketing testing and surveillance to monitor the effects of approved products. The FDA or other regulatory authorities may also place conditions on approval that could restrict the commercial applications of such products.

Failure to comply with extensive FDA or similar regulations may result in delay, suspension or cancellation of a trial or a regulatory authority's refusal to accept test results. Regulatory authorities may have varying interpretations of our pre-clinical and clinical trial data, which could delay, limit or prevent regulatory approval or clearance. Because transgenically produced products represent novel therapeutic products, the process for regulatory approval is unproven. There may be additional delays in regulatory approval due to issues arising from the breeding of transgenic animals and the use of proteins derived from them. Any delays or difficulties in obtaining regulatory approval or clearance for transgenically produced products may:

- adversely affect the marketing of any transgenically produced products we or our collaborators develop;
- impose significant additional costs on us or our collaborators;
- diminish any competitive advantages that we or our collaborators may attain; and
- limit our ability to receive royalties and generate revenue and profits.

If we do not receive regulatory approvals for our transgenically produced products in a timely manner, we will not be able to commercialize our products, or their commercialization may be limited or delayed and, therefore, our business and stock price will suffer.

Even if we receive regulatory approval for our transgenically produced products, the FDA or similar agencies in other countries may impose limitations on the indicated uses for which our products may be marketed and sold. These limitations could reduce the size of the potential market for a product. Failure to comply with applicable FDA and other regulatory requirements could result in, among other things, warning letters, fines, injunctions, civil penalties, recall or seizure of products, total or partial suspension of production, refusal of the government to renew our marketing applications and criminal prosecution.

We filed an Investigational New Drug application, or IND, with the FDA in 2003 for clinical development of ATryn® in HD indication. In April 2005, we received authorization from the FDA to begin a further clinical trial of ATryn® under an amended version of our IND. Delays in completing our current ATryn® trial or in obtaining FDA approval of ATryn® could cause substantial delays in the commercialization of ATryn® in the United States and adversely affect our business and stock price.

Our clinical trials of our transgenically produced products may be unsuccessful or delayed, which may prevent us from meeting our anticipated development timeline and, cause our stock price to decline.

We and our collaborators must demonstrate through preclinical and clinical trials that our transgenically produced products are safe and effective for use in humans. Clinical trials are expensive and may take several years. Several factors could prevent or delay completion of these trials, including an inability to enroll the required number of patients or demonstrate adequately the safety or efficacy of the product for humans. If safety concerns develop, regulatory authorities could stop or delay our trials. Furthermore, the results from early clinical trials are often not predictive of results in later clinical trials.

To our knowledge, Pharming is the only other entity to have completed human clinical trials of a transgenically produced product. Until we have completed our current pivotal trial and submitted a BLA to the FDA for ATryn®, we will not have confirmation that our ATryn® trials are sufficient for approval in the United States. If we are unable to complete all clinical trials that may be required by the FDA, or the EMEA for expanded indications of ATryn®, or if any of our other transgenically produced proteins in development are not proved to be safe or effective to the satisfaction of regulatory authorities, it would have a material adverse effect on our business and operations.

Any transgenically produced products for which we obtain regulatory approval will be subject to continuing review and extensive regulatory requirements, which could affect their manufacture and marketing.

If and when the FDA or other foreign agencies approve any of our transgenically produced products under development, the manufacture and marketing of these products will be subject to continuing regulation and product approvals may be withdrawn if problems occur after initial approval. Post-approval regulation includes compliance with current Quality Systems Regulations and Good Manufacturing Practices, known as QSR/GMP, adverse event reporting requirements and prohibitions on promoting a product for unapproved uses. We will also be required to obtain additional approvals for any significant alterations in the product's labeling or manufacturing process. Enforcement actions resulting from failure to comply with QSR/GMP requirements could result in fines, suspensions of approvals, recalls of products, operating restrictions and criminal prosecutions, and affect the manufacture and marketing of our transgenically produced products. The FDA or other regulatory agencies could withdraw a previously approved product from the market upon receipt of newly discovered information, including a failure to comply with regulatory requirements and the occurrence of unanticipated problems with products following approval. Any of these withdrawals could adversely affect our operating results.

We have limited manufacturing capability and may be required to rely on third party contract manufacturers to purify and formulate our transgenically produced products.

We currently have the capability to purify pre-clinical and clinical trial quantities of our transgenically produced products up to and including Phase II trials. We also rely upon third party manufacturers to purify and formulate significant pre-clinical, clinical and commercial quantities of our transgenically produced products. We will depend on these third party manufacturers to perform their obligations in a timely manner and in accordance with applicable government regulations in order to conduct our clinical trials or commercialize any of our products. In addition, there are very few third party manufacturers that have sufficient production capacity to manufacture all of our products either for our clinical trials or on a commercial scale. Our third party manufacturers may encounter difficulties, including problems involving:

- inconsistent production yields;
- poor quality control and assurance or inadequate process controls;
- lack of compliance with FDA, EMEA and other regulations; and
- high production costs.

These contract manufacturers may not be able to manufacture our products at a cost or in quantities necessary to make them commercially viable. If we are unable to enter into agreements with additional manufacturers on commercially reasonable terms, or if there is poor performance on the part of our third party manufacturers, we may not be able to complete development of, or market, our transgenically produced products.

We have contracts with Cambrex Bio Science Hopkinton, recently acquired by Lonza Biologics, for large scale purification and with Medimmune (Holland) for fill/finish services of our lead product, ATryn®. Both contracts have a five-year, renewable term, which will expire in 2007 if not renewed. Although we have identified possible alternative suppliers with respect to these services for this product, interruptions in these services and the process of changing to an alternative manufacturer could have a material adverse effect on our timely ability to manufacture bulk delivery of ATryn® for delivery to our collaborators or to market distribution after regulatory approval.

Transgenically produced products may never become commercially successful.

Even if our transgenically produced products are successfully developed and approved by the FDA and foreign regulatory agencies, they may not enjoy commercial acceptance or success, which would adversely affect our business and results of operations. Several factors could limit our success, including:

- limited market acceptance among patients, physicians, medical centers and third party payors, including acceptance of products transgenically produced from animals;
- our inability to access a sales force capable of marketing the product, either through a third party contract sales force or by establishing our own internal sales force;
- our inability to supply a sufficient amount of product to meet market demand;
- the number and relative efficacy of competitive products that may subsequently enter the market; and
- for a transgenically produced product designed to replace or supplement currently marketed non-transgenically produced products, the relative risk-benefit profile and cost-effectiveness of the transgenically produced product.

In addition, it is possible that we or our collaborative partners will be unsuccessful in developing, marketing or implementing a commercialization strategy for any transgenically produced products.

Our business may fail due to intense competition in our industry.

The industry in which we operate is highly competitive and may become even more so. Some of our competitors have greater financial and human resources and more experience in research and development than we have. We will need to continue to devote substantial efforts and expense in research and development to maintain a competitive position for our transgenic production technology and potential product offerings. It is also possible that others will develop alternative technologies or products that will render our proposed products or technologies obsolete. We may encounter significant competition for our protein development and production capabilities from other companies. In addition, our potential transgenic production capabilities may face significant competition from biological products manufactured in cell culture or by other traditional protein production methods. Our business will also compete against other companies whose business is dedicated to offering transgenic production and with prospective customers or collaborators who decide to pursue such transgenic production internally. Competitors that complete clinical trials, obtain regulatory approvals and begin commercial sales of their products before us will enjoy a significant competitive advantage. We anticipate that we will face increased competition in the future as new companies enter the market and alternative technologies become available.

For ATryn®, a number of companies internationally produce and market antithrombin derived from human plasma. CSL Behring's product has a significant share of the worldwide market, but is not yet approved for sale in the U.S. Talecris, which purchased Bayer's plasma business, has a commercially available fractionated antithrombin product that is approved for sale in the U.S. Other companies, including Octapharma, CSL Behring, Grifols, Kedrion, Baxter International, LFB and BioProducts Laboratory supply the European market with plasma-derived antithrombin products, none of which have yet been approved throughout the European Union. Like antithrombin, the alpha-1 antitrypsin sold today is derived from human plasma. Talecris has a significant presence in the U.S. with an alpha-1 antitrypsin product called Prolastin® which is approved for chronic use in patients with a genetic deficiency of alpha-1 antitrypsin who are prone to pulmonary disorders such as emphysema.

There are a number of companies worldwide that sell human serum albumin derived from human plasma, including Talecris BioTherapeutics, CSL Behring and Baxter International. We are aware of two companies worldwide that are developing recombinant forms of human serum albumin derived from yeast cultures: Aventis, which is developing product at an excipient market and Mitsubishi Pharma Corporation, which has been active in developing its product on a commercial scale for use in Japan and other parts of Asia.

Novo Nordisk is the manufacturer of the only available rhFVIIa product, NovoSeven® which is approved for the treatment of hemophilia with inhibitors. The NovoSeven® patents expire in 2012. There are insignificant sales of various plasma-derived products such has pFVIII, PCC, and APCC that perform a similar function. To the extent that a market develops for transgenically produced therapeutic products generally, we may compete with other transgenic technology companies. Pharming and BioProtein Technologies are other companies known to us that are extensively engaged in the application of transgenic technology in mammals for the production of proteins for therapeutic use in humans. Pharming, based in the Netherlands, is primarily engaged in the development of recombinant proteins in the milk of transgenic cows and rabbits. Pharming reports that it has one product that has been submitted for review by the EMEA. Pharming has also submitted a request to the FDA to recognize their lactoferrin product as being safe for nutritional applications. BioProtein Technologies is a contract manufacturing organization specializing in the production of human therapeutic proteins and vaccines in the milk of transgenic rabbits also under a technology license agreement. There are also other companies seeking to develop transgenic technology in animals and in plants, which may be competitive with our technology with respect to our patents and proprietary rights as discussed further below. In addition, it is possible that research and discoveries by others could render our transgenic technology obsolete or noncompetitive as a method of production for protein-based therapeutic products.

We may face public concerns about genetic engineering in animals.

Our activities involve genetic engineering in animals. The success of our potential commercial products will depend in part on public acceptance of the use of genetic engineering. Public attitudes may be influenced by claims and perceptions that these types of activities are unsafe and our products may not gain the acceptance of the public or the medical community. Negative public reaction to genetic engineering activities in general could result in greater restrictive legislation and regulations involving nuclear transfer and other methodologies which could impede our ability to conduct our business efficiently, delay preclinical studies or future clinical trials, or prevent us or our partners from obtaining regulatory approvals or commercializing transgenically produced products.

We depend on patents and proprietary rights that may fail to protect our business.

Our success will partly depend on our ability to obtain and maintain patent or other proprietary protection for our technologies, products and processes such as:

- compositions of matter or processes;
- processes developed by our employees; or
- uses of compositions of matter discovered through our technology.

We may not be able to obtain the necessary proprietary protection. Our success will also depend on our ability to operate without infringing the proprietary rights of other parties. Legal standards relating to the validity of patents covering pharmaceutical and biotechnological inventions and the scope of claims made under these patents are still developing. There is no consistent policy regarding the breadth of claims allowed in biotechnology patents. The patent position of a biotechnology company is susceptible to uncertainty and involves complex legal and factual questions.

We hold 25 issued or allowed U.S. patents and 180 corresponding foreign patents. Our patents generally expire between 2013 and 2015, with the exception being the recent allowance in the United States of a patent which, after issuance would expire in 2021. This patent provides us with claim coverage for the production of therapeutic proteins in the mammary glands of transgenic mammals and is expected to issue by the middle of 2006. One in-licensed European patent, pertaining to transgenic animals secreting proteins in milk, expired in 2006. In accordance with ongoing research and development efforts, we have 56 pending U.S. patent applications and 184 corresponding foreign applications covering relevant and newly developed portions of our transgenic technology. Several of these pending applications are included in various cross-licensing or out-licensing arrangements with other companies that in turn provide access to their proprietary

technologies. Specifically we have cross-licensed our proprietary technology for the production of proteins in milk to Pharming. Other technologies for which we hold existing patents include: protein purification from the milk of transgenic animals, the production of monoclonal and assembled antibodies at commercial levels in the milk of transgenic mammals and the production of recombinant antithrombin in the milk of transgenic goats. We cannot be certain that we will receive issued patents based on pending or future applications. Our issued patents may not contain claims sufficiently broad to protect us against competitors with similar technology. Additionally, our patents, our partners' patents and patents for which we have license rights may be challenged, narrowed, invalidated or circumvented. Furthermore, rights granted under patents may not provide us with any competitive advantage.

We may have to initiate arbitration or litigation to enforce our patent and license rights. If our competitors file patent applications that claim technology also claimed by us, we may have to participate in interference or opposition proceedings to determine the priority of invention. An adverse outcome could subject us to significant liabilities to third parties and require us to cease using the technology or to license the disputed rights from third parties. We may not be able to obtain any required licenses on commercially acceptable terms or at all.

The cost to us of any litigation or proceeding relating to patent rights, even if resolved in our favor, could be substantial. Some of our competitors may be able to sustain the costs of complex patent litigation more effectively than we can because of their substantially greater resources. Uncertainties resulting from the initiation and continuation of any pending patent or related litigation could have a material adverse effect on our ability to compete in the marketplace. ACT announced in 2006 that the Board of Patent Appeals and Interferences of the U.S. Patent Office entered a judgment that invalidated the key nuclear transfer patent, (U.S. Patent No. 5,945,577), that we license from ACT in favor or a patent application of Geron Corporation. ACT appealed that decision in a proceeding in U.S. District Court. ACT reached a settlement agreement with Start Licensing, Inc. (a joint venture between Geron and Exeter Life Sciences, Inc.) that ended the appeal and confirmed the invalidity of the ACT patent. While we have also licensed nuclear transfer technology from Pharming, we do not know at this time what impact, the settlement involving ACT and Start may ultimately have on our ability to practice nuclear transfer for the production of animals expressing therapeutic proteins in their milk. However, our current techniques for performing nuclear transfer do not, in our opinion, infringe any existing patents. If necessary, however, it is our intention to enter into appropriate licensing arrangements with one or more third parties to assure our freedom to operate in the field of nuclear transfer. Our principal product, ATryn®, does not utilize this technology, nor do our rhFVIIa or AAT programs.

We rely on certain proprietary trade secrets and know-how that are not patentable. We have taken measures to protect our unpatented trade secrets and know-how, including having our employees, consultants and some contractors execute confidentiality agreements. These agreements could be breached. If so, it is possible that our remedies for a given breach might be inadequate. It is also possible that competitors emerge who could independently develop or discover our trade secrets or that the trade secrets could otherwise become known.

We may not be able to recover from any catastrophic event affecting our animals or facilities.

While we have measures in place to minimize and recover from catastrophic events that may substantially destroy our animal herd(s), these measures may not be adequate to recover our production processes quickly enough to support critical timelines, collaborator needs or market demands. These catastrophic events may include animal diseases that breach our biosecurity measures or weather events such as tornadoes, earthquakes or fires. In addition, these catastrophic events may render some or all of the products at the affected facilities unusable.

Successful commercialization of our products will depend on obtaining coverage and reimbursement for use of the products from third-party payors.

Sales of pharmaceutical products depend largely on the reimbursement of patients' medical expenses by government health care programs and private health insurers. It is possible that third party payors will not reimburse sales of our transgenically produced products. Reimbursement by third party payors depends on a number of factors, including the payor's determination that use of the product is safe and effective, not experimental or investigational, medically necessary, appropriate for the specific patient and cost-effective. Reimbursement in the United States or foreign countries may not be available or maintained for any of our products. If we do not obtain approvals for adequate third party reimbursements, we may not be able to establish or maintain price levels sufficient to realize an appropriate return on our or our partners' investment in product development. Any limits on reimbursement available from third party payors may reduce the demand for, or negatively affect the price of, our or our partners' products. Without the financial support of the government or third party insurers, the market for transgenically produced products will be limited.

The U.S. federal government and private insurers are continually working on ways to contain health care costs, particularly by limiting both coverage and the level of reimbursement for new therapeutic products. The government or private insurers may institute future price controls and other cost-containment measures on Medicare, Medicaid and other health care insurance spending. These controls and limits could affect the payments we collect from sales of our products. Internationally, medical reimbursement systems vary significantly, with some medical centers having fixed budgets, regardless of levels of patient treatment, and other countries requiring application for, and approval of, government or third party reimbursement. Even if we or our partners succeed in bringing transgenically produced products to market, uncertainties regarding future health care policy, legislation and regulation, as well as private market practices, could affect our ability to sell our products in commercially acceptable quantities at profitable prices.

Our ability to negotiate with potential marketing partners may be limited.

If we choose to commercialize ATryn® with an additional marketing partner outside of Asia, Genzyme Corporation has an exclusive first right of negotiation for commercialization rights. This right is triggered on an indication-by-indication basis at such time as we apply for marketing approval with a regulatory authority. This right does not apply if we have already entered into a collaboration or other agreement with a prospective research, development and marketing partner prior to such regulatory submission. For example, the right also does not apply to commercialization rights in Europe, Canada or the Middle East for any indication because those rights are subject to our licensing and supply agreement entered into with LEO Pharma in October 2005.

The manufacture and sale of our products may expose us to product liability claims for which we could have substantial liability.

We face an inherent risk of product liability exposure related to testing of our transgenically produced products in human clinical trials and will face even greater risks when we commercialize our products. An individual may bring a product liability claim against us if one of our products causes, or is claimed to have caused, an injury or is found to be unsuitable for consumer use, even if the product involved is granted regulatory authorization for commercial sale. We have obtained product liability coverage for the clinical trials to be conducted to support a filing for marketing approval of ATryn® with the FDA through our own policies. Product liability insurance for commercial sales of ATryn® has been established by LEO. It is possible that our insurance coverage will not be sufficient to cover any claim. Any product liability claim brought against us, with or without merit, could result in:

- liabilities that substantially exceed our product liability insurance, which we would then be required to pay from other sources, if available;

- an increase of our product liability insurance rates or the inability to maintain insurance coverage in the future on acceptable terms or at all;
- damage to our reputation and the reputation of our products, resulting in lower sales;
- regulatory investigations that could require costly recalls or product modifications; and
- the diversion of management's attention from managing our business.

We may be unable to attract and retain qualified managerial and scientific personnel which could adversely affect our business and operations.

We are highly dependent on the principal members of our scientific and management staff. Our success will depend in part on our ability to identify, attract and retain qualified managerial and scientific personnel. There is intense competition for qualified personnel in our industry. We may not be able to continue to attract and retain personnel with the advanced technical qualifications or managerial expertise necessary for the development of our business. If we fail to attract and retain key personnel, it could have a material adverse effect on our business, financial condition and results of operations. We have employment agreements with our executive officers, but these agreements do not guarantee that they will remain employed with us in the future. If we lose an executive officer, or a significant number of our staff, or are unable to hire and retain qualified personnel, then our ability to develop and commercialize our products and processes may be delayed or impaired. We do not carry key personnel insurance.

If we fail to maintain an effective system of internal controls, we may not be able to accurately report our financial results or prevent fraud. As a result, investors may lose confidence in our financial reporting.

The Sarbanes-Oxley Act of 2002 requires that we report annually on the effectiveness of our internal controls over financial reporting. Among other things, we must perform systems and process evaluation and testing. We must also conduct an assessment of our internal controls to allow management to report on, and our independent registered public accounting firm to audit, our assessment of our internal controls over financial reporting, as required by Section 404 of the Sarbanes-Oxley Act. These requirements were effective for the first time for 2004. In connection with our Section 404 compliance efforts, we have incurred or expended, and expect to continue to incur or expend, substantial accounting and other expenses and significant management time and resources. Any subsequent assessment by us or our independent registered public accounting firm may reveal significant deficiencies or material weaknesses in our internal controls, which may need to be disclosed in subsequent periodic reports filed with the Securities and Exchange Commission, or SEC and could result in a restatement of previously issued financial information. Disclosures of this type could cause investors to lose confidence in our financial reporting and may negatively affect the price of our common stock. Moreover, effective internal controls are necessary to produce reliable financial reports and to prevent fraud. If we have deficiencies in our internal controls over financial reporting, these deficiencies may negatively impact our business and operations.

RISKS RELATED TO OUR COMMON STOCK

We have obligations to issue shares of common stock in the future that will dilute your ownership interest and may adversely affect our stock price.

Sales of substantial amounts of our common stock in the public market, or the perception that such sales may occur, could adversely affect our common stock's market price. As of December 31, 2006, there were 88.2 million shares of our common stock outstanding. In January 2007, we issued an additional 3.6 million shares of common stock pursuant to our purchase agreement with LFB. As of December 31, 2006, options to purchase an aggregate of 4.9 million shares of common stock at varying exercise prices were outstanding; of this total, options to purchase 3.8 million shares were immediately exercisable and these shares could be immediately resold into the public market. As of December 31, 2006, Genzyme held 4,924,919 shares of our

common stock which could be sold into the public markets under Rule 144 of the Securities Act. Genzyme is also entitled to registration rights with respect to some of these shares. An additional 373,324 shares of our common stock, issuable to Genzyme upon exercise of outstanding warrants, are also entitled to registration rights, which could expedite the resale of such shares into the public market.

We also have outstanding warrants to purchase an aggregate of 14.6 million shares of our common stock at exercise prices ranging from $1.41 to $8.75 per share, which were issued to investors in various prior financings.

The warrants to purchase an aggregate of 1,828,573 of these shares of our common stock, which we issued in our August 2005 private placement had an initial exercise price of $2.68 per share. The exercise price of these warrants is subject to adjustment upon the occurrence of a dilutive issuance, that is, an issuance of any shares of our common stock or common stock equivalents at an exercise price lower than the then-effective exercise price per share. Upon a dilutive issuance the exercise price of the unexercised portion of these warrants shall be reduced by multiplying the then-effective exercise price by a fraction, the numerator of which is the number of shares of common stock outstanding immediately prior to the dilutive issuance plus the number of shares of common stock which the aggregate consideration received or deemed to be received by the company in connection with the dilutive issuance would purchase at the exercise price, and the denominator of which is the number of shares of common stock and common stock equivalents issued and outstanding immediately following such dilutive issuance. As adjusted for all dilutive issuances through January 2007, the exercise price of the August 2005 warrants has been reduced to approximately $2.06 per share.

We have 14,615 shares of Series D convertible preferred stock outstanding as of December 31, 2006, which are convertible into a total of 14,615,000 shares of common stock at the option of the preferred stock holder any time.

We have a convertible note in the amount of $2.6 million dollars to LFB, which automatically converts into shares of our common stock in conjunction with any future common stock offerings at the per share offering price of the respective offering but only to the extent that any conversion does not result in LFB's holdings exceeding 19.9% of our common stock on an as-converted basis. Based on a per share offering price of $0.97, the closing sale price of our common stock, as reported on the NASDAQ Global Market on March 1, 2007, the note would be convertible into 2.6 million shares of common stock.

Our capital raising efforts may dilute shareholder interests.

If we raise additional capital by issuing equity securities, the issuance will result in a reduction of the percentage of ownership for our existing shareholders, a result commonly referred to as dilution. The extent of such dilution will vary based upon the amount of capital raised.

Our common stock may continue to have a volatile public trading price.

Historically, the market price of our common stock has been highly volatile and the market for our common stock has experienced significant price and volume fluctuations, some of which are unrelated to our company's operating performance. Since January 1, 2001, the trading price of our stock has fluctuated from a high of $15.50 to a low of $0.61. It is likely that the market price of our common stock will continue to fluctuate in the future. Factors which may have a significant adverse effect on our common stock's market price include:

- actual or potential clinical or regulatory events relating to our products or compounds under development;
- other regulatory developments in Europe or the United States;
- announcements by us or our competitors of technological innovations or new commercial products;

- an unexpected termination of one of our partnerships;
- developments concerning our proprietary rights, including patent and litigation matters;
- general market conditions; and
- quarterly fluctuations in our cash position, revenues and other financial results.

The average daily trading volume of our common stock for the twelve-month period ending December 31, 2006 was approximately 739,102 shares.

Our common stock is at risk for delisting from the Nasdaq Global Market.

Our common stock is currently listed on the Nasdaq Global Market. Nasdaq has requirements that a company must meet in order to remain listed on the Nasdaq Global Market. These requirements include maintaining a minimum closing bid price of $1.00 per share. We currently meet all of the minimum continued listing requirements for the Nasdaq Global Market, but the closing bid price for our common stock has been below $1.00 per share for periods of time. If the closing bid price of our common stock is less than $1.00 per share for 30 consecutive business days, we would become subject to delisting procedures.

If we fail to meet the continued listing requirements of the Nasdaq Global Market and our common stock is delisted, trading in our common stock, if any, could be conducted on the OTC Bulletin Board as long as we continue to file reports required by the Securities and Exchange Commission. The OTC Bulletin Board is generally considered to be a less efficient market than the Nasdaq Global Market, and our stock price, as well as the liquidity of our common stock, would be adversely affected as a result. Delisting would also negatively impact our ability to sell our common stock and secure additional financing.

Anti-takeover provisions in our charter and by-laws and Massachusetts law may result in management entrenchment and adversely affect our stock price.

Anti-takeover provisions in our charter, our by-laws and Massachusetts statutes could delay or make more difficult a merger, tender offer or proxy contest involving us. These provisions may delay or prevent a change of control without action by the shareholders, and may resist important changes shareholders seek to make if they are dissatisfied with the conduct of our management. Therefore, these provisions could result in the entrenchment of our management and adversely affect the price of our common stock.

Our charter grants authority to the board of directors to issue series of preferred stock with certain rights and privileges, including voting rights, as it deems appropriate. This authority may enable our board of directors to deter or delay a change in control despite a shift in stock ownership, as a result of an increase in the number of shares needed to gain voting control. This may have the effect of discouraging tender offers and proxy contests, and give management the power to reject certain transactions which might be desired by shareholders. This provision could also be deemed to benefit incumbent management to the extent it deters offers by persons who would wish to make changes in management or exercise control over management.

In addition, our by-laws may have the effect of preventing changes in our management because shareholders are required to give us written notice of any proposal or director nomination within a specified period of time before the annual meeting of shareholders, certain qualifications for a person to be elected to the board of directors must be established, and shareholders are prohibited from calling a special meeting of shareholders, unless the shareholder owns 90% of our outstanding voting stock.

Our shareholder rights plan is another anti-takeover device. It involves a distribution to our shareholders of certain rights to acquire shares of our capital stock in the event of an acquisition of a predetermined number of shares by an investor. The shareholder rights plan is designed to deter coercive takeover tactics and to encourage a party interested in acquiring the corporation to negotiate with the board of directors.

Certain Massachusetts corporate statutes provide anti-takeover protections. Our charter gives effect to a provision of Massachusetts law that places directors of publicly-held Massachusetts corporations into three classes of nearly equal sizes with staggered terms, thereby permitting only one-third of the board of

directors to be elected at once. In addition, with certain exceptions, Massachusetts law prohibits a publicly-held Massachusetts corporation from engaging in a business combination transaction with an "interested stockholder" for a period of three years. An "interested stockholder" is a person who owns 5% or more of the outstanding voting stock of the corporation. Finally, our by-laws include a provision excluding us from the applicability of a Massachusetts statute that denies voting rights to any person acquiring 20% or more of the outstanding voting stock of a corporation, unless such voting rights are approved by a majority of the corporation's disinterested shareholders. Our by-laws may be amended at any time to subject us to this statute prospectively.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

All of our facilities are located in Massachusetts. We lease approximately 32,356 square feet of office and laboratory space which expires in September 2010. In February 2007, we signed a lease amendment to lease an additional 8,188 square fee of office space which also expires in September 2010.

We own a 383-acre facility in central Massachusetts. This facility contains 106,793 square feet of production, laboratory and administrative space and currently houses more than 1,500 goats. We believe that our owned and leased facilities are adequate for significant further development of commercial transgenic products. In March 2005, we completed the sale of 135 acres of farm land located in eastern New York State.

ITEM 3. LEGAL PROCEEDINGS

On November 13, 2001, two employees of one of our former subsidiaries filed an action against us in the Court of Common Pleas for Philadelphia County in Pennsylvania seeking damages, declaratory relief and certification of a class action relating primarily to their GTC stock options. The claims arose as a result of our sale of Primedica Corporation to Charles River Laboratories International, Inc. in February 2001, which we believe resulted in the termination of Primedica employees' status as employees of GTC or its affiliates and the termination of their stock options. The plaintiffs contended that the sale of Primedica to Charles River did not constitute a termination of their employment with GTC or its affiliates for purposes of our equity incentive plan and, therefore, that we breached our contractual obligations to them and other Primedica employees who had not exercised their stock options. The complaint demands damages in excess of $5 million, plus interest. The Court certified the case as a class action, with the class including employees of Primedica who, at the time GTC sold it, had GTC options that had not been exercised. On February 15, 2007, the parties agreed to settle these claims under terms which provide that our insurer will pay $175,000 in cash and we will deliver $225,000 of our Common Stock. The number of shares of Common Stock to be issued in the settlement will be determined based on the per share market value of the Common Stock on the date of issue after the Court concludes a fairness hearing regarding the settlement, which is expected to occur in April 2007.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

On December 5, 2006, we held a special meeting of shareholders. The results of the voting on the proposals submitted at the meeting to our shareholders were filed in our Current Report on Form 8-K filed on December 20, 2006 and incorporated herein by reference.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

Our Common Stock commenced trading on the NASDAQ National Market System in 1993. The stock's ticker symbol was changed to GTCB on June 3, 2002, in conjunction with changing our name to GTC Biotherapeutics, Inc. Quarterly high and low sales prices for the Common Stock as reported by the NASDAQ Global Market (which was named the NASDAQ National Market prior to July 1, 2006) are shown below:

	High	Low
2005:		
1st Quarter (ended April 3)	$ 1.96	$ 0.91
2nd Quarter (ended July 3)	1.84	0.85
3rd Quarter (ended October 2)	2.39	0.99
4th Quarter (ended January 1)	2.04	1.16
2006:		
1st Quarter (ended April 2)	$ 2.41	$ 0.93
2nd Quarter (ended July 2)	1.96	0.87
3rd Quarter (ended October 1)	1.57	1.16
4th Quarter (ended December 31)	1.36	1.01

On March 1, 2007, the closing price of our Common Stock was $0.97 per share as reported on the NASDAQ Global Market.

As of March 1, 2007, we had approximately 917 shareholders of record.

We have never paid a cash dividend on our Common Stock and do not expect to do so for the foreseeable future.

ITEM 6. SELECTED FINANCIAL DATA

The selected financial data set forth below as of December 31, 2006 and January 1, 2006 and for each of the three fiscal years in the period ended December 31, 2006 are derived from our consolidated financial statements included elsewhere in this Report, which have been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm. The selected financial data set forth below as of January 2, 2005, December 28, 2003 and December 29, 2002, and for the years ended December 28, 2003 and December 29, 2002 are derived from audited consolidated financial statements not included in this Report.

This data should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" under Item 7 of this Report and our consolidated financial statements and related notes thereto under Item 8 of this Report.

SELECTED FINANCIAL DATA

(Dollars in thousands except per share data)

	December 31, 2006	January 1, 2006	January 2, 2005	December 28, 2003	December 29, 2002
Statement of Operations Data:					
Revenues:					
Revenue	$ 6,128	$ 4,152	$ 6,572	$ 9,640	$ 10,379
Revenue from related party	—	—	54	124	—
	6,128	4,152	6,626	9,764	10,379
Costs of revenue and operating expenses:					
Cost of revenue	6,651	4,344	6,107	11,116	13,100
Research and development	25,401	21,145	20,002	18,277	11,869
Selling, general and administrative	9,723	8,428	9,710	10,688	11,319
	41,775	33,917	35,819	40,081	36,288
Operating loss from continuing operations	(35,647)	(29,765)	(29,193)	(30,317)	(25,909)
Other income and (expenses):					
Interest income	1,237	547	312	1,103	2,028
Interest expense	(1,001)	(1,140)	(951)	(508)	(439)
Other income	66	246	339	185	—
Net loss	(35,345)	(30,112)	(29,493)	(29,537)	(24,320)
Net loss per common share (basic and diluted)	$ (0.53)	$ (0.62)	$ (0.79)	$ (1.00)	$ (0.86)
Weighted average number of shares outstanding (basic and diluted)	66,860,345	48,658,143	37,360,758	29,562,152	28,353,490

	December 31, 2006	January 1, 2006	January 2, 2005	December 28, 2003	December 29, 2002
Balance Sheet Data:					
Cash, cash equivalents and marketable securities	$ 43,385	$ 36,169	$ 22,281	$ 31,091	$ 57,349
Working capital	29,382	18,601	10,639	23,967	47,682
Total assets	73,235	66,719	57,301	71,072	95,373
Long-term liabilities	16,443	9,688	9,336	12,582	12,823
Shareholders' equity	37,956	36,709	33,653	48,161	68,772

There were no cash dividends paid to common shareholders for any period presented.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Overview

We are a leader in the development and production of human therapeutic proteins through transgenic technology. Applying our transgenic production technology, we insert human protein-specific DNA into the genetic structure of an animal to enable it to produce what is known as a recombinant form of the corresponding human protein in the animal's milk. We then purify the protein from the milk to obtain the therapeutic product, which is typically administered by injection. Our transgenic technology is protected by our leading patent position, which includes a U.S. patent, issued in 2006 and expiring in 2021, that covers the production of therapeutic proteins in the milk of transgenic mammals.

In August 2006, we obtained the first regulatory approval of a transgenically produced therapeutic protein anywhere in the world when the European Commission approved the use of ATryn®, our recombinant form of human antithrombin, as a prophylactic treatment of patients with hereditary antithrombin deficiency, or HD, undergoing surgical procedures. Based on the expected results of our currently ongoing pivotal trial, we are planning to file for a Biologics License Application, or BLA, seeking approval of the U.S. Food and Drug Administration, or FDA, to begin marketing ATryn® for a similar indication in HD patients, undergoing surgery or delivery.

Building upon the ATryn® approval in Europe, we are focusing our pipeline of proprietary programs on recombinant plasma proteins and monoclonal antibodies for use in hematology, including replacement therapies for genetic disorders, oncology and autoimmune diseases. In doing so, we focus on those potential therapeutic proteins that are difficult to express using traditional recombinant production methods, such as cell culture or bacteria production, or on those product candidates where production of commercial volumes using those methods requires significant capital investment for adequate production capacity, or where the cost of goods is a critical issue. Human plasma proteins that are used for therapeutics may have one or more of these characteristics. With the potential to produce large quantities of therapeutic proteins at a lower cost than using other methods, our production technology enables the pursuit of clinical indications requiring large amounts of the therapeutic protein and offers the opportunity to create markets significantly greater than those supported today by traditional recombinant produced and plasma-derived proteins.

In November 2005, we entered into an exclusive collaboration agreement with LEO Pharma, or LEO, of Denmark to develop and market ATryn® for markets in LEO's territories of Europe, the Middle East, and Canada. In September 2006, we entered into a collaboration agreement with LFB Biotechnologies, or LFB, of France to develop selected recombinant plasma proteins and monoclonal antibodies using our transgenic production platform. The first program in this collaboration is for the development of a recombinant form of human factor VIIa.

We have also used our transgenic technology in external programs to produce therapeutic products for our partners. For our external programs, we enter into licensing and development agreements with partners to use our transgenic technology to develop, produce and purify recombinant forms of therapeutic proteins. Historically, we operated on a service contract basis, generally receiving fees for the development of the production platform and production and purification of the proteins. We currently have one active external program other than the LEO collaboration, which is with Merrimack Pharmaceuticals. Most of our fiscal 2006 revenues were derived from our external programs.

We have operated at a net loss since our inception in 1993 and we used $24.6 million of cash in operating cash flows in 2006. We are entirely dependent upon funding from equity financings, partnering programs and proceeds from short and long-term debt to finance our operations until we achieve commercial success in selling and licensing our products and positive cash flow from operations.

Our key value drivers include the following:

ATryn®

Our lead product is a recombinant form of human antithrombin known as ATryn®, which has been approved for marketing in the EU by the European Commission for use in patients with HD who are undergoing surgical procedures. For the U.S., we have begun an additional clinical study in the HD indication under an amended IND application with the FDA. The results of this study will be compared with data collected from patients who have been treated previously with plasma-sourced antithrombin. We believe that the results from this additional clinical study, together with the clinical trial data submitted in support of our successful application for marketing authorization, or MAA, in Europe will provide the basis for a BLA submission to the FDA. Recruitment has been slower than previously planned in this rare patient population, however we anticipate filing our BLA around the end of 2007. We believe that ATryn® presents a significant commercial opportunity if it can be expanded into additional indications that result from acquired deficiencies.

Our agreement with LEO includes up to $73 million in potential milestone payments from LEO to us for meeting regulatory, clinical and sales goals. These payments include a total of $5 million in non-refundable payments that we received upon entering the collaboration agreement and for achieving approval of ATryn® for the HD indication in Europe. These milestone revenues are being recognized over the life of the agreement on a straight-line basis beginning with the first delivery of ATryn® material to LEO, which occurred in the fourth quarter of 2006. In December 2005, we also received a payment of $1.4 million as an advance for the future sale to LEO of clinical material that LEO has committed to purchase. The revenue related to the $1.4 million payment was recognized upon delivery of the material in the fourth quarter of 2006. As of December 31, 2006, $4.9 million of the total amount received from LEO was accounted for as deferred revenue.

In our collaboration with LEO we will continue to be responsible for the production of ATryn®. LEO will pay for all product used in clinical studies as well as for commercial sale. For product sold for approved therapeutic use, LEO will pay us a royalty on all commercial sales, as well as a transfer price that we believe will provide us a margin on our cost of production once we achieve full commercial scale. We will be paid by LEO for clinical material based on our fully burdened costs subject to a maximum price per unit. Although our current cost of production exceeds our agreed upon maximum price for clinical material, we anticipate that the price for future clinical supply as well as the commercial transfer price will exceed our costs of production once we reach higher production levels. LEO has exclusive rights for sales and marketing of ATryn® in all indications in LEO's territories as well as responsibility for the initiation of the price reimbursement process. Sales of ATryn® for the HD indication will begin on a country-by-country basis as prices are finalized in each country. We will retain all rights to ATryn® in all other territories, including the United States and Japan.

LFB Collaboration Agreement and rhFVIIa

As mentioned above, in September 2006, we entered into a collaboration agreement with LFB to develop selected recombinant plasma proteins and monoclonal antibodies using our transgenic production platform. The first program in this collaboration is for the development of recombinant Factor VIIa, or rhFVIIa. Under this agreement, we and LFB will share equally in the cost of the development and commercialization of each product and will be entitled to 50% of any profits derived from products developed through the collaboration provided we each contribute equally to their development. In the event that contributions to development are not equal, the profit allocation will be adjusted based on development costs incurred. Under the agreement, a joint steering committee of our and LFB's representatives will determine product development and commercialization plans. Our activities under this program in 2007 will be primarily focused on development of the production and purification system. We anticipate that the product will enter clinical studies in approximately two years to evaluate its use in treating hemophiliacs that have developed inhibitors to factors VIII or IX.

LFB Stock and Note Purchase Agreement

In connection with the collaboration agreement, LFB was committed to purchase an aggregate of $25 million of shares of convertible preferred stock, shares of common stock and a subordinated convertible note. Each preferred stock is convertible into 1,000 shares of common stock at the option of the preferred stock holder any time subsequent to the issuance. The purchase price of the shares of preferred stock was $1.23 per common share equivalent, which was the market value of our common stock on the date of the agreement. In the fourth quarter of 2006, we sold 14,615 shares of our Series D preferred stock representing 14.6 million common share equivalents to LFB for an aggregate purchase price of approximately $18 million. Also during the fourth quarter of 2006, we entered into a five year convertible note with LFB in the amount of $2.6 million. The convertible note has a term of five years, will accrue interest at a rate of 2% per annum and will automatically convert into shares of our common stock in conjunction with any future common stock offerings at the per share offering price of the respective offering, but only to the extent that any conversion does not result in LFB's holdings exceeding 19.9% of our common stock on an as-converted basis.

On January 3, 2007, we sold LFB 3.6 million shares of common stock at a price of $1.23 per share, for an aggregate purchase price of approximately $4.46 million.

rhAAT

We have begun development of a recombinant form of human alpha-1 antitrypsin, or rhAAT, which, like antithrombin, is a product that is currently sourced from fractionated human plasma. We believe that our rhAAT can provide a highly pure and unconstrained supply to the market.

We have developed goats that produce rhAAT in significant quantities. We have also developed a bench scale purification process and are in the process of defining the clinical and regulatory program for this product. The level and speed of development of this product will be dependent upon our financial resources and partnering opportunities. Under our agreement with LFB, they have been granted a right of first negotiation to partner with us for the development of rhAAT.

CD137 Antibody

We have developed animals that produce an antibody to CD137, also know as 4-1BB receptor, which is present on T-cells of the human immune system as well as some cancer cells. Our CD137 antibody may have therapeutic value primarily through the modulation of the immune system. As a result, we believe it has potential for use in multiple clinical applications including cancer and autoimmune diseases. We anticipate that the potential quantities of our CD137 antibody required for future treatment could be very large. We believe that the increase in production capacity necessary to merit this anticipated demand for a CD137 antibody can be achieved more economically by using our transgenic production technology rather than traditional cell culture and bacteria production methods.

We have obtained our patent rights to CD137 antibody from the Mayo Clinic. These rights extend to any patents issued under its patent application. We have exercised our option for an exclusive license to these patents. The level and speed of development of a CD173 antibody will be dependent upon our financial resources and our ability to partner this program. This program is currently funded by an SBIR grant. Our goal over the next two years is to define the preclinical program to support the initiation of clinical studies and to seek a partner.

External Program Portfolio

We believe the advantages to external partners of using our transgenic production technology include enabling the development of proteins that are difficult to produce in traditional recombinant production systems, requiring significantly lower capital investment, assuring lower cost of goods, and providing for flexibility in capacity expansion. To date we have typically developed a transgenically produced version of an external partner's protein on a service contract basis. We are in the process of transitioning that model

into a portfolio of programs where we obtain benefits beyond the margin of a service contract, such as fees for successful downstream partnering with third parties, royalties, or some other relationship with the partner beyond fees or milestones collected for development of the production platform.

The following table summarizes our significant external program revenues as a percent of total revenue in the last three years:

	2006	2005	2004
Merrimack	54%	29%	26%
Centocor	1%	7%	20%
Elan (Tysabri® - formerly Antegren®)	—	35%	27%

In 2005 and 2004, the Merrimack revenue was a result of the processing of rhAFP for clinical studies while the revenue in 2006 was related to the breeding and material production under the next phase of the Merrimack agreement which was signed in late 2005.

During 2005, the revenue derived from the Centocor program was a result of work related to breeding, semen collection and animal maintenance. During 2004, the revenue derived from the Centocor program was a result of work related to material processing. The program with Centocor was concluded in the fourth quarter of 2005.

We successfully completed our transgenic development work in December 2004 on the Elan program. Under a new agreement with Elan in 2005, the program was scaled down and then concluded in the third quarter of 2005.

Critical Accounting Policies and Estimates

The preparation of consolidated financial statements requires that we make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. Our critical accounting policies are summarized in Note 2 in the Notes to Consolidated Financial Statements included in Item 8 of this Report. On an on-going basis, we evaluate our estimates, including those related to revenue recognition, investments, intangible and long-lived assets, income taxes, accrued expenses, financing operations, and contingencies and litigation. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Our actual results may differ from these estimates under different assumptions or conditions.

We believe that our application of the following accounting policies involve the most significant judgments and estimates used in the preparation of our consolidated financial statements.

Revenue Recognition

We enter into licensing and development agreements with collaborative partners for the development, production and purification of our internally developed recombinant protein candidates or for a transgenically produced version of the partner's therapeutic recombinant proteins. The terms of the agreements typically include non-refundable license fees, funding of research and development, payments based upon the achievement of certain milestones and royalties on future product sales, if any. More recently, we have entered into a manufacturing services agreement with Merrimack Pharmaceuticals for the production of therapeutic recombinant proteins produced in the milk of transgenic animals. The terms of the agreement include payments for maintenance services, manufacturing suite time and the cost to scale up the production herd. In addition, we have entered into a license and supply agreement with LEO for the production of ATryn®. The terms of the supply agreement with LEO include non-refundable license fees, transfer price for product delivered, royalties on future net sales and potential milestone payments to us for meeting regulatory, clinical and sales goals.

We recognize revenue in accordance with Staff Accounting Bulletin No. 101, "Revenue Recognition in Financial Statements" (SAB No. 101), as amended by Staff Accounting Bulletin No. 104, "Revenue Recognition" (SAB No. 104), and Emerging Issues Task Force Issue No. 00-21, "Revenue Agreements with Multiple Deliverables" (EITF No. 00-21).

Revenues from the sale of products and services are recognized when persuasive evidence of an agreement exists, delivery has occurred or services have been rendered, the fees are fixed and determinable, and collectibility is reasonably assured. Revenues from royalties on third-party sales of licensed technologies are generally recognized in accordance with the contract terms when the royalties can be reliably determined and collectibility is reasonably assured.

We assess multiple element revenue arrangements involving upfront payments, license fees, manufacturing services and milestone payments received for the delivery of rights or services. The following criteria must be met for an element to represent a separate unit of accounting:

a) The delivered items have value to a customer on a standalone basis;

b) There is objective and reliable evidence of the fair value of the undelivered items; and

c) Delivery or performance is probable and within our control for any delivered items that have a right of return.

If these criteria are met, we apply the appropriate revenue recognition model as described above to each separate unit of accounting. If these criteria are not met, elements are combined into a single unit of accounting and revenue is not recognized until we have verifiable objective evidence of the undelivered element. Upfront payments and license fees are recognized ratably over the lesser of the contractual term or expected relationship period. Payments for the achievement of substantive milestones are recognized when the milestone is achieved. Payments for milestones which are not the result of the achievement of a substantive milestone, are recognized ratably over the lesser of the remaining contractual term or expected relationship period.

Revenue is also recognized in accordance with SAB 101 FAQ 13 (EITF 91-6). Under that model, revenue is recognized using the lesser of non-refundable cash received and milestones met or the result achieved using level-of-efforts accounting. The estimated costs to complete each program are based on the contract terms, detailed program plans, including cost projections, and each program under review. All revenue recognition estimates are made based upon the current facts and circumstances and are reassessed on at least a quarterly basis. There are a number of factors which could cause the need for a revision to these estimates which in turn may have the effect of increasing or decreasing revenue in the current period as they become known. These factors include unforeseen additional costs, delay in a program, efficiencies or decisions at the partner's discretion.

Deferred revenue arises from payments received in advance of the culmination of the earnings process. Deferred revenue expected to be recognized within the next twelve months is classified as a current liability. Deferred revenue will be recognized as revenue in future periods when the applicable revenue recognition criteria have been met.

Inventory

All of the inventory on hand at December 31, 2006 and for the prior fiscal year ended January 1, 2006, relates to ATryn®, which we capitalized after completion of the clinical trials in anticipation of marketing approval for commercial sale in Europe. We expect that all of the capitalized inventory will be sold to LEO for clinical trials and commercial sale. If at any time we believe that the sale of inventory to LEO is no longer probable, we will charge the inventory to expense. We analyze our inventory levels and estimate demand for commercial sale and clinical trials on a quarterly basis. The assessment of the expected use of the inventory is highly judgmental and is based on our best estimate for demand related to both commercial sale and clinical trial usage. We also review the appropriate carrying value of the inventory based on the estimated selling price of the material taking into account inventory obsolescence and inventory expiration dates. We

project our current cost of production to exceed the agreed upon maximum transfer price for clinical studies and we will expense all costs above the agreed upon maximum transfer price. We are currently working to refine and scale up our manufacturing processes which should result in lower production costs.

Validation Costs

The costs that we have capitalized to date are those costs that are related to seeking FDA or EMEA approval of the manufacturing equipment to be used for the bulk production of ATryn®, which are being depreciated over the expected useful life of the facility. They include the costs of employees and third parties directly involved in the approval process, direct material consumed in the validation process and incremental fixed overhead. Costs that are excluded from capitalization include maintenance costs, process development/ improvement and fixed overhead. As of December 31, 2006, January 1, 2006 and January 2, 2005, we had approximately $2.1 million, $2.4 million, and $2.9 million, respectively, of capitalized validation costs, net of accumulated amortization, included in property, plant and equipment. The capitalized validation costs are being depreciated over five years.

Valuation of Intangible and Long Lived Assets

Management's policy regarding long-lived assets is to evaluate the recoverability of our assets when the facts and circumstances suggest that these assets may be impaired. This analysis relies on a number of factors, including operating results, business plans, budgets, economic projections and changes in management's strategic direction or market emphasis. The test of such recoverability is a comparison of the asset value to its expected cumulative undiscounted net operating cash flow over the remaining life of the asset. If an impairment exists it is measured by the excess of the carrying value over the discounted cash flows. Any write-downs are to be treated as permanent reductions in the carrying amount of the assets.

Share-Based Compensation

Effective January 2, 2006, we adopted SFAS 123(R) Share-Based Payment (or SFAF 123(R)) which requires companies to measure and recognize compensation expense for all share-based payments at fair value. SFAS 123(R) is being applied on the modified prospective basis. Prior to the adoption of SFAS 123(R), we accounted for our share-based compensation plans under the recognition and measurement principles of Accounting Principles Board, or APB, Opinion 25, Accounting for Stock Issued to Employees, and related interpretations. We did not recognize compensation expense related to the share-based plans because the options were granted with an exercise price equal to the fair market value on the date of the grant.

Under the modified prospective approach, SFAS 123(R) applies to new awards and to awards that were outstanding on January 2, 2006. Under the modified prospective approach, compensation expense recognized during fiscal 2006 includes compensation expense for all share-based payments granted prior to, but not yet vested on, January 2, 2006, based on the grant-date fair value estimated in accordance with the provisions of SFAS 123(R), and compensation expense for all share-based payments granted subsequent to January 2, 2006, based on the grant-date fair value estimated in accordance with the provisions of SFAS 123(R). Prior periods were not restated to reflect the impact of adopting the new standard.

Changes in the inputs and assumptions can materially affect the measure of the estimated fair value of our employee equity awards. Also, the accounting estimate of share-based compensation expense is reasonably likely to change from period to period as further equity awards are granted and adjustments are made for equity award forfeitures and cancellations.

Included within the statements of operations for the year ended December 31, 2006 are the following charges for share-based compensation:

	(dollars in thousands) December 31, 2006
Research and development expense	$ 312
Selling, general and administrative expense	254
Total share-based compensation	$ 566

Results of Operations

The key components to our losses are costs of revenue, research and development expenses, and selling, general and administrative expenses.

2006 as Compared to 2005

	($ in thousands)			
	2006	2005	$ Change	% Change
Revenue	$ 6,128	$ 4,152	$ 1,976	48%
Cost of revenue	$ 6,651	$ 4,344	$ 2,307	53%
Research and development	$ 25,401	$ 21,145	$ 4,256	20%
Selling, general and administrative	$ 9,723	$ 8,428	$ 1,295	15%

Revenue. During 2006, $4 million of our revenues were derived from external programs, primarily with Merrimack, as a result of the timing of milestones met on the program during 2006 and $2 million of our revenues were derived from LEO. During 2005, $3.7 million of our revenues were derived from external programs, primarily with Merrimack and Elan, and $489,000 in revenues were derived from proprietary programs, specifically, $237,000 from the CD137 program and $252,000 from the malaria program. The Tysabri program with Elan was completed in early 2005 and the NIAID ended its funding of the malaria program in August 2005 due to budgetary constraints. The program with Centocor was concluded in the fourth quarter of 2005. We expect revenues to continue to vary on a year-to-year basis. Deferred contract revenue, which is not included in the statement of operations but is reflected on the balance sheet, increased by $3.7 million in 2006. As of December 31, 2006, we had approximately $9.3 million in deferred revenue on our balance sheet, including $4.9 million from LEO and $3.3 million from Merrimack due to cash received for which revenue had not yet been recognized pursuant to our revenue recognition policy. The deferred revenue will be recognized in future periods over the terms of the agreements.

Cost of revenue. The increase in cost of revenue is primarily the result of the costs associated with our external programs as well as approximately $1.4 million of costs of manufacturing product on our internal program with LEO. The increase was partially offset by the completion of the Tysabri program with Elan in early 2005 and the completion of the Centocor program in the fourth quarter of 2005. The level of expenses on our external programs will fluctuate from period to period depending upon the stage of development of individual programs and their progress.

Research and development expense. The 2006 research and development expense included $20.3 million related to the ATryn® program, an increase of $7.7 million over the $12.6 million in 2005. The increase was primarily due to the expense of ATryn manufacturing costs which include manufacturing costs of clinical material in excess or the maximum selling price to LEO as well as process development and validation costs for scale up of the ATryn® manufacturing process. Details of expenses for the respective years are as follows:

	(dollars in millions)	
	2006	2005
ATryn manufacturing expenses	$ 11.6	$ 3.9
EMEA regulatory process expenses	3.4	6.0
U.S. clinical trial expenses	3.8	2.2
Write down of prior year inventory	1.3	0.5
Other	0.2	—
Total	$ 20.3	$ 12.6

The increase in ATryn® related expenses during 2006 was partially offset by a decrease in spending of approximately $1.4 million on the CD137 development program during 2006 as well as a net decrease in other research and development programs as a result of the reallocation of resources to the ATryn® program. Research and development expenses in 2006 also includes a charge of $497,000 for the write off of the Advanced Cell Technology, Inc., or ACT, intangible asset (see Note 6 to the Notes to Consolidated Financial Statements included in Item 8 of this Report).

Selling, General and Administrative Expense. The increase in SG&A expenses was primarily a result of increased legal costs related to patents and partnering transactions of approximately $900,000 as well as approximately $225,000 related to the proposed settlement of the legal proceeding (see Note 5 to the Notes to Consolidated Financial Statements included in Item 8 of this Report), increased public company costs related to an increase in authorized shares of approximately $100,000, and expenses related to the implementation of SFAS 123(R) of approximately $250,000.

2005 as Compared to 2004

	($ in thousands)			
	2005	2004	$ Change	% Change
Revenue	$ 4,152	$ 6,572	$ (2,420)	(37)%
Revenue from joint venture and related party	$ —	$ 54	$ (54)	(100)%
Total Revenue	$ 4,152	$ 6,626	$ (2,474)	(37)%
Cost of revenue	$ 4,344	$ 6,107	$ (1,763)	(29)%
Research and development	$ 21,145	$ 20,002	$ 1,143	6%
Selling, general and administrative	$ 8,428	$ 9,710	$ (1,282)	(13)%

Revenue. During 2005, $3.7 million of our revenues were derived from external programs, primarily with Merrimack and Elan, and $489,000 in revenues were derived from proprietary programs, specifically $237,000 from the CD137 program, which is funded by FLAIR grant, and $252,000 from the malaria program, which was funded by the National Institute of Allergy and Infectious Disease, or NIAID. During 2004, $5.6 million of our revenues were derived from external programs, primarily with Merrimack, Centocor and Elan, and $1,291,000 in revenues were derived from proprietary programs, specifically, $299,000 from the CD137 program and $992,000 from the malaria program. Due to current budgetary constraints at NIAID, no funding was committed for the malaria program beyond mid-August 2005. We recognized $1.8 million of revenue from our external development program with Elan upon successful completion of our transgenic development work in December 2004. Under a new agreement with Elan in 2005, the program was scaled down and then concluded in the third quarter. The program with Centocor was concluded in the fourth quarter of 2005. We expect revenues to continue to vary on a year-to-year basis. Deferred contract revenue,

which is not included in the statement of operations but is reflected on the balance sheet, increased by $4.8 million in 2005. As of January 1, 2006, we had approximately $5.5 million in deferred revenue on our balance sheet, including $3.4 million from LEO and $1.5 million from Merrimack due to cash received for which revenue had not yet been recognized pursuant to our revenue recognition policy.

Cost of revenue and operating expenses. The 2004 expenses included a $944,000 charge associated with the corporate restructuring that was implemented in February 2004, of which approximately $744,000 and $200,000 are included in selling, general and administrative expense and research and development expense, respectively. Fiscal year 2004 was a 53 week fiscal year and therefore included an additional week of operating expenses. The impact of the additional week of operating expense in 2004 was approximately $600,000.

Cost of revenue. The decrease in cost of revenue is primarily the result of a greater proportion of external programs being in earlier and less expensive development stages, as well as reduced revenue related activities associated with those programs, in 2005 as compared to 2004. The level of expenses on our external programs will fluctuate from period to period depending upon the stage of development of individual programs and their progress.

Research and development expense. The 2005 research and development expense included $12.6 million related to the ATryn® program, an increase of $1.2 million as compared to $11.4 million in 2004. Details of expenses for the respective years are as follows:

	(dollars in millions)	
	2005	2004
ATryn manufacturing expenses	$ 3.9	$ —
EMEA regulatory process expenses	6.0	11.2
U.S. clinical trial expenses	2.2	0.2
Write down of prior year inventory	0.5	—
Total	$ 12.6	$ 11.4

Additionally, in 2005, we incurred expenses of $2.4 million in connection with the CD137 program related to additional cell line work and founder goat development as compared with $1 million in 2004 related to cell line work, an increase of $1.4 million. In 2005, we also incurred expenses of $1.4 million in support of the recombinant human alpha-1 antitrypsin (rhAAT) program as compared to $350,000 in 2004, an increase of $1 million. The increases in ATryn®, CD137 and rhAAT programs in the year to year comparison were partially offset by a $900,000 decrease in spending on our recombinant human albumin (rhA) program, a $635,000 decrease in spending on our malaria program as well as a net decrease in spending on several other research programs. Spending on the rhA program and the malaria program was reduced in 2005 until such time additional funding is secured. Research and development expenses going forward are expected to vary based on a number of factors including the timing and status of research and development activities for ATryn® and other programs.

Selling, General and Administrative Expense. The decrease in selling, general and administrative expenses in 2005 was due to approximately $744,000 of restructuring charges incurred in 2004 and lower spending in 2005 throughout most areas of selling, general and administrative expenses.

Liquidity and Capital Resources

Overview

Our objective is to finance our business appropriately through a mix of equity financings, partnering and collaborations, grant revenue, debt financings and interest income earned on our cash and cash equivalents, until such time as product sales and royalties occur and we achieve positive cash flow from operations. Our ability to raise future funds will be affected by the extent and timing of the launch of ATryn® for the HD indication in the EU, the progress of clinical trials and the regulatory review of ATryn® in the U.S.

for HD, the progress of initial clinical trials for AD in the EU, our ability to enter into new or expanded transgenic research and development collaborations, the terms of such collaborations, the results of research and development and preclinical testing of our other proprietary product candidates, and competitive and technological advances, as well as general market conditions.

We use our cash primarily to pay salaries and wages, facility and facility-related costs of office and laboratory space and other outside direct costs such as manufacturing and clinical trial expenses. During 2006 we had a net increase in cash and marketable securities of $7.6 million, which includes the receipt of $33.8 million in net proceeds from equity financings, $2.6 million in proceeds from the LFB debt financing, $24.6 million used in operations, $1.1 million used for capital expenditures and a $2.4 million payment of a note payable to Genzyme, which was a non-recurring payment. We estimate the net use of cash and marketable securities for 2007 to be between $26 and $29 million, exclusive of the impact of equity financings, if any.

At December 31, 2006, we had cash, cash equivalents and marketable securities of $43.8 million compared to $36.2 million at January 1, 2006, and at December 31, 2006, we had working capital of $29.4 million compared to $18.6 million at January 1, 2006.

Our consolidated financial statements have been presented on the basis that we are a going concern, which contemplates the continuity of business, realization of assets and the satisfaction of liabilities in the ordinary course of business. We have incurred losses from operations and negative operating cash flow in each 2006, 2005 and 2004 and have an accumulated deficit of approximately $245 million at December 31, 2006. The primary sources of additional capital raised in 2006, 2005 and 2004 have been equity financings and debt financings under our credit facility. Management expects that future sources of funding may include new or expanded collaboration arrangements and sales of equity or debt securities. Management believes that existing cash resources and potential future cash payments from new or existing collaboration and licensing programs will be sufficient to fund operations into the second half of 2008.

Cash Flows from Financing Activities

Equity Financing Activities

In July 2006, in a registered direct offering to institutional investors, we sold 12 million shares of our Common Stock at $1.38 per share (market price on the date of closing) and 10-year warrants to purchase an aggregate of 7.8 million shares of our Common Stock at an exercise price of $1.4145 per share. We received approximately $16.1 million in proceeds from this sale, net of approximately $1.4 million in offering costs and fees. The shares and warrants (including the shares issuable upon exercise of the warrants) were issued under a shelf registration statement.

In the fourth quarter of 2006, we sold LFB 14,615 shares of our newly designated Series D preferred stock at a purchase price of $1.23 per Common Stock equivalent (market price on the date of the agreement), representing 14.6 million common share equivalents. We received approximately $18 million in proceeds from this sale.

In January 2007, we sold LFB 3.6 million shares of our Common Stock at a purchase price of $1.23 (the market closing price on the date of the agreement) in connection with the third tranche under the purchase agreement with LFB. We received approximately $4.5 million in proceeds from the sale.

Offering costs and fees in conjunction with the two Series D preferred stock placements to LFB were approximately $270,000.

Credit Facility

In December 2006, we refinanced our term loan with GE Capital in the amount of $10 million of which $7.1 million was used to pay off the existing loan with GE Capital. There are two separate amortization schedules, the first in the amount of $8 million carries a fixed 10.8% annual interest rate and monthly payments of principal and interest of approximately $109,000 through December 2011 with a balloon payment of

approximately $5.2 million in January 2012. The second in the amount of $2 million carries a fixed 10.84% annual interest rate and monthly payments of principal and interest of approximately $65,000 through January 2010. Collateral for the loan includes all of our existing and future acquired assets, excluding intellectual property.

In December 2006, as part of the second tranche related to the LFB agreement, we received $2.6 million in exchange for a five year convertible note with LFB. The note accrues interest at a rate of 2% per annum and will automatically convert into shares of our common stock in conjunction with any future common stock offerings at the per share offering price of the respective offering, but only to the extent that any conversion does not result in LFB's holdings exceeding 19.9% of our common stock on an as converted basis. Based our effective borrowing rate of 10.8%, we recorded a debt discount of approximately $1.1 million for the difference between the stated interest rate and the effective borrowing rate. The debt discount is being amortized over the five-year term of the note, resulting in additional interest expense of approximately $10,000 during fiscal year 2006.

Our $11.4 million of outstanding long-term debt at December 31, 2006 includes $10 million owed to GE Capital, $2.6 million owed to LFB and $1.1 million of unamortized debt discount on the LFB note. Of the $11.4 million, approximately $973,000 was classified as current. The current portion reflects the amount due through December 2007 on our GE Capital term loan.

Cash Flows used in Operating Activities

Cash flows used in operating activities were $24.6 million and $19 million for fiscal 2006 and 2005, respectively. The increase of $5.5 million was primarily the result of an increase in our net loss of $5 million due to overall spending on operations. Inventory has increased approximately $1.7 million from 2005 as a result of product needed to support the Phase II DIC study as well for planned commercial launch.

Cash Flows used in Investing Activities

Cash flows used in investing activities include $8.2 million in net purchases of marketable securities in our portfolio and $1.1 million used for purchases of capital equipment. We anticipate a similar level of capital expenditures company-wide in 2007 as compared to 2006.

Contractual Obligations

The following summarizes our contractual obligations at December 31, 2006, and the effect such obligations are expected to have on our liquidity and cash flow in future periods.

	Less than 1 Year	1 to 3 Years	3 to 5 Years	More than 5 Years	Total
Contractual Obligations:					
Long-term debt obligations	$ 973	$ 3,197	$ 7,273	$ —	$ 11,443
Operating lease obligations	1,868	4,095	216	—	6,179
Service agreements for manufacturing	1,100	—	—	—	1,100
Service and sublease agreement with Genzyme	440	—	—	—	440
Total contractual cash obligations	$ 4,381	$ 7,292	$ 7,489	$ —	$ 19,162

We are party to license agreements for certain technologies (see Note 11 to the Notes to Consolidated Financial Statements included in Item 8 of this Report). In July 2001, we reacquired Genzyme's ownership interest in the ATIII LLC joint venture in exchange for a royalty to Genzyme based on our sales of ATryn®, if any, commencing three years after the first commercial sale, up to a cumulative maximum of $30 million. Certain of these other agreements contain provisions for future royalties to be paid on commercial sales of products developed from the licensed technologies. Currently, the amounts payable under these other

agreements and any resulting commitments on our behalf are unknown and are not able to be estimated because the level of future sales, if any, is uncertain. Accordingly, they are not included in the preceding table.

We have entered into transactions with related parties (see Note 11 to the Notes to Consolidated Financial Statements included in Item 8 of this Report) in the normal course of business. We believe that the terms of these transactions are at arm's-length.

New Accounting Pronouncements

In November 2004, the Financial Accounting Standards Board, or FASB, issued SFAS No. 151, "Inventory Costs, an amendment of ARB No. 43, Chapter 4," which clarifies the types of costs that should be expensed rather than capitalized as inventory. This statement also clarifies the circumstances under which fixed overhead costs associated with operating facilities involved in inventory processing should be capitalized. The provisions of SFAS No. 151 are effective for fiscal years beginning after June 15, 2005. The adoption of this standard did not have a material effect on our financial position, results of operations or cash flows.

In December 2004, the FASB issued SFAS 123(R), which requires us to expense share-based payments, including employee stock options, based on their fair value. We adopted SFAS 123(R) on January 2, 2006. We discuss our adoption of SFAS 123(R) and the adoption's effects above and in Note 2 in our Notes to Consolidated Financial Statements included in item 8 of this Report.

In June 2006, FASB issued FASB Interpretation No. 48, "Accounting for Uncertainty in Income Taxes", an interpretation of FASB Statement No. 109 (FIN 48). FIN 48 clarifies the accounting for uncertainties in income taxes recognized in an enterprise's financial statements. This interpretation requires that the realization of an uncertain income tax position must be "more likely than not" (i.e., greater than 50% likelihood of receiving a benefit) before it can be recognized in the financial statements. Further, this interpretation prescribes the benefit to be recorded in the financial statements as the amount most likely to be realized assuming a review by tax authorities having relevant information and applying current conventions. This interpretation also clarifies the financial statement classification of tax-related penalties and interest and sets forth new disclosures regarding unrecognized tax benefits. This interpretation is effective for fiscal years beginning after December 15, 2006, and we will be required to adopt this interpretation in the first quarter of 2007. Based on our evaluation as of December 31, 2006, we do not believe that FIN 48 will have a material impact on our financial statements.

In September 2006, the Securities and Exchange Commission, or SEC, Staff issued Staff Accounting Bulletin No. 108 (SAB 108) addressing how the effects of prior-year uncorrected financial statement misstatements should be considered in current-year financial statements. SAB 108 requires registrants to quantify misstatements using both balance-sheet and income-statement approaches and to evaluate whether either approach results in quantifying an error that is material in light of relative quantitative and qualitative factors. SAB 108 does not change the SEC staff's previous guidance in Staff Accounting Bulletin No. 99 on evaluating the materiality of misstatements.

SAB 108 addresses the mechanics of correcting misstatements that include the effects from prior years. Additionally, SAB 108 requires registrants to apply the new guidance for the first time that it identifies material errors in existence at the beginning of the first fiscal year ending after November 15, 2006 by correcting those errors through a one-time cumulative effect adjustment to beginning-of-year retained earnings. The adoption of SAB 108 did not have a material effect on our financial position, results of operations or cash flows.

In September 2006 the FASB issued Statement No. 157, Fair Value Measurements. The Statement provides guidance for using fair value to measure assets and liabilities. This Statement references fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants in the market in which the reporting entity transacts. The Statement applies whenever other standards require (or permit) assets or liabilities to be measured at fair value. The Statement does not expand the use of fair value in any new circumstances. It is effective for financial statements issued for

fiscal years beginning after November 15, 2007, and interim periods within those fiscal years. The adoption of SFAS No. 157 is not expected to have a material impact on our financial position, results of operations or cash flows.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We have certain financial instruments at December 31, 2006, including a term loan, a convertible promissory note payable and a stand-by letter of credit which are not sensitive to changes in interest rates. Our term loan has a carrying value of $11.4 million which approximates its fair value. Our stand-by letters of credit of $449,360 are required under a facility lease. Our five year convertible note payable to LFB has a principal of $2.6 million. At December 31, 2006, nothing has been drawn down on the stand-by letters of credit. These instruments are not leveraged and are held for purposes other than trading.

For the term loan and the LFB convertible promissory note outstanding, the table below presents the principal cash payments that exist by maturity date.

	($ in 000's)						
	2007	2008	2009	2010	2011	Thereafter	Total
Term Loan	$ 973	$ 1,177	$ 1,311	$ 709	$ 717	$ 5,113	$ 10,000
LFB Convertible Note Payable [1]	—	—	—	—	2,559	—	2,559
Total	$ 973	$ 1,177	$ 1,311	$ 709	$ 3,276	$ 5,113	$ 12,559

The interest rate on the term loan varies between 10.8% and 10.84% at December 31, 2006 and the interest rate on the LFB convertible note payable was 2% at December 31, 2006.

[1] Based on our effective borrowing rate of 10.8%, we recorded a debt discount of approximately $1.1 million for the difference between the stated interest rate and the effective borrowing rate. The debt discount is being amortized over the five year term of the note.

Interest Rate Risk

We do not engage in trading market risk sensitive instruments or purchasing hedging instruments or "other than trading" instruments that are likely to expose us to market risk, whether interest rate, foreign currency exchange, commodity price or equity price risk. We have not purchased options or entered into swaps, or forward or future contracts. Our primary market risk is interest rate risk on our investment portfolio. We estimate that the hypothetical loss in earnings for one year of investments held at January 1, 2006, resulting from a hypothetical 10% increase in interest rates, would not have materially impacted net loss or materially affected the fair value of rate sensitive instruments. The hypothetical loss was based on financial instruments we held at December 31, 2006 with variable and fixed interest rates.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Financial Statements

Response to this item is submitted as a separate section of this Report immediately following Item 15.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Conclusion Regarding the Effectiveness of Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of our disclosure controls and procedures, as such term is defined under Rule 13a-15(e) promulgated under the Securities Exchange Act of 1934, as amended. Based on this evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were effective as of the end of the period covered by this annual report.

Changes in Internal Controls

There were no changes in our internal control over financial reporting that occurred during the our most recent fiscal quarter that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rule 13a-15(f). Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in *Internal Control – Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our evaluation under the framework in *Internal Control – Integrated Framework*, our management concluded that our internal control over financial reporting was effective as of December 31, 2006.

Management's assessment of the effectiveness of our internal control over financial reporting as of December 31, 2006, has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which is included in this Report at page F-1.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT

The names, ages, titles and biographies of our executive officers are provided under "Executive Officers" in Part I, Item 1 of this Form 10-K, and are incorporated herein by reference. Additional information regarding our directors and executive officers is set forth in our Proxy Statement for the Annual Meeting of Stockholders to be held on May 23, 2007 (the "2007 Proxy Statement") under "Election of Directors" and "Section 16(a) Beneficial Ownership Reporting and Compliance." We have adopted a Code of Business Conduct and Ethics that applies to all of our directors, officers and employees, including our chief executive officer, chief financial officer, and controllers. The Code is available on our website at http://www.gtc-bio.com/investorinfo/corporategovernance.html. A copy of the Code is also available without charge upon request from the Chief Financial Officer at GTC Biotherapeutics, Inc., 175 Crossing Boulevard, Framingham, MA 01702. If we make any substantive amendments to the Code or grant any waiver from a provision of it, we will disclose the nature of such amendment or waiver on our website at www.gtc-bio.com or in a Current Report on Form 8-K.

ITEM 11. EXECUTIVE COMPENSATION

Information regarding executive compensation is set forth under "Executive and Director" in our 2007 Proxy Statement and is incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Information regarding security ownership of certain beneficial owners, directors and executive officers is set forth under "Security Ownership of Certain Beneficial Owners and Management" in our 2007 Proxy Statement and is incorporated herein by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Information regarding certain relationships and related transactions is set forth under "Transactions with Related Persons" in our 2007 Proxy Statement and is incorporated herein by reference. See also Note 11 to the Consolidated Financial Statements included in Item 8 of this Form 10-K.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

Information regarding auditor fees and services is set forth under "Auditors" in our 2007 Proxy Statement and is incorporated herein by reference.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) The following documents are filed as part of this report:

(1) Financial Statements

(2) Financial Statement Schedules

All schedules have been omitted because the required information is not applicable or not present in amounts sufficient to require submission of the schedule, or because the information required is in the consolidated financial statements or the notes thereto.

(3) **Exhibits** We hereby file and incorporate by reference the exhibits listed in the Exhibit Index immediately following the signature page of this Form 10-K.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders
of GTC Biotherapeutics, Inc.:

We have completed integrated audits of GTC Biotherapeutics Inc.'s consolidated financial statements and of its internal control over financial reporting as of December 31, 2006 in accordance with the standards of the Public Company Accounting Oversight Board (United States). Our opinions, based on our audits, are presented below.

Consolidated financial statements

In our opinion, the consolidated financial statements listed in the index appearing under Item 15(a)(1) present fairly, in all material respects, the financial position of GTC Biotherapeutics, Inc. (the "Company") and its subsidiaries at December 31, 2006 and January 1, 2006, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2006 in conformity with accounting principles generally accepted in the United States of America. 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 of these statements 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 of financial statements includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

As discussed in Note 2 to the consolidated financial statements, the Company changed the manner in which it accounts for share-based compensation in 2006.

Internal control over financial reporting

Also, in our opinion, management's assessment, included in Management's Report on Internal Control Over Financial Reporting appearing under Item 9A, that the Company maintained effective internal control over financial reporting as of December 31, 2006 based on criteria established in Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"), is fairly stated, in all material respects, based on those criteria. Furthermore, in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2006, based on criteria established in Internal Control – Integrated Framework issued by the COSO. The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting. Our responsibility is to express opinions on management's assessment and on the effectiveness of the Company's internal control over financial reporting based on our audit. We conducted our audit of internal control over financial reporting 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 effective internal control over financial reporting was maintained in all material respects. An audit of internal control over financial reporting includes obtaining an understanding of internal control over financial reporting, evaluating management's assessment, testing and evaluating the design and operating effectiveness of internal control, and performing such other procedures as we consider necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinions.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation

of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ PricewaterhouseCoopers LLP
Boston, Massachusetts
March 7, 2007

GTC BIOTHERAPEUTICS, INC.
CONSOLIDATED BALANCE SHEETS
(Dollars in thousands except share amounts)

	December 31, 2006	January 1, 2006
Current assets:		
Cash and cash equivalents	$ 25,356	$ 26,351
Marketable securities	18,479	9,818
Accounts receivable and unbilled contract revenue	285	204
Inventory	3,092	1,343
Other current assets	1,006	1,207
Total current assets	48,218	38,923
Property, plant, and equipment, net	15,336	16,735
Intangible assets, net	7,539	9,024
Other assets	1,692	1,587
Restricted cash	450	450
Total assets	$ 73,235	$ 66,719
Current liabilities:		
Accounts payable	$ 6,903	$ 4,327
Accrued liabilities	5,195	3,627
Accrued liabilities Genzyme Corporation	2,464	3,108
Short-term deferred contract revenue	3,301	2,877
Current portion of long-term debt and capital leases	973	3,997
Note payable Genzyme Corporation	—	2,386
Total current liabilities	18,836	20,322
Long-term deferred contract revenue	5,953	2,663
Long-term debt, net of current portion	9,027	7,005
Long-term convertible note to LFB, net of debt discount	1,443	—
Other long-term liabilities	20	20
Total liabilities	35,279	30,010
Commitments and contingencies (see Notes 6 and 7)		
Shareholders' equity:		
Preferred stock, $.01 par value; 4,985,000 shares authorized; 0 shares were issued and outstanding at December 31, 2006	—	—
Series D convertible preferred stock, $.01 par value; 15,000 shares authorized; 14,615 shares were issued and outstanding at December 31, 2006	—	—
Common stock, $.01 par value; 200,000,000 shares authorized; 76,440,477 and 63,467,874 shares issued and 73,620,477 and 60,647,874 shares outstanding at December 31, 2006 and January 1, 2006, respectively	736	606
Additional paid-in capital	282,343	245,930
Accumulated deficit	(245,129)	(209,784)
Accumulated other comprehensive income (loss)	6	(43)
Total shareholders' equity	37,956	36,709
Total liabilities and shareholders' equity	$ 73,235	$ 66,719

The accompanying notes are an integral part of the consolidated financial statements.

GTC BIOTHERAPEUTICS, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(Dollars in thousands except share and per share amounts)

	For the Fiscal Years Ended		
	December 31, 2006	January 1, 2006	January 2, 2005*
Revenues:			
Revenue	$ 6,128	$ 4,152	$ 6,626
Costs of revenue and operating expenses:			
Cost of revenue	6,651	4,344	6,107
Research and development	25,401	21,145	20,002
Selling, general and administrative	9,723	8,428	9,710
Total cost of revenue and operating expenses	41,775	33,917	35,819
Operating loss	(35,647)	(29,765)	(29,193)
Other income (expense):			
Interest income	1,237	547	312
Interest expense	(1,001)	(1,140)	(951)
Other income	66	246	339
Net loss	$ (35,345)	$ (30,112)	$ (29,493)
Net loss per common share (basic and diluted)	$ (0.53)	$ (0.62)	$ (0.79)
Weighted average number of common shares outstanding (basic and diluted)	66,860,345	48,658,143	37,360,758
Comprehensive loss:			
Net loss	$ (35,345)	$ (30,112)	$ (29,493)
Other comprehensive loss:			
Unrealized holding gain (loss) on available for sale securities	49	93	(139)
Total other comprehensive loss	49	93	(139)
Comprehensive loss	$ (35,296)	$ (30,019)	$ (29,632)

* Year ended January 2, 2005 includes 53 weeks while years ended December 31, 2006 and January 2, 2006 include 52 weeks.

The accompanying notes are an integral part of the consolidated financial statements.

GTC BIOTHERAPEUTICS, INC.
CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY
(In thousands)

	Preferred Stock		Common Stock		Treasury Stock		Additional Paid-in Capital	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Total Shareholders' Equity
	Shares	Amount	Shares	Amount	Shares	Amount				
Balance, December 28, 2003	—	—	34,749	$ 347	(2,820)	$ (9,545)	$ 207,535	$ (150,179)	$ 3	$ 48,161
Net loss								(29,493)		(29,493)
Common stock sold under Employee Stock Purchase Plan			182	2			347			349
Common stock issuance to the GTC Savings and Retirement Plan			100	1			312			313
Common stock issued under GTC Bonus Plan			111	1			439			440
Proceeds from the exercise of stock options			83	1			118			119
Proceeds from the issuance of common stock, net of offering costs of $1,162			6,395	64			13,804			13,868
Reclassification of treasury stock to common stock			(2,820)	(28)	2,820	9,545	(9,517)			—
Stock based compensation							35			35
Unrealized loss on investment									(139)	(139)
Balance, January 2, 2005	—	—	38,800	388	—	—	213,073	(179,672)	(136)	33,653
Net loss								(30,112)		(30,112)
Common stock sold under Employee Stock Purchase Plan			213	2			261			263
Common stock issuance to the GTC Savings and Retirement Plan			130	1			192			193
Common stock issued under GTC Bonus Plan			81	1			138			139
Proceeds from the exercise of stock options			10				11			11
Proceeds from the issuance of common stock, net of offering costs of $2,637			21,414	214			32,255			32,469
Unrealized gain (loss) on investment									93	93
Balance, January 1, 2006	—	—	60,648	606	—	—	245,930	(209,784)	(43)	36,709
Net loss								(35,345)		(35,345)
Common stock sold under Employee Stock Purchase Plan			133	2			118			120
Common stock issuance to the GTC Savings and Retirement Plan			165	2			182			184
Common stock issued under GTC Bonus Plan			543	5			554			559
Common stock issued under GTC Director Compensation Plan			6				7			7
Proceeds from the exercise of stock options			5				5			5
Proceeds from the issuance of preferred stock, net of offering costs of $270							18,832			18,832
Proceeds from the issuance of common stock, net of offering costs of $1,410	15		12,000	120			16,005			16,125
Stock grant to employees			120	1			146			147
Stock based compensation							564			564
Unrealized gain (loss) on investment									49	49
Balance, December 31, 2006	15	$ —	73,620	$ 736	—	$ —	$ 282,343	$ (245,129)	$ 6	$ 37,956

The accompanying notes are an integral part of the consolidated financial statements.

GTC BIOTHERAPEUTICS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Dollars in thousands)

	For the Fiscal Years Ended		
	December 31, 2006	January 1, 2006	January 2, 2005
Cash flows for operating activities:			
Net loss from operations	$ (35,345)	$ (30,112)	$ (29,493)
Adjustments to reconcile net loss from operations to net cash used in operating activities:			
Depreciation and amortization	3,488	3,904	4,031
Share based compensation	718	—	35
Amortization of premium (discount) on marketable securities	(369)	(304)	1,342
Common stock issuance to GTC savings and retirement plan	184	193	313
Inventory write off	1,343	419	—
Write off of intangible assets	497	147	—
Gain on disposal of fixed assets		(28)	—
Non-cash interest expense	10	—	—
Changes in assets and liabilities:			
Accounts receivable and unbilled contract revenue	(81)	521	888
Inventory	(3,092)	(1,296)	1,108
Other assets and liabilities	96	244	42
Accounts payable	2,576	1,936	51
Accrued liabilities—Genzyme Corporation	(644)	302	882
Accrued liabilities	2,275	249	433
Deferred contract revenue	3,714	4,807	410
Net cash used in operating activities	(24,630)	(19,018)	(19,958)
Cash flows from investing activities:			
Purchase of property, plant and equipment	(1,101)	(671)	(1,286)
Sale of property, plant and equipment		834	611
Purchase of marketable securities	(33,538)	(10,027)	(13,804)
Redemption of marketable securities	25,295	21,052	17,235
Restricted cash	—	—	(450)
Net cash used in investing activities	(9,344)	11,188	2,306
Cash flows from financing activities:			
Proceeds from the LFB financing, net of offering costs	20,265	—	—
Proceeds from the issuance of common stock, net of offering costs	16,125	32,469	13,868
Net proceeds from employee stock purchase plan	120	263	349
Net proceeds from the exercise of stock options	5	11	119
Proceeds from long-term debt, net of financing costs	9,760	4,800	10,386
Repayment of long-term debt	(13,296)	(5,197)	(10,754)
Repayment of principal on capital leases	—	—	(214)
Net cash provided by financing activities	32,979	32,346	13,754
Net increase (decrease) in cash and cash equivalents	(995)	24,516	(3,898)
Cash and cash equivalents at beginning of the period	26,351	1,835	5,733
Cash and cash equivalents at end of the period	$ 25,356	$ 26,351	$ 1,835
Supplemental disclosure of cash flow information:			
Cash paid during the period for interest	$ 976	$ 1,115	$ 837

The accompanying notes are an integral part of the consolidated financial statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Fiscal years ended December 31, 2006, January 1, 2006 (fiscal 2005) and January 2, 2005 (fiscal 2004) (all tabular $ in thousands, except per share data).

NOTE 1. NATURE OF BUSINESS

We are a leader in the development and production of human therapeutic proteins through transgenic technology. Applying our transgenic production technology, we insert human protein-specific DNA into the genetic structure of an animal to enable it to produce what is known as a recombinant form of the corresponding human protein in the animal's milk. We then purify the protein from the milk to obtain the therapeutic product, which is typically administered by injection. Our transgenic technology is protected by our leading patent position, which includes a U.S. patent, issued in 2006 and expiring in 2021, that covers the production of therapeutic proteins in the milk of transgenic mammals.

In August 2006, we obtained the first regulatory approval of a transgenically produced therapeutic protein anywhere in the world when the European Commission approved the use of ATryn®, our recombinant form of human antithrombin, as a prophylactic treatment of patients with hereditary antithrombin deficiency, or HD, undergoing surgical procedures. Based on the expected results of our currently ongoing pivotal trial, we are planning to file for a Biologics License Application, or BLA, seeking approval of the U.S. Food and Drug Administration, or FDA, to begin marketing ATryn® for a similar indication in HD patients undergoing surgery or delivery.

Building upon the ATryn® approval in Europe, we are focusing our pipeline of proprietary programs on recombinant plasma proteins and monoclonal antibodies for use in hematology, including replacement therapies for genetic disorders, oncology and autoimmune diseases. In doing so, we focus on those potential therapeutic proteins that are difficult to express using traditional recombinant production methods, such as cell culture or bacteria production, or on those product candidates where production of commercial volumes using those methods requires significant capital investment for adequate production capacity, or where the cost of goods is a critical issue. Human plasma proteins that are used for therapeutics may have one or more of these characteristics. With the potential to produce large quantities of therapeutic proteins at a lower cost than using other methods, our production technology enables the pursuit of clinical indications requiring large amounts of the therapeutic protein and offers the opportunity to create markets significantly greater than those supported today by traditional recombinant produced and plasma-derived proteins.

We are subject to risks common to companies in the biotechnology industry, including, but not limited to, the uncertainties of clinical trials and regulatory requirements for approval of therapeutic compounds, the need for additional capital, competitive new technologies, dependence on key personnel, protection of proprietary technology, and compliance with the FDA and other United States and foreign government regulations. Our consolidated financial statements have been presented on the basis that we are a going concern, which contemplates the continuity of business, realization of assets and the satisfaction of liabilities in the ordinary course of business. We have incurred losses from operations and negative operating cash flow in each 2006, 2005 and 2004 and have an accumulated deficit of approximately $245 million at December 31, 2006. The primary sources of additional capital raised in 2006, 2005 and 2004 have been equity financings and debt financings under our credit facility. Management expects that future sources of funding may include new or expanded partnering arrangements and sales of equity or debt securities. Management believes that existing cash resources and potential future cash payments from new and existing collaborations and licensing programs will be sufficient to fund operations into the second half of 2008.

NOTE 2. SIGNIFICANT ACCOUNTING POLICIES

Basis of Consolidation

The consolidated financial statements include our results, the results of our wholly-owned subsidiaries and our Taurus hSA LLC joint venture. We consolidate the Taurus hSA LLC joint venture for financial reporting purposes (see Note 12).All significant inter-company transactions have been eliminated and we operate in one business segment.

Our fiscal year ended January 2, 2005, included 53 weeks.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make certain estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. The significant estimates and assumptions in these financial statements include revenue recognition, collectibility of accounts receivable and unbilled revenues, estimates of accrued expenses, valuation of inventory and tax valuation reserves. Actual results could differ materially from those estimates.

Cash and Cash Equivalents

Cash equivalents, consisting principally of money market funds and municipal notes purchased with initial maturities of three months or less, are valued at market value.

Marketable Securities

Marketable securities have been classified as available for sale and are stated at market value based on quoted market prices. Gains and losses on sales of securities are calculated using the specific identification method. Marketable securities at December 31, 2006 and January 1, 2006 can be summarized as follows:

	December 31, 2006		January 1, 2006	
	Amortized Cost	Estimated Fair Value	Amortized Cost	Estimated Fair Value
Government backed obligations	$ 2,983	$ 2,984	$ 6,535	$ 6,495
Corporate obligations	15,496	15,496	3,327	3,323
Total marketable securities	$ 18,479	$ 18,480	$ 9,862	$ 9,818

Maturities of our marketable securities at December 31, 2006 and January 1, 2006 are as follows:

	December 31, 2006	January 1, 2006
Maturities less than 1 year	$ 18,480	$ 3,500
Maturities between 1 and 2 years	—	—
Maturities greater than 2 years	—	6,318
Total marketable securities	$ 18,480	$ 9,818

At December 31, 2006, January 1, 2006 and January 2, 2005 the change in unrealized gain(loss) on marketable securities included in other accumulated comprehensive income and equity was $49,000, $93,000, and $(139,000), respectively. All realized gains/(losses) on available for sale securities in 2006, 2005 and 2004, were immaterial. At December 31, 2006, the contractual maturities of our investments available for sale range from 4 months to 36 months. All of our investments are classified as short-term, which is consistent with their intended use. Unrealized losses on marketable securities were approximately $0 and $43,000 at December 31, 2006 and January 1, 2006, respectively.

Concentration of Credit Risk

Financial instruments that potentially subject us to concentrations of credit risk consist primarily of cash, cash equivalents, marketable securities and trade accounts receivable. At December 31, 2006 and January 1, 2006, approximately 100% of cash, cash equivalents and marketable securities were held by one United States financial institution.

We perform ongoing credit evaluations of our customers' financial conditions and maintain reserves for potential credit losses. There were no reserves required for 2006, 2005 and 2004 nor were there any write-offs for fiscal 2006, 2005 and 2004.

At December 31, 2006, January 1, 2006 and January 2, 2005, one customer, four customers and five customers, respectively, accounted for 100% of accounts receivable. Eight collaboration partners accounted for 100% (the largest of which was 54%) of revenue for the year ended December 31, 2006, eight collaboration partners accounted for 100% (the largest of which was 35%) of revenue for the year ended January 1, 2006 and five collaboration partners accounted for 93% (the largest of which was 27%) of revenue for the year ended January 2, 2005.

The following table summarizes our revenues as a percent of revenue in the last three years:

	2006	2005	2004
Merrimack	54%	29%	26%
LEO	32%	—	—
Centocor	1%	7%	20%
Elan (Tysabri® - formerly Antegren®)	—	35%	27%

Property, Plant and Equipment

Property, plant and equipment are stated at cost and are depreciated using the straight-line method over estimated useful lives of three to thirty years. Leasehold improvements are amortized using the straight-line method over the life of the improvement or the remaining term of the lease, whichever is shorter. The purchase of the New Zealand goats ("Livestock") are capitalized and amortized using the straight-line method over their estimated useful lives of five years.

We capitalize those incremental costs that are incurred in obtaining approval from the FDA or EMEA for manufacturing assets and the related processes for bulk drug production. Under Statement of Financial Accounting Standards (SFAS) No. 34, "Capitalization of Interest Costs," the historical cost of acquiring an asset includes the costs necessarily incurred to bring it to the condition and location necessary for its intended use. The capitalization period begins when expenditures for the asset have been made and activities that are necessary to get the asset ready for its intended use are in progress. Pursuant to regulations of the FDA or the EMEA, a facility and its related manufacturing assets must achieve "process qualification" in order for it to be approved, or "validated," for commercial production. Without approval from the FDA or the EMEA, the facility cannot be placed into service for commercial production; accordingly, the incremental validation costs we incur are an essential part of preparing the related assets for their intended use. Approval by the FDA will allow us to market products for sale in the U.S.. We received approval ATryn® from the EMEA in 2006, which will allow us to market that product in Europe through our collaboration with LEO.

The costs that we have capitalized to date are those costs that are related to FDA or EMEA approval of the manufacturing equipment to be used for the bulk production of ATryn® and are being depreciated over the expected life of the facility. These include the costs of employees and third parties directly involved in the process, direct material consumed in the validation process, and incremental fixed overhead. Costs that are excluded from capitalization include costs of maintenance, process development/improvement and fixed overhead. As of December 31, 2006 and January 1, 2006, we had approximately $2.1 million and $2.4 million, respectively, of capitalized validation costs, net of accumulated amortization, included in property, plant and equipment. The capitalized validation costs are being depreciated over five years.

The following is the summary of property, plant and equipment and related accumulated amortization and depreciation as of December 31, 2006 and January 1, 2006.

	Years of Life	December 31, 2006	January 1, 2006
Land	—	$ 909	$ 909
Buildings	20-30	14,146	14,115
Livestock	3-5	2,842	2,842
Leasehold improvements	lease life	2,085	1,769
Laboratory, manufacturing and office equipment	3-10	12,619	11,874
Laboratory, manufacturing and office equipment—capital lease	3-10	1,143	1,143
		33,744	32,652
Less accumulated amortization and depreciation		(18,408)	(15,917)
Net property, plant and equipment		$ 15,336	$ 16,735

Depreciation and amortization expense was $2,500,000, $2,869,000 and $2,993,000, for the fiscal years ended December 31, 2006, January 1, 2006 and January 2, 2005, respectively. Accumulated amortization for equipment under capital lease was $1,118,000, $1,106,000 and $1,400,000 at December 31, 2006, January 1, 2006 and January 2, 2005, respectively.

In March 2005, we completed the sale of 135 acres of farm land located in eastern New York State. As a result of the sale, we received net proceeds of approximately $534,000 and recorded a gain of approximately $29,000. Also during 2005, we purchased $300,000 of fixed assets and financed these additions with operating lease obligations.

Long-Lived Assets

Management's policy regarding long-lived assets is to evaluate the recoverability of our assets when the facts and circumstances suggest that these assets may be impaired. This analysis relies on a number of factors, including operating results, business plans, budgets, economic projections and changes in management's strategic direction or market emphasis. The test of such recoverability is a comparison of the asset value to its expected cumulative undiscounted net operating cash flow over the remaining life of the asset. If an impairment exists it is measured by the excess of the carrying value over the discounted cash flows. Any write-downs are to be treated as permanent reductions in the carrying amount of the assets.

Share-Based Compensation

Effective January 2, 2006, we adopted SFAS 123(R) Share-Based Payment (or SFAS 123(R)) which requires companies to measure and recognize compensation expense for all share-based payments at fair value. SFAS 123(R) is being applied on the modified prospective basis. Prior to the adoption of SFAS 123(R), we accounted for our share-based compensation plans under the recognition and measurement principles of Accounting Principles Board, or APB, Opinion 25, Accounting for Stock Issued to Employees, and related interpretations. We did not recognize compensation expense related to the share-based plans because the options were granted with an exercise price equal to the fair market value on the date of the grant.

Under the modified prospective approach, SFAS 123(R) applies to new awards and to awards that were outstanding on January 2, 2006. Under the modified prospective approach, compensation expense recognized during fiscal 2006 includes compensation expense for all share-based payments granted prior to, but not yet vested on, January 2, 2006, based on the grant-date fair value estimated in accordance with the provisions of SFAS 123, and compensation expense for all share-based payments granted subsequent to January 2, 2006, based on the grant-date fair value estimated in accordance with the provisions of SFAS 123(R). Prior periods were not restated to reflect the impact of adopting the new standard.

Revenue Recognition and Contract Accounting

We enter into licensing and development agreements with collaborative partners for the development, production and purification of our internally developed recombinant protein candidates or for a transgenically produced version of the partner's therapeutic recombinant proteins. The terms of the agreements typically include non-refundable license fees, funding of research and development, payments based upon the achievement of certain milestones and royalties on future product sales, if any. More recently, we have entered into a manufacturing service agreement with Merrimack Pharmaceuticals for the production of a therapeutic recombinant protein of Merrimack that we produce in the milk of transgenic animals. The terms of the agreement include payments for maintenance services, manufacturing suite time and cost to scale up the production herd. In addition, we have entered into a license and supply agreement with LEO for the production of ATryn®. The terms of the supply agreement with LEO includes non-refundable license fees, transfer price for products delivered, royalties on future net sales and potential milestone payments to us for meeting regulatory, clinical and sales goals.

We recognize revenue in accordance with Staff Accounting Bulletin No. 101, "Revenue Recognition in Financial Statements" (SAB No. 101), as amended by Staff Accounting Bulletin No. 104, "Revenue Recognition" (SAB No. 104), and Emerging Issues Task Force Issue No. 00-21, "Revenue Agreements with Multiple Deliverables" (EITF No. 00-21).

Revenues from the sale of products and services are recognized when persuasive evidence of an agreement exists, delivery has occurred or services have been rendered, the fees are fixed and determinable, and collectibility is reasonably assured. Revenues from royalties on third-party sales of licensed technologies are generally recognized in accordance with the contract terms when the royalties can be reliably determined and collectibility is reasonably assured.

We assess multiple element revenue arrangements involving upfront payments, license fees, manufacturing services and milestone payments received for the delivery of rights or services. The following criteria must be met for an element to represent a separate unit of accounting:

a) The delivered items have value to a customer on a standalone basis;

b) There is objective and reliable evidence of the fair value of the undelivered items; and

c) Delivery or performance is probable and within our control for any delivered items that have a right of return.

If these criteria are met we apply the appropriate revenue recognition model as described above to each separate unit of accounting. If these criteria are not met, elements are combined into a single unit of accounting and revenue is not recognized until we have verifiable objective evidence of the undelivered element. . Upfront payments and license fees are recognized ratably over the lesser of the contractual term or expected relationship period. Payments for the achievement of substantive milestones are recognized when the milestone is achieved. Payments for milestones which are not the result of the achievement of a substantive milestone, are recognized ratably over the lesser of the remaining contractual term or expected relationship period.

Revenue is also recognized in accordance with SAB 101 FAQ 13 (EITF 91-6). Under that model, revenue is recognized using the lesser of non-refundable cash received and milestones met or the result achieved using level-of-efforts accounting. The estimated costs to complete each program are based on the contract terms and detailed program plans, including cost projections, of each program under review. All revenue recognition estimates are made based upon the current facts and circumstances and are reassessed on at least a quarterly basis. There are a number of factors which could cause the need for a revision to these estimates which in turn may have the effect of increasing or decreasing revenue in the current period as they become known. These factors include unforeseen additional costs, delay in a program, efficiencies or decisions at the partner's discretion.

Deferred revenue arises from payments received in advance of the culmination of the earnings process. Deferred revenue expected to be recognized within the next twelve months is classified as a current liability. Deferred revenue will be recognized as revenue in future periods when the applicable revenue recognition criteria have been met.

Inventory

Inventory consists of:

	At December 31, 2006	At January 1, 2006
Raw materials	$ —	$ 112
Work in process	3,092	1,231
Finished goods	—	—
Total inventory	$ 3,092	$ 1,343

We carry inventory at the lower of cost or market using the first-in, first-out method. Inventories on hand at December 31, 2006 and January 1, 2006 are related to ATryn®, which we capitalized after completion of the clinical trials in anticipation of marketing approval for commercial sale in Europe. We expect that all of the capitalized inventory will be sold to LEO for clinical and commercial trials. If at any time we believe that the sale of inventory to LEO is no longer probable, we will charge the inventory to expense. Our current cost of production exceeds our agreed upon maximum price, therefore we are expensing these excess costs as incurred. Once our cost of production falls below the agreed upon maximum price, we will capitalize those costs.

During 2006 and 2005, following delays in regulatory approvals, we wrote off portions of the inventory that were designated for clinical trials as well as inventory that was used for development purposes or expected to expire prior to sale.

We analyze our inventory levels quarterly and will write down inventory that is expected to expire prior to sale, inventory that has a cost basis in excess of its expected net realizable value and inventory in excess of expected requirements. Expired inventory will be disposed of and the related costs will be written off. If actual market conditions are less favorable than those projected by management, additional inventory write-downs may be required. Also, if we should need to use a portion of the capitalized inventory for clinical trials, we would expense the inventory when it was designated for use in such clinical trial.

Research and Development Costs

All research and development costs are expensed as incurred. During our fiscal years ended December 31, 2006, January 1, 2006 and January 2, 2005, we incurred, $25.4, $21.1 million and $20 million, respectively, of development expenses related to proprietary programs. Of the total spent on research and development, $20.3 million, $12.6 million and $11.4 million, was spent on the ATryn® development program in fiscal years 2006, 2005 and 2004, respectively, which included manufacturing costs for our U.S. clinical trial, manufacturing costs of clinical material in excess or the maximum selling price to LEO as well as process development and validation costs for scale up of the ATryn® manufacturing process. These costs include labor, materials, supplies and overhead, as well as certain subcontracted research projects. Also included are the costs of operating the transgenic production facility such as feed and bedding, veterinary costs and utilities.

Net Loss per Common Share

We apply Statement of Financial Accounting Standards No. 128 ("SFAS 128"), Earnings Per Share in calculating earnings per share. Potential common shares consist of warrants (see Note 8), stock options (see Note 9) and stock to be issued under the defined contribution retirement plan (see Note 9). We were in a net loss position in 2006, 2005 and 2004, and, therefore, 35.6 million, 13.3 million and 8.1 million of potential common shares, respectively, were not used to compute diluted loss per share, as the effect was antidilutive.

We also have a convertible note in the amount of $2.6 million dollars to LFB, which automatically converts into shares of our common stock in conjunction with any future common stock offerings at the per share offering price of the respective offering but only to the extent that any conversion does not result in LFB's holdings exceeding 19.9% of our common stock on an as-converted basis.

Income Taxes

We account for income taxes under the asset and liability method, which requires recognition of deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the financial statement and tax bases of assets and liabilities using the expected enacted tax rates for the year in which the differences are expected to reverse. The measurement of deferred tax assets is reduced by a valuation allowance if, based upon the weight of available evidence, it is more likely than not that some or all of the deferred tax assets will not be realized.

New Accounting Pronouncements

In November 2004, the Financial Accounting Standards Board, or FASB, issued SFAS No. 151, "Inventory Costs, an amendment of ARB No. 43, Chapter 4," which clarifies the types of costs that should be expensed rather than capitalized as inventory. This statement also clarifies the circumstances under which fixed overhead costs associated with operating facilities involved in inventory processing should be capitalized. The provisions of SFAS No. 151 are effective for fiscal years beginning after June 15, 2005. The adoption of this standard did not have a material effect on our financial position, results of operations or cash flows.

In December 2004, the FASB issued SFAS 123(R), which requires us to expense share-based payments, including employee stock options, based on their fair value. We adopted SFAS 123(R) on January 2, 2006. We discuss our adoption of SFAS 123(R) and the adoption's effects above and in Note 2 in our Notes to Consolidated Financial Statements included in item 8 of this Report.

In June 2006, FASB issued FASB Interpretation No. 48, "Accounting for Uncertainty in Income Taxes", an interpretation of FASB Statement No. 109 (FIN 48). FIN 48 clarifies the accounting for uncertainties in income taxes recognized in an enterprise's financial statements. This interpretation requires that the realization of an uncertain income tax position must be "more likely than not" (i.e., greater than 50% likelihood of receiving a benefit) before it can be recognized in the financial statements. Further, this interpretation prescribes the benefit to be recorded in the financial statements as the amount most likely to be realized assuming a review by tax authorities having relevant information and applying current conventions. This interpretation also clarifies the financial statement classification of tax-related penalties and interest and sets forth new disclosures regarding unrecognized tax benefits. This interpretation is effective for fiscal years beginning after December 15, 2006, and we will be required to adopt this interpretation in the first quarter of 2007. Based on our evaluation as of December 31, 2006, we do not believe that FIN 48 will have a material impact on our financial statements.

In September 2006, the Securities and Exchange Commission, or SEC, Staff issued Staff Accounting Bulletin No. 108 (SAB 108) addressing how the effects of prior-year uncorrected financial statement misstatements should be considered in current-year financial statements. SAB 108 requires registrants to quantify misstatements using both balance-sheet and income-statement approaches and to evaluate whether either approach results in quantifying an error that is material in light of relative quantitative and qualitative factors. SAB 108 does not change the SEC staff's previous guidance in Staff Accounting Bulletin No. 99 on evaluating the materiality of misstatements.

SAB 108 addresses the mechanics of correcting misstatements that include the effects from prior years. Additionally, SAB 108 requires registrants to apply the new guidance for the first time that it identifies material errors in existence at the beginning of the first fiscal year ending after November 15, 2006 by correcting those errors through a one-time cumulative effect adjustment to beginning-of-year retained earnings. The adoption of SAB 108 did not have a material effect on our financial position, results of operations or cash flows.

In September 2006 the FASB issued Statement No. 157, *Fair Value Measurements*. The Statement provides guidance for using fair value to measure assets and liabilities. This Statement references fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants in the market in which the reporting entity transacts. The Statement applies whenever other standards require (or permit) assets or liabilities to be measured at fair value. The Statement does not expand the use of fair value in any new circumstances. It is effective for financial statements issued for fiscal years beginning after November 15, 2007, and interim periods within those fiscal years. The adoption of SFAS No. 157 is not expected to have a material effect on our financial position, results of operations or cash flows.

NOTE 3. SIGNIFICANT AGREEMENTS

LEO Pharma A/S ("LEO")

In November 2005, we entered into a collaboration agreement with LEO to develop and market ATryn®, for markets in LEO's territories of Europe, the Middle East, and Canada. Our agreement with LEO includes up to $73 million in potential milestone payments from LEO to us for meeting regulatory, clinical and sales goals. These payments include a total of $5 million in non-refundable payments that we received upon entering the collaboration agreement and for achieving approval of ATryn® for the HD indication in Europe. These milestone revenues are being recognized over the life of the agreement on a straight-line basis beginning with the first delivery of ATryn® material to LEO, which occurred in the fourth quarter of 2006. In December 2005, we also received a payment of $1.4 million as an advance payment for the future sale to LEO of clinical material that LEO committed to purchase. The revenue related to the $1.4 million payment was recognized upon delivery of the material in the fourth quarter of 2006. As of December 31, 2006, $4.9 million of the total amount received from LEO was accounted for as deferred revenue.

In our collaboration with LEO we will continue to be responsible for the production of ATryn®. LEO will pay for all product used in clinical studies as well as for commercial sale. For product sold for approved therapeutic use, LEO will pay us a royalty on all commercial sales, as well as a transfer price that we believe will provide us a margin on our cost of production once we achieve full commercial scale. We will be paid by LEO for clinical material based on our fully burdened costs subject to a maximum price per unit. Although our current cost of production exceeds our agreed upon maximum price for clinical material, we anticipate that the price for future clinical supply as well as the commercial transfer price will exceed our costs of production once we reach higher production levels. LEO has exclusive rights for sales and marketing of ATryn® in all indications in LEO's territories as well as responsibility for initiation of the price reimbursement process. Sales of ATryn® for the HD indication will begin on a country-by-country basis as prices are finalized in each country. We will retain all rights to ATryn® in all other territories, including the United States and Japan.

LFB Biotechnologies ("LFB")

In September 2006, we entered into a collaboration agreement with LFB, a related party, to develop selected recombinant plasma proteins and monoclonal antibodies using our transgenic production platform. LFB is a subsidiary of LFB S.A., a vertically integrated company based in Paris, France that currently markets 19 plasma-derived products in the areas of hemostasis, anesthesia-intensive care and immunology. LFB S.A. is currently 100% owned by the French government. The first program in this collaboration is for the development of rhFVIIa. Under this agreement, we and LFB will share equally in the cost of the development and commercialization of each product and will be entitled to 50% of any profits derived from products developed through the collaboration provided we each contribute equally to their development. In the event that contributions to development are not equal, the profit allocation will be adjusted based on development costs incurred. Under the agreement, a joint steering committee of our and LFB's representatives will determine product development and commercialization plans. We will be responsible for development of the production system for the products and will retain exclusive commercial rights to the products in North America. LFB will be responsible for clinical development and regulatory review of the first program in

this collaboration, and will have exclusive commercial rights in Europe. We will hold co-exclusive rights with LFB in the rest of the world to any products developed through the collaboration. The initial term of the agreement is fifteen years, subject to extension or termination by mutual consent, and the terms for any product developed through the collaboration will continue until the later of the initial term or ten years beyond regulatory approval of that product.

In connection with the collaboration agreement, we entered into a purchase agreement with LFB pursuant to which LFB committed to purchase up to an aggregate of $25 million of shares of convertible preferred stock, shares of common stock and a subordinated convertible note. Each preferred stock is convertible into 1,000 shares of common stock at the option of the preferred stock holder any time subsequent to the issuance. The purchase price of the shares of stock is $1.23 per common share equivalent, which was the market value of our common stock on the date of the agreement. These securities were issued and sold in three tranches, or installments, the first of which involved LFB's purchase on October 4, 2006 of 5,000 shares of our newly designated Series D preferred stock representing 5 million common share equivalents at an aggregate purchase price of $6.15 million. In the second tranche, LFB purchased an additional 9,615 shares of Series D preferred stock at an as converted per share price of $1.23 and a subordinated convertible note in the principal amount of approximately $2.56 million, for an aggregate purchase price of approximately $14.39 million. The convertible note has a term of five years, accrues interest at a rate of 2.0% per annum and will automatically convert into shares of our common stock in conjunction with any future common stock offerings at the per share offering price of the respective offering, but only to the extent that any conversion does not result in LFB's holdings to exceed 19.9% of our common stock on an as converted basis. Subsequent to the completion of the second tranche, LFB held, on an as converted basis, approximately 19.9% of the shares of common stock outstanding prior to the transaction, and as sole holder of the Series D preferred stock, became entitled to designate a director to serve on our board. In the third tranche, which closed on January 3, 2007, LFB purchased 3,630,000 shares of common stock at a price of $1.23 per share, for an aggregate purchase price of approximately $4.46 million. Subsequent to the completion of the third tranche, but before any conversion of the convertible note, LFB holds on an as converted basis approximately 24.8% of our shares of common stock outstanding. Completion of the second and third tranches was subject to our receipt of certain shareholder approvals, which were obtained on December 5, 2006.

Merrimack Pharmaceuticals, Inc. ("Merrimack")

In December 2003, we amended the terms of our agreement with Merrimack for the production and purification of MM-093. Under the revised terms, we converted $1.25 million of the payments owed to us by Merrimack into shares of Merrimack preferred stock. We were paid in cash for amounts owed to us in excess of $1.25 million. We also received an increase in our future potential royalty rate due from Merrimack on commercial sales of MM-093, if any, as a result of this agreement. This amendment enabled us, as a holder of preferred stock in Merrimack, to participate in a larger portion of the potential value of MM-093.

In September 2005, we entered into an agreement for further production of MM-093 for Merrimack. Under a Master Agreement, the parties acknowledged that the work done under the earlier agreements had been successfully completed and that the parties intend to enter into new agreements to continue the production of transgenic rhAFP exclusively by us.

Our primary responsibilities include maintaining facilities, staffing, equipment and quality systems. For the detailed services, Merrimack pays us for a combination of fees for equivalent full time employees and fixed charges for suite usage and material testing and release. In addition, Merrimack is required to pay royalties to us based on Merrimack's net revenues and net partner sales.

As of December 31, 2006, we had approximately $3.3 million of deferred revenue related to these agreements. We had approximately $218,000 of billed receivables from Merrimack at December 31, 2006.

Cambrex Bio Science Hopkinton ("Cambrex")

In August 2002, we entered into a service agreement with Cambrex for Cambrex to provide certain technology services relating to biopharmaceutical drug product process transfer, process validation, purification, quality control and quality assurance. As of December 31, 2006, we had paid approximately $10.6 million to Cambrex for services rendered under the contract and we are committed to pay approximately $1.1 million more through 2007. The amount paid to Cambrex has either been capitalized as part of our fixed assets through validation costs (see Note 2), capitalized as part of our inventory (see Note 2), or included in research and development expense.

Pharming Group N.V. ("Pharming")

In June 2002, we obtained licenses to technology relative to transgenic milk expression, transgenic cattle technology and nuclear transfer technology from Pharming. The license provided for a payment of 1.5 million Euro, or approximately $1.5 million, which was paid in July of 2002. These licenses relate to technology, some of which is currently being used in our ongoing activities and, therefore, their associated costs are reported as an intangible asset at December 31, 2006 and are being amortized over a 15-year period, the remaining life of the underlying patents.

Advanced Cell Technologies, Inc. ("ACT")

In June 1999, we signed an exclusive, worldwide licensing agreement with ACT to allow us to utilize ACT's patented nuclear transfer technology for the development of biopharmaceuticals in the milk of transgenic mammals. We believed ACT's proprietary platform technology, when coupled with our transgenic technology, would provide additional patentable approaches to efficiently develop transgenic animals. We paid an upfront license fee of $1,862,000 upon execution of the agreement, including $1 million of our Common Stock, which was classified as an intangible asset (see Note 7) and was being amortized over a 10-year period. In addition, we were required to pay royalties to ACT. To date, we have recorded to research and development expense approximately $377,000 of royalties to ACT of which approximately $223,000 has been paid.

ACT announced in 2006 that the Board of Patent Appeals and Interferences of the U.S. Patent Office entered a judgment that invalidated the key nuclear transfer patent that we license from ACT in favor of a patent application of Geron Corporation. ACT reached a settlement agreement with Start Licensing Inc. (a joint venture between Geron and Exeter Life Sciences, Inc.) that ended the appeal and confirmed the invalidity of the ACT patent.

Elan

During 2004, Elan contracted with us to perform development activities related to their Tysabri® product (formerly known as Antegren®). Costs incurred in the development program were deferred. In December 2004, we completed the Elan program and, as a result, we recognized $1.8 million of the revenue and related costs, including costs previously deferred in prior years, associated with the development program.

In January 2005, Elan executed a maintenance agreement with us to reduce the herd and to maintain a small number of animals as well as cell lines and cryo-preserved semen relative to the completed program. The maintenance program was completed in the third quarter of 2005.

NOTE 4. ACCRUED LIABILITIES

Accrued liabilities included the following:

	At December 31, 2006	At January 1, 2006
Accrued payroll and benefits	$ 1,740	$ 1,523
Accrued bonuses	1,167	868
Amounts owed to third party manufacturer	535	—
Other	1,753	1,236
Total accrued expenses	$ 5,195	$ 3,627

In February 2004, we announced a restructuring of our organization to control costs and to support our focus on clinical development and commercialization of our proprietary pipeline of proprietary products and our portfolio of external programs. Under the restructuring plan, headcount was reduced by approximately 20% from 159 to 127 full time equivalent employees. In 2003, there were 22 employees terminated during the third quarter as a result of a restructuring. This restructuring included employees from all departments located at both our Framingham and central Massachusetts locations. We recorded severance expense in the amount of $944,000 for the fiscal year ended January 2, 2005. There were no terminations in 2006 or 2005 and, therefore, we did not record severance expense during either year. During the years ended December 31, 2006, January 1, 2006 and January 2, 2005, approximately $0, $184,000 and $878,000, respectively, had been paid out of the severance reserve. Payments related to the restructurings were completed in the third quarter of 2005.

Following is a summary of accrued severance:

Balance at December 28, 2003	$ 118,000
2004 restructuring accrual	944,000
Restructuring payments	(878,000)
Balance at January 2, 2005	184,000
Restructuring payments	(184,000)
Balance at January 1, 2006	$ —

NOTE 5. COMMITMENTS AND CONTINGENCIES

We lease equipment and facilities under various operating leases (see Note 7). Rent expense for the fiscal years ended December 31, 2006, January 1, 2006 and January 2, 2005 was approximately $1,868,000, $1,891,000, and $1,779,000, respectively.

At December 31, 2006, our future minimum payments required under these leases were as follows:

	Operating
2007	$ 1,868
2008	1,579
2009	1,419
2010	1,097
2011 and thereafter	216
Total	$ 6,179

In February 2007, we signed a lease amendment to lease an additional 8,188 square feet of office space which expires in September 2010.

We are a party to license agreements for certain technologies (see Note 3). Certain of these agreements contain provisions for the future royalties to be paid on commercial sales of products developed from the licensed technologies. Currently the amounts payable under these agreements and any resulting commitments on our behalf are unknown and cannot be practically estimated since the level of future sales, if any, is uncertain.

Under a Sublease Agreement with Genzyme (see Note 11), we committed to make a minimum annual payment of approximately $440,000 in 2007 which is not included in the above table.

We have entered into manufacturing service agreements for which we are committed to pay approximately $1.1 million through 2007 which is not included in the above table.

On November 13, 2001, two employees of one of our former subsidiaries filed an action against us in the Court of Common Pleas for Philadelphia County in Pennsylvania seeking damages, declaratory relief and certification of a class action relating primarily to their GTC stock options. The claims arose as a result of our sale of Primedica Corporation to Charles River Laboratories International, Inc. in February 2001, which we believe resulted in the termination of Primedica employees' status as employees of GTC or its affiliates and termination of their stock options. The plaintiffs contended that the sale of Primedica to Charles River did not constitute a termination of their employment with GTC or its affiliates for purposes of our equity incentive plan and, therefore, that we breached our contractual obligations to them and other Primedica employees who had not exercised their stock options. The complaint demanded damages in excess of $5 million, plus interest. The Court certified the case as a class action, with the class including employees of Primedica who, at the time GTC sold it, had GTC options that had not been exercised. On February 15, 2007, the parties agreed to settle these claims under terms which provide that our insurer will pay $175,000 in cash and we will deliver $225,000 of our Common Stock. The number of shares of Common Stock to be issued in the settlement will be determined based on the per share market value of the Common Stock on the date of issue after the Court concludes a fairness hearing regarding the settlement, which is expected in April 2007.

We maintain our herd of cattle for the Taurus hSA LLC at TransOva Genetics in Iowa under an agreement signed in December 2002. As part of the agreement, TransOva agreed to be compensated partially in equity of Taurus only when, and if, Taurus receives outside third party financing. The amount of equity would be valued under the same terms as such outside financing. Any issuance of Taurus equity to TransOva under the agreement is not expected to result in any material expense to us.

NOTE 6. INTANGIBLE ASSETS

In 1990, we established the SMIG JV joint venture with Sumitomo Metal Industries Group to develop proteins transgenically for Asian markets. In September 2000, we acquired full ownership of the SMIG JV from Sumitomo in exchange for shares of our Common Stock valued at approximately $11.2 million. As a result, we hold the marketing rights to transgenic technology in 18 Asian countries, including Japan. The entire purchase price of $11.2 million was allocated to the value of the marketing rights (SMIG marketing rights), the sole assets of SMIG. These costs are being amortized over the estimated 15-year economic useful life of these rights from the date of purchase. These rights relate to our current business as they allow us to sell transgenic proteins in Asia. Without these rights, we would have been severely limited in our ability to pursue key Asian markets, primarily Japan, and would have had a substantial royalty obligation for any revenues derived from Asia and Europe. We are pursuing opportunities in these markets for our transgenic products in development.

In November 2006 the Management Committee of the Taurus Joint Venture, a joint venture between GTC and Fresenius-Kabi to develop hSA in cattle, agreed that neither GTC nor Fresenius-Kabi would fund the recombinant albumin program during the next 12 months. As a result of prioritizing our resources to other development programs, we are minimizing further investment in this program at this time. We determined that this was an event that triggered an impairment review of our Pharming intangible asset. The Pharming technology includes significant general animal development as well as bovine technology. It supports our overall animal transgenic platform including basic promoter technology which is a key component to our

transgenic technology platform. We concluded that the estimated value of our intangibles was greater than its net book value at December 31, 2006. Judgments used during the analysis included the estimation of the value of revenues to be achieved from our overall business plan for all products produced transgenically.

In June 1999, we signed an exclusive, worldwide licensing agreement with Advanced Cell Technologies, or ACT, to allow us to utilize ACT's patented nuclear transfer technology for the development of biopharmaceuticals in the milk of transgenic mammals. We paid an upfront license fee of $1,862,000 upon execution of the agreement, which included $1 million of our Common Stock, which was classified as an intangible asset and was being amortized over a 10-year period.

ACT announced in 2006 that the Board of Patent Appeals and Interferences of the U.S. Patent Office entered a judgment that invalidated the key nuclear transfer patent that we license from ACT in favor of a patent application of Geron Corporation. ACT then entered into a settlement agreement with Start Licensing, Inc. (a joint venture between Geron and Exeter Life Sciences, Inc.) that ended the appeal and confirmed the invalidity of the ACT patent. Accordingly, the ACT intangible was written off during the third quarter of 2006, resulting in a charge to research and development expense of approximately $497,000.

Intangible assets consist of:

	Amortization Life	December 31, 2006	January 1, 2006
Marketing rights	15 years	$ 11,210	$ 11,210
Accumulated amortization—marketing rights		(4,733)	(3,986)
Net		6,477	7,224
Technology license (see Note 3)	10 years to 15 years	1,517	3,379
Accumulated amortization—technology licenses		(455)	(1,579)
Net		1,062	1,800
Total intangible assets, net		$ 7,539	$ 9,024

Amortization expense was $988,000, $1,035,000 and $1,035,000 in 2006, 2005 and 2004, respectively.

At December 31, 2006, the estimated aggregate amortization expense was as follows:

2007	$ 849
2008	$ 849
2009	$ 849
2010	$ 849
2011	$ 849
2012 and thereafter	$ 3,297

NOTE 7. BORROWINGS

On April 4, 2002, we repurchased 2.82 million shares of our Common Stock from Genzyme, which was recorded as treasury stock. We purchased the shares for an aggregate consideration of approximately $9.6 million, consisting of approximately $4.8 million in cash and a promissory note to Genzyme for the remaining $4.8 million. The $4.8 million promissory note bears interest at the LIBOR plus 1% (LIBOR was at 4.50% at January 1, 2006). The principal was payable in two installments: $2.4 million, due and paid on April 4, 2005, and $2.4 million due on April 4, 2006 and paid in January 2006. Both payments were financed as discussed below.

In May 2004, we entered into a four year loan agreement with General Electric Capital Corporation, or GE Capital, in the amount of $10 million, which was used to repay an outstanding loan from Silicon Valley Bank. The GE Capital loan carried a fixed 9.94% annual interest rate and monthly payments of principal and

interest of approximately $253,000. Also in connection with the refinancing, we were required to provide $450,000 of cash collateral for our two outstanding stand-by letters of credit, which appears as restricted cash on the balance sheet. This loan agreement was refinanced in December 2006.

In February 2005, we increased the term loan with GE Capital to allow us to draw down an additional $2.4 million which was used to pay down the note due to Genzyme in April 2005. The additional amount was payable to GE Capital over three years through March 2008. The increased loan carried a fixed 10.01% annual interest. In December 2005, we further increased the term loan with GE Capital to allow us to refinance the final $2.4 million payment on the note payable to Genzyme due in 2006. The $2.4 million in proceeds from GE Capital was received in December 2005 and the Genzyme note was repaid in full in January 2006. . The additional amount on the GE term loan was payable over three years through January 2009. The loan carried a fixed 10.79% annual interest rate. The term loans were refinanced in December 2006.

In December 2006, we entered into a new term loan with GE Capital in the amount of $10 million, of which $7.1 million was used to pay off the existing loans from GE Capital. There are two separate amortization schedules, the first in the amount of $8 million carries a fixed 10.8% annual interest rate and monthly payments of principal and interest of approximately $109,000 through December 2011 with a balloon payment of approximately $5.2 million in January 2012. The second in the amount of $2 million carries a fixed 10.84% annual interest rate and monthly payments of principal and interest of approximately $65,000 through January 2010. Collateral for the loan includes all of our existing and future acquired assets, excluding intellectual property.

In December 2006, as part of the second tranche under the LFB agreement, we issued to LFB a $2.6 million, five-year convertible note. The note accrues interest at a rate of 2% per annum and will automatically convert into shares of our common stock in conjunction with any future common stock offerings at the per share offering price of the respective offering, but only to the extent that any conversion does not result in LFB's holdings exceeding 19.9% of our common stock on an as converted basis. Based on our effective borrowing rate of 10.8%, we recorded a debt discount of approximately $1.1 million for the difference between the stated interest rate and the effective borrowing rate. The debt discount is being amortized over the five year term of the note, resulting in additional interest expense of approximately $10,000 during fiscal year 2006.

Our long-term debt consisted of the following:

	December 31, 2006	January 1, 2006
GE Capital loan, with monthly payments of approximately $409 through January 2009 interest varies as described above, collateralized by all existing and future acquired assets, excluding intellectual property	$ —	$ 11,002
GE Capital loan, with monthly payments of approximately $109 through December 2011, fixed annual interest rate of 10.8%, collateralized by all existing and future acquired assets, excluding intellectual property	8,000	—
GE Capital loan, with monthly payments of approximately $65 through January 2010, fixed annual interest rate of 10.84%, collateralized by all existing and future acquired assets, excluding intellectual property	2,000	—
Note to Genzyme, with principal payments of $2,386 in April 2005 and April 2006 (payment made in January 2006), interest varies as described above, collateralized by a subordinated lien on all assets except intellectual property	—	2,386
Convertible note to LFB, fixed annual interest of 2%, net of debt discount	1,443	—
	11,443	13,388
Less current portion	973	6,383
	$ 10,470	7,005

	December 31, 2006
Maturities of long-term debt are as follows:	
2007	$ 973
2008	1,177
2009	1,311
2010	709
2011 and thereafter [1]	8,389
	$ 12,559

[1] Based on our effective borrowing rate of 10.8%, we recorded a debt discount of approximately $1.1 million for the difference between the stated interest rate and the effective borrowing rate. The debt discount is being amortized over the five-year term of the note.

Based on the borrowing rates currently available to us for loans with similar terms and average maturities, the value of the notes payable approximates fair value.

NOTE 8. STOCKHOLDERS' EQUITY

Authorized Shares

Our authorized capital stock consists of 200,000,000 shares of Common Stock, par value $0.01 per share, and 5,000,000 shares of preferred stock, par value $0.01 per share, of which 4,985,000 shares are designated as Series C Junior Participating Convertible Preferred Stock (the Series C Preferred Stock) and 15,000 shares are designated as Series D Preferred Stock, par value $0.01 per share. In March 2001, our Board of Directors restored all unissued or reacquired shares of our Series A Preferred Stock and Series B Preferred Stock to the status of authorized but undesignated and unissued shares of preferred stock.

Shareholder Rights Plan

On May 31, 2001, our Board of Directors adopted a Shareholder Rights Plan (the "Plan") as set forth in the Shareholder Rights Agreement, dated May 31, 2001, between GTC and American Stock Transfer and Trust Company, as Rights Agent (the "Rights Agreement"). A series of our preferred stock, designated as Series C Preferred Stock, par value $0.01 per share, was created in accordance with the Rights Agreement. The Plan is designed to deter coercive takeover tactics, including the accumulation of shares in the open market or through private transactions, and to prevent an acquirer from gaining control of GTC without offering a fair and adequate price and terms to all of our shareholders. As such, the Plan enhances the Board of Directors' ability to protect shareholder interests and ensure that shareholders receive fair and equal treatment in the event any proposed takeover of GTC is made in the future. Pursuant to the Rights Agreement, the Board of Directors declared a dividend distribution of one preferred stock purchase right for each outstanding share of our Common Stock to shareholders of record as of June 1, 2001. The preferred stock purchase rights are attached to, and will trade with, our Common Stock. The purchase rights are currently exercisable upon the occurrence of certain triggering events described in the Rights Agreement.

Common Stock Placements

In March 2004, we sold 6,395,298 shares of our Common Stock at $2.35 per share in a registered direct offering to institutional investors. We received proceeds from this sale, net of approximately $1.2 million in offering costs and fees, of approximately $13.9 million.

In January 2005, we sold 7,740,739 shares of our Common Stock at $1.35 per share in a registered direct offering to institutional investors. We received proceeds from this sale, net of approximately $700,000 in offering costs and fees, of approximately $9.7 million.

In August 2005, we sold 4,571,429 shares of our Common Stock at $1.75 per share and 5 year warrants to purchase an aggregate of 1,828,573 shares of our Common Stock at an exercise price of $2.68 per share in a private placement to institutional investors, which are exercisable on or after February 10, 2006. We received proceeds from this sale, net approximately $600,000 in offering costs and fees, of approximately $7.4 million. Pursuant to the registration rights agreement entered into with the investors in connection with the sale, we filed a registration statement in September 2005 registering the resale of the shares of Common Stock initially sold and the shares issuable upon exercise of the warrants.

In October 2005, we filed a universal shelf registration statement with the U.S. Securities and Exchange Commission which was declared effective on November 14, 2005 registering up to an aggregate of $50 million of securities, including common stock, debt securities, and other types of securities. The terms and pricing of any offerings of the securities covered by the registration statement would be established at the time of any offering, subject to market conditions and our capital needs.

In December 2005, we sold 9,101,912 share of our Common Stock at $1.83 per share and 5 year warrants to purchase an aggregate of 3,640,762 share of our Common Stock at an exercise price of $2.05 per share in a registered direct offering to institutional investors. We received proceeds from this sale, net of approximately $1.2 million in offering costs and fees, of approximately $15.5 million.

In July 2006, we sold 12 million shares of our Common Stock to institutional investors in a registered direct offering at $1.38 per share and 10-year warrants to purchase an aggregate of 7.8 million shares of our Common Stock at an exercise price of $1.4145 per share. The shares and warrants (including the shares issuable upon exercise of the warrants) were issued under a shelf registration statement. We received approximately $16.2 million in proceeds from this sale, net of approximately $1.3 million in offering costs and fees.

In August 2006, our Board of Directors, through the Compensation Committee, approved the issuance of 1,000 shares of common stock to every employee of GTC employed as of June 2, 2006, the date we received the positive opinion from EMEA. As a result, we recorded compensation expense of approximately $147,000 in the third quarter of 2006.

In January 2007, we sold 3.6 million shares of our Common Stock at a purchase price of $1.23 to LFB in connection with the third tranche under the purchase agreement with LFB. We received approximately $4.5 million in proceeds from the sale.

Preferred Stock Placements

In October 2006, we sold 5,000 shares of our newly designated Series D preferred stock, representing 5 million common share equivalents, to LFB for aggregate proceeds of $6.1 million in connection with the first tranche under the purchase agreement with LFB.

In December 2006, we sold 9,615 shares of Series D preferred stock at a purchase price of $1.23, representing 9.6 million common share equivalents, to LFB for aggregate proceeds of $11.8 million in connection with the second tranche under the purchase agreement with LFB.

Offering costs and fees in conjunction with the two Series D preferred stock placements to LFB were approximately $270,000.

A summary of our outstanding warrants as of December 31, 2006, of which 14,623,668 are currently exercisable, is as follows:

Common Shares Issuable for	Exercise Price Per Share	Warrant Expiration Date
20,000	$ 8.75	June 26, 2007
288,000	$ 4.88	December 28, 2008
55,833	$ 6.30	November 12, 2009
29,491	$ 6.30	November 22, 2009
961,009	$ 3.30	August 1, 2008
1,828,573	$ 2.52	February 10, 2011
3,640,762	$ 2.05	December 13, 2010
7,800,000	$ 1.4145	July 18, 2016
14,623,668		

As of December 31, 2006, we have reserved 20,532,635 shares of Common Stock, subject to adjustment, for future issuance under the various classes of warrants, the Equity Plans and Employee Stock Purchase Plans.

NOTE 9. EMPLOYEE BENEFIT PLANS

Equity Plan and Stock Purchase Plan

In May 1993, the Board of Directors adopted and the shareholders approved the 1993 Equity Incentive Plan and the 1993 Director Stock Option Plan (collectively, our "Prior Equity Plan") . In May 2002, our shareholders approved the 2002 Equity Incentive Plan (the "Equity Incentive Plan"), authorizing a total of 2,500,000 shares for issuance to our employees, consultants and directors and to our affiliates. In May 2004, our shareholders approved an increase in the number of shares authorized for future issuance under the Equity Incentive Plan by 2,000,000 shares. In addition, 4,340,000 shares subject to options previously granted under our Prior Equity Plans were transferred to our Equity Incentive Plan. A total of 5,699,573 shares are subject to outstanding options or reserved for issuance under our Equity Incentive Plan, including 4,941,501 options issued under our equity plans outstanding at December 31, 2006. Shares that became available upon termination of forfeited or expired options under our Prior Equity Plans will be added to reserve under our Equity Incentive Plan.

Under our Equity Incentive Plan, shares of Common Stock are reserved for issuance pursuant to incentive stock options, non-statutory stock options, restricted stock awards, stock appreciation rights, restricted stock units or stock units in accordance with specific provisions to be established by a committee of the Board of Directors at the time of grant. The Equity Incentive Plan also permits us to assume outstanding options in an acquisition without using shares reserved under the Plan. Annual grants to any individual participant are limited to 400,000 shares for any current participant and 600,000 shares for any new hire, in each case subject to adjustment for changes in our capitalization, and no options will have a term that can exceed ten years, and awards will be subject to a minimum three-year vesting schedule with exceptions in the discretion of the Compensation Committee for retirement, death, disability, termination by GTC, change in control, grants to consultants, directors or new hires, awards in lieu of cash compensation and performance vesting.

Under both our Equity Incentive Plan and our Prior Equity Plans, an option's maximum term is ten years and it vests ratably 20% on the date of issuance and 20% thereafter on the anniversary of the grant.

At December 31, 2006, a total of 758,072 shares were available for grant under our Equity Incentive Plan.

A summary of the status of our stock option plans as of December 31, 2006, January 1, 2006 and January 2, 2005 and changes during the years ending on those dates is presented below:

	Shares	Weighted Average Exercise Price
Balance at December 28, 2003	3,781,620	$ 5.73
Granted at Fair Value	796,100	$ 3.07
Exercised	(83,340)	$ 1.42
Cancelled	(470,337)	$ 6.34
Balance at January 2, 2005	4,024,043	$ 5.22
Granted at Fair Value	571,043	$ 1.70
Exercised	(9,600)	$ 1.12
Cancelled	(169,300)	$ 3.46
Balance at January 1, 2006	4,416,186	$ 4.84
Granted at Fair Value	734,400	$ 1.04
Exercised	(5,800)	$ 0.94
Cancelled	(203,285)	$ 5.52
Balance at December 31, 2006	4,941,501	$ 4.26

At December 31, 2006, January 1, 2006 and January 2, 2005, there were 3,824,191, 3,498,198 and 2,568,700 shares exercisable at a weighted average exercise price of $5.09, $5.66 and $6.46, respectively.

At December 31, 2006, there were 4,941,501 shares outstanding and 4,680,814 shares vested plus expected to vest in the future. The weighted average exercise price at December 31, 2006 for shares outstanding and vested plus expected to vest in the future were $4.26 and $4.42, respectively. The weighed average remaining contractual term of the shares outstanding, exercisable and vested plus expected to vest in the future were 5.98 years, 5.26 years and 5.83 years, respectively. The aggregate intrinsic value related to the options outstanding, exercisable, exercised and vested is immaterial for 2006, 2005 and 2004.

At December 31, 2006, there were 1,292,635 shares were available for grant.

As a result of adopting SFAS 123(R) on January 2, 2006, the net loss for the fiscal year ended December 31, 2006 was approximately $566,000 higher, of which $312,000 was recorded to research and development and $254,000 was recorded to selling, general and administrative, than if we had continued to account for share-based compensation under APB Opinion 25 for which no expense would be recorded in the financial statements. The impact of SFAS 123(R) on the net loss per share for the fiscal year ended December 31, 2006 was $0.01.

The following table illustrates the effect on net loss and net loss per share, for which there is no tax benefit, had we accounted for share-based compensation in accordance with SFAS 123(R) for the fiscal years ended January 1, 2006 and January 2, 2005:

	January 1, 2006		January 2, 2005	
	Net Loss	Net Loss Per *Common Share* (basic and diluted)	Net Loss	Net Loss Per *Common Share* (basic and diluted)
Net loss reported	$ (30,112)	$ (0.62)	$ (29,493)	$ (0.79)
Add: *	—	—	35	—
Deduct: **	(1,826)	(0.04)	(2,253)	(0.06)
Pro Forma net loss	$ (31,938)	$ (0.66)	$ (31,711)	$ (0.85)

* Total stock-based employee compensation recorded in net loss, as reported

** Total stock-based employee compensation expense determined under fair value based method for all awards

We use the Black-Scholes option-pricing model to estimate fair value of share-based awards with the following weighted average assumptions:

	Fiscal year ended		
	December 31, 2006	January 1, 2006	January 2, 2005
Stock Options and Awards:			
Expected life	6 years	6 years	5 years
Expected volatility	90%	90%	100%
Dividend yield	0%	0%	0%
Risk-free interest rate	4.63%	2.47%	3.24%

We calculate expected life for stock options and other equity awards using the Staff Accounting Bulletin No. 107, or SAB 107, simplified method.

We calculate expected volatility for stock options and other equity awards using historical volatility with a look back period of six years. We determine a range of volatility percentages and base our assumption on the mid range.

The weighted average estimated fair value at the date of grant for options granted during 2006, 2005 and 2004 was $1.04 , $1.20 and $2.16, respectively.

As of December 31, 2006, there was $837,807 of total unrecognized compensation costs related to unvested stock options. This cost is expected to be recognized over a weighted average period of 2.31 years.

Shares issued from the 2002 Equity Incentive Plan, whether for the exercise of stock options or other equity issuances, will be new shares of common stock as authorized under the plan. We reserve the right to purchase and reissue shares from treasury stock under certain circumstances.

In May 2003, our board of directors adopted and our shareholders approved our 2003 Employee Stock Purchase Plan (the "2003 Purchase Plan"). Under the 2003 Purchase Plan, 750,000 shares of Common Stock were reserved for the grant of purchase rights to employees in one or more offerings in accordance with provisions to be established by a committee of the Board of Directors prior to commencement of any offering period. Participants may purchase shares of Common Stock at not less than 85% of the lower of the market value at the beginning of each offering or on the purchase date. Under the 2003 Purchase Plan, the Compensation Committee has established separate three-month offerings every three months.

We record the FAS 123R compensation expense related to the Employee Stock Purchase Plan, however, the amounts are immaterial for the fiscal year ended December 31, 2006. Therefore, we do not disclose the weighted average assumptions related to the Employee Stock Purchase Plan.

In February 2004, we recorded compensation expense of $35,000 related to vesting of options for employees who were terminated on February 5, 2004. The Compensation Committee agreed to accelerate vesting of a group of stock options for these employees that were originally scheduled to vest on February 14, 2004. We used the difference between the exercise price and the market value on February 13, 2004 for the accelerated options to calculate the amount of expense.

On December 22, 2005, in anticipation of the effective date of Statement of Financial Accounting Standards No. 123(R) (Share-Based Payment) the Compensation Committee approved the acceleration of vesting of certain unvested "out-of-the-money" stock options held by current employees as of December 22, 2005, including executive officers. For this purpose, a stock option was considered "out-of-the-money" if the option exercise price was greater than $3.75 per share. The closing price of our Common Stock on December 22, 2005, the date the Compensation Committee approved the acceleration of vesting of "out-of-the-money" options, was $1.63. All other terms and conditions of these "out-of-the-money" options remain unchanged. These actions were taken in accordance with the applicable provisions of our 1993 and 2002 Equity Incentive Plans. No stock options held by non-employee directors were accelerated in this action.

As a result of the acceleration of vesting, options to purchase approximately 372,000 shares of our Common Stock (which represents approximately 8.4% of our then currently outstanding stock options) became exercisable immediately. The accelerated options have exercise prices ranging from $3.80 to $5.90 per share. The weighted average exercise price of the accelerated options is $3.92 per share.

Executive officers hold options for 173,000 of the accelerated option shares. As a condition to the acceleration of options held by an executive officer, the executive officer was required to deliver a lock-up agreement. Under the lock up agreement, the executive officer agreed not to sell the underlying shares until the earlier of i) the original vesting date, or ii) the last day of employment, or iii) the date of a change in control that includes an option acceleration.

401(k) Plan

All of our employees, subject to certain eligibility requirements, can participate in our defined contribution plan. Currently, we may match up to 50% of each participating employee's contributions to the plan to a maximum of 3% of salary. We may also contribute an additional 2% of each employee's salary as a retirement contribution. All contributions are at the discretion of the Board of Directors. Expense recognized under this plan was approximately $ 249,000, $191,000 and $289,000 for the fiscal years ended December 31, 2006, January 1, 2006 and January 2, 2005, respectively.

NOTE 10. INCOME TAXES

Deferred tax assets and deferred tax liabilities are recognized based on temporary differences between the financial reporting and tax basis of assets and liabilities using future expected enacted rates. A valuation allowance is recorded against deferred tax assets if it is more likely than not that some or all of the deferred tax assets will not be realized.

The income tax (benefit) provision from continuing operations consisted of the following:

	Fiscal Years Ended		
	December 31, 2006	January 1, 2006	January 2, 2005
Deferred:			
Federal	$ (12,912)	$ (10,298)	$ (10,711)
State	(1,762)	(1,088)	(1,785)
Foreign	(100)	(99)	(141)
Change in Valuation Allowance	14,774	11,485	12,637
Total Deferred	$ —	$ —	$ —

A reconciliation of the U.S. federal statutory tax rate to the effective tax rate is as follows:

	Fiscal Years Ended		
	December 31, 2006	January 1, 2006	January 2, 2005
Federal tax—expense (benefit)	(34.0)%	(34.0)%	(34.0)%
State taxes—net	(5.2)	(3.9)	(7.0)
Research and development tax credits	(3.7)	(2.6)	(2.5)
Other	1.0	2.4	(2.6)
Change in valuation allowance	41.9	38.1	46.1
Effective tax rate	0%	0%	0%

The components of the deferred tax assets and liabilities at December 31, 2006 and January 1, 2006, respectively, are as follows (dollars in thousands):

	December 31, 2006	January 1, 2006
Deferred tax assets/(liabilities):		
Net operating loss carryforwards	$ 77,823	$ 69,601
Capitalized research and development expenses	20,894	17,727
Inventory	—	169
Advance payments	3,726	2,231
Accrued compensation	277	253
Other accruals	265	130
Tax credits	9,153	7,275
Other	60	38
Depreciation	(832)	(832)
Total deferred tax asset	111,366	96,592
Valuation allowance	(111,366)	(96,592)
	$ —	$ —

As of December 31, 2006, we had a federal net operating loss and research and experimentation credit carryforwards of approximately $211 million and $6.3 million, respectively, which may be available to offset future federal income tax liabilities. These carryforwards expire at various dates starting in 2007 and going through 2026. There were no expirations of federal research and development credits in 2006 or 2005. We also had approximately $700,000 of federal net operating losses generated in 1991 and approximately $14.2 million of Massachusetts net operating losses generated in 2001 that expired in 2006. We anticipate that approximately $44.3 million of federal net operating losses generated between 1992 and 1996 and approximately $52.9 million of Massachusetts net operating losses generated between 2002 and 2006, will expire over the next five years

We have recorded a deferred tax asset of approximately $4.9 million reflecting the benefit of deductions from the exercise of stock options. This deferred asset has been fully reserved until it is more likely than not that the benefit from the exercise of stock options will be realized. The benefit from this $4.9 million deferred tax asset will be recorded as a credit to additional paid-in capital if and when realized. As required by SFAS No. 109, our management has evaluated the positive and negative evidence bearing upon the realizability of its deferred tax assets, which are comprised principally of net operating loss and research and experimentation credit carryforwards. Management has determined that it is more likely than not that we will not recognize the benefits of federal and state deferred tax assets and, as a result, a valuation allowance of approximately $111.4 million has been established at December 31, 2006.

Ownership changes, as defined in the Internal Revenue Code, may have limited the amount of net operating loss carryforwards that can be utilized annually to offset future taxable income. Subsequent ownership changes could further affect the limitation in future years.

NOTE 11. ARRANGEMENTS WITH RELATED PARTIES

LFB Biotechnologies ("LFB")

In September 2006, we entered into a collaboration agreement with LFB to develop selected recombinant plasma proteins and monoclonal antibodies using our transgenic production platform (see Note 3).

Genzyme Corporation

From our inception, certain facilities and support services, including both research and administrative support, have been provided by Genzyme. For these services, we were charged $874,735, $1,423,457 and $2,919,077 for the fiscal years ended December 31, 2006, January 1, 2006 and January 2, 2005, respectively. These charges, which are set by Genzyme, represent an allocation of our proportionate share of Genzyme's overhead costs using formulae which our management believes are reasonable based upon our use of the facilities and services. Also included in this amount are other costs for all periods presented, including payroll costs that are directly attributable to us and have been paid by Genzyme and charged to us.

In December 2005, Genzyme's stock ownership fell below 10% and, as such, was not considered a related party after that date.

First Negotiation Right for Commercializing ATryn®

If we choose to commercialize ATryn® with a marketing partner outside of Asia, Genzyme has a first right of negotiation for exclusive commercialization rights. This right is triggered on an indication-by-indication basis at such time as we apply for marketing approval with a regulatory authority. This right does not apply if we have already entered into a collaboration or other agreement with a prospective research, development and marketing partner prior to such regulatory submission. It also no longer applies to the LEO territories.

ATIII LLC Re-Acquisition

In 1997, we established the ATIII LLC joint venture with Genzyme for the marketing and distribution rights of ATryn® in all territories other than Asia. In July 2001, we reacquired Genzyme's ownership interest in the joint venture in exchange for a royalty to Genzyme based on our sales of ATryn®, if any, outside of Asia commencing three years after the first commercial sale, up to a cumulative maximum of $30 million.

NOTE 12. JOINT VENTURES

Taurus hSA LLC

In late 2002, we restructured our relationship with Fresenius AG for the therapeutic blood expander market into a joint venture, called Taurus hSA LLC or the Taurus Joint Venture, to include the development of rhA program as an excipient. We currently have a 58.1% interest in the joint venture. Each party has the right, but not the obligation, to make future contributions to the Taurus Joint Venture. Each member has reversion rights to any intellectual property it contributes to the Taurus Joint Venture. We consolidate the Taurus Joint Venture on our financial statements for financial reporting purposes. In November 2006 the Management Committee of the Taurus Joint Venture agreed that neither GTC nor Fresenius-Kabi would fund the recombinant Albumin program during the next 12 months. As a result of prioritizing our resources to other development programs, we are minimizing further investment in this program at this time.

NOTE 13. GEOGRAPHICAL INFORMATION

Net revenues from external customers are based on the location of the customer.

Geographic information for net revenues from external customers, by fiscal year, is presented in the table below:

	United States	Japan	Europe	Israel	Total
2006	$ 4,156	$ —	$ 1,969	$ 3	$ 6,128
2005	4,049	—	100	3	4,152
2004	6,379	3	244	—	6,626

Of our long-lived assets, $6 million of intangible assets are located in an offshore subsidiary.

Geographic information for long lived assets, by fiscal year, is presented in the table below:

	United States	United kingdom	New Zealand	Total
2006	$ 12,146	$ 5,068	$ 264	$ 17,748
2005	13,971	4,463	450	18,884

NOTE 14. UNAUDITED RESULTS OF QUARTERLY OPERATIONS

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
2006				
Revenue	$ 2,201[1]	$ 416	$ 690	$ 2,821[2]
Operating loss	(8,537)	(9,077)	(10,435)	(7,598)
Net loss	(8,503)	(9,097)	(10,317)[3]	(7,428)
Net loss per share—basic and diluted	(0.14)	(0.15)	(0.14)	(0.10)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
2005				
Revenue	$ 1,322	$ 1,017	$ 1,184	$ 629[4]
Operating loss	(7,863)	(6,978)	(6,552)	(8,372)
Net loss	(8,033)	(7,120)	(6,695)	(8,264)[5]
Net loss per share—basic and diluted	(0.18)	(0.15)	(0.14)	(0.15)

(1) In the first quarter of 2006, we completed processing of some material for Merrimack and as result were able to recognize the associated revenue.

(2) In the fourth quarter of 2006, we began shipping ATryn® to LEO and, as a result, were able to recognize the revenue on the product shipments as well as a portion of the revenue on milestone payments previously received.

(3) In the third quarter of 2006, our expense on the ATryn® program increased as a result of manufacturing of material under our collaboration agreement with LEO.

(4) We successfully completed our transgenic development work in December 2004 on the Elan program. Under a further agreement with Elan in 2005, the program was scaled down and then concluded in the third quarter of 2005.

(5) In the fourth quarter 2005, our expenses on the ATryn® program increased as a result of the manufacturing of material under our collaboration agreement with LEO.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized, in Framingham, Massachusetts on the 7th day of March 2007.

GTC BIOTHERAPEUTICS, INC.

By: /s/ Geoffrey F. Cox
Geoffrey F. Cox
Chairman of the Board, President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934 this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the date indicated.

Signature	Title	Date
/s/ Geoffrey F. Cox Geoffrey F. Cox	Chairman of the Board, President and Chief Executive Officer (Principal Executive Officer)	March 7, 2007
/s/ John B. Green John B. Green	Chief Financial and Accounting Officer (Principal Financial and Accounting Officer)	March 7, 2007
/s/ Robert W. Baldridge Robert W. Baldridge	Director	March 7, 2007
/s/ Kenneth A. Bauer Kenneth A. Bauer	Director	March 7, 2007
/s/ Christian Béchon Christian Béchon	Director	March 7, 2007
/s/ Francis J. Bullock Francis J. Bullock	Director	March 7, 2007
/s/ James A. Geraghty James A. Geraghty	Director	March 7, 2007
/s/ Michael J. Landine Michael J. Landine	Director	March 7, 2007
/s/ Pamela W. McNamara Pamela W. McNamara	Director	March 7, 2007
/s/ Marvin L. Miller Marvin L. Miller	Director	March 7, 2007
/s/ Alan W. Tuck Alan W. Tuck	Director	March 7, 2007

EXHIBIT INDEX
to Form 10-K for the Year Ended December 31, 2006

Exhibit No.	Description
3.1.1	Restated Articles of Organization of GTC filed with the Secretary of the Commonwealth of Massachusetts on December 27, 1993. Filed as Exhibit 3.1 to GTC's Annual Report on Form 10-K for the year ended December 31, 1993 (File No. 0-21794) and incorporated by reference herein.
3.1.2	Articles of Amendment to the Restated Articles of Organization of GTC filed with the Secretary of the Commonwealth of Massachusetts on October 3, 1994. Filed as Exhibit 3.1.2 to GTC's Annual Report on Form 10-K for the year ended December 28, 1997 (File No. 0-21794) filed on March 29, 1998 and incorporated by reference herein.
3.1.3	Articles of Amendment to the Restated Articles of Organization of GTC filed with the Secretary of the Commonwealth of Massachusetts on June 26, 1997. Filed as Exhibit 3 to GTC's Quarterly Report on Form 10-Q for the quarter ended June 29, 1997 (File No. 0-21794) filed on August 13, 1997 and incorporated by reference herein.
3.1.4	Articles of Amendment to the Restated Articles of Organization of GTC filed with the Secretary of the Commonwealth of Massachusetts on June 1, 2000. Filed as Exhibit 4.1.5 to GTC's Registration Statement on Form S-8 (File No. 333-38490) filed on June 2, 2000 and incorporated by reference herein.
3.1.5	Certificate of Vote of Directors Establishing a Series of a Class of Stock of GTC and designating the Series C Junior Participating Cumulative Preferred Stock. Filed as Exhibit 3.1 to GTC's Current Report on Form 8-K (File No. 0-21794) filed on June 1, 2001 and incorporated by reference herein.
3.1.6	Articles of Amendment to the Restated Articles of Organization of GTC filed with the Secretary of the Commonwealth of Massachusetts on May 31, 2002. Filed as Exhibit 3.1 to GTC's Current Report on Form 8-K (File No. 0-21794) filed on June 3, 2002 and incorporated by reference herein.
3.1.7	Articles of Amendment to the Restated Articles of Organization of GTC filed with the Secretary of the Commonwealth of Massachusetts on October 2, 2006. Filed as Exhibit 3.1 to GTC's Current Report on Form 8-K (File No. 0-21794) filed on October 5, 2006 and incorporated by reference herein.
3.1.8	Articles of Amendment to the Restated Articles of Organization of GTC filed with Secretary of the Commonwealth of Massachusetts on December 11, 2006. Filed herewith.
3.2	By-Laws of GTC, as amended. Filed as Exhibit 3.1 to GTC's Quarterly Report on Form 10-Q for the quarter ended July 4, 1999 (File No. 0-21794) filed on August 18, 1999 and incorporated by reference herein.
4.1	Specimen Common Stock Certificate. Filed as Exhibit 4.1 to GTC's Registration Statement on Form S-1 (File No. 33-62782) and incorporated by reference herein.
4.2	Shareholder Rights Agreement, dated as of May 31, 2001, by and between GTC and American Stock Transfer and Trust Company, as Rights Agent. Filed as Exhibit 4.1 to GTC's Current Report on Form 8-K (File No. 0-21794) filed on June 1, 2001 and incorporated by reference herein.

4.2.1 First Amendment to Shareholder Rights Agreement, dated as of December 14, 2006, by and between GTC and American Stock Transfer and Trust Company. Filed as Exhibit 4.1 to GTC's Current Report on Form 8-K (File No. 0-21794) filed on December 19, 2006 and incorporated by reference herein.

4.3 Warrant to Purchase Common Stock, dated as of June 26, 1997, issued to Government Land Bank d/b/a The MassDevelopment. Filed as Exhibit 4 to GTC's Quarterly Report on Form 10-Q for the quarter ended June 29, 1997 (File No. 0-21794) filed on August 13, 1997 and incorporated by reference herein.

4.4 Warrant to Purchase Common Stock, dated as of December 28, 1998, issued to Genzyme Corporation. Filed as Exhibit 4.11 to GTC's Annual Report on Form 10-K for the year ended January 3, 1999 (File No. 0-21794) filed on April 3, 2000 and incorporated by reference herein.

4.5 Warrant to Purchase Common Stock, dated November 12, 1999, issued to Genzyme Corporation. Filed as Exhibit 8 to Amendment No. 6 to Schedule 13D of Genzyme Corporation (File No. 005-46637) filed on November 24, 1999 and incorporated by reference herein.

4.6 Warrant to Purchase Common Stock, dated November 12, 1999, issued to Genzyme Corporation. Filed as Exhibit 9 to Amendment No. 6 to Schedule 13D of Genzyme Corporation (File No. 005-46637) filed on November 24, 1999 and incorporated by reference herein.

4.7 Form of Common Stock Purchase Warrant. Filed as Exhibit 10.2 to GTC's Current Report on Form 8-K (File No. 0-21794) filed on August 4, 2003 and incorporated by reference herein.

4.8 Registration Rights Agreement between GTC and certain Stockholders named therein. Filed as Exhibit 10.53 to GTC's Annual Report on Form 10-K for the year ended December 28, 1997 (File No. 0-21794) filed on March 27, 1998 and incorporated by reference herein.

4.9 Series A Convertible Preferred Stock Purchase Agreement by and between GTC and Genzyme Corporation, dated May 1, 1993. Filed as Exhibit 4.9 to GTC's Amendment No. 1 to Annual Report on Form 10-K/A for the year ended January 1, 2006 (File No. 0-21794) filed on October 5, 2006 and incorporated by reference herein.

4.10 Form of Common Stock Purchase Warrant. Filed as Exhibit 10.3 to GTC's Current Report on Form 8-K (File No. 0-21794) filed on August 8, 2005 and incorporated by reference herein.

4.11 Form of Registration Rights Agreement. Filed as Exhibit 10.2 to GTC's Current Report on Form 8-K (File No. 0-21794) filed on August 8, 2005 and incorporated by reference herein.

4.12 Form of Common Stock Purchase Warrant. Filed as Exhibit 4.4 to GTC's Current Report on Form 8-K (File No. 0-21794) filed on December 12, 2005 and incorporated by reference herein.

4.13 Form of Common Stock Purchase Warrant. Filed as Exhibit 4.1 to GTC's Current Report on Form 8-K (File No. 0-21794) filed on July 20, 2006 and incorporated by reference herein.

4.14 Form of Subordinated Convertible Note issued to LFB Biotechnologies, S.A.S.U. Included as Exhibit B to the Stock and Note Purchase Agreement by and between GTC and LFB Biotechnologies, S.A.S.U. dated September 29, 2006, filed as Exhibit 10.1 to GTC's Current Report on Form 8-K (File No. 0-21794) filed October 5, 2006 and incorporated by reference herein.

10.1* Agreement by and between GTC and Gene Pharming Europe B.V., dated as of September 21, 1994. Filed as Exhibit 10.49 to GTC's Registration Statement on Form S-1 (File No. 33-62782) and incorporated by reference herein.

10.3 Sublease Agreement by and between GTC and Genzyme Corporation, dated as of May 1, 1993. Filed as Exhibit 10.3 to GTC's Registration Statement on Form S-1(File No. 33-62782) and incorporated by reference herein.

10.4 License Agreement by and between GTC and Genzyme Corporation, as successor to IG Laboratories, Inc., dated as of May 1, 1993. Filed as Exhibit 10.4 to GTC's Registration Statement on Form S-1 (File No. 33-62782) and incorporated by reference herein.

10.5* United States Patent No. 4,873,191 Sublicense Agreement by and between Xenogen Corporation (formerly DNX, Inc.) and Genzyme Regarding Transgenic Experimental Animals and Transgenic Mammary Production Systems, dated February 1, 1990; and letter of amendment, dated April 19, 1991. Filed together as Exhibit 10.3 to GTC's Amended Quarterly Report on Form 10-Q for the quarter ended June 29, 2003 (File No. 0-21794) filed on August 5, 2003 and incorporated by reference herein.

10.6 Lease dated March 26, 1999 by and between GTC and NDNE 9/90 Corporate Center LLC. Filed as Exhibit 10.1 to GTC's Quarterly Report on Form 10-Q for the quarter ended July 4, 1999 (File No. 0-21794) filed on August 18, 1999 and incorporated by reference herein.

10.7 Hazardous Materials Indemnity Agreement, December 28, 1998, by and between the GTC and Genzyme Corporation. Filed as Exhibit 10.28.5 to GTC's Annual Report on Form 10-K for the year ended January 2, 2000 (File No. 0-21794) filed on April 2, 2001 and incorporated by reference herein.

10.8* License Agreement by and among GTC, Pharming Group N.V. and Pharming Intellectual Property B.V., dated June 21, 2002. Filed as Exhibit 10.3.1 to GTC's Quarterly Report on Form 10-Q for the quarter ended June 30, 2002 (File No. 0-21794) filed on August 2, 2002 and incorporated by reference herein.

10.9* Amended and Restated License Agreement by and among Pharming Group, N.V. and Pharming Intellectual Property B.V. and GTC dated June 21, 2002. Filed as Exhibit 10.3.2 to GTC's Quarterly Report on Form 10-Q for the quarter ended June 30, 2002 (File No. 0-21794) filed on August 2, 2002 and incorporated by reference herein.

10.11* Purchase Agreement by and between GTC and Genzyme Corporation, dated as of July 31, 2001. Filed as Exhibit 10.2 to GTC's Quarterly Report on Form 10-Q for the quarter ended September 30, 2001 (File No. 0-21794) filed on November 13, 2001 and incorporated by reference herein.

10.12* Sublease Agreement by and between GTC and Antigenics, Inc., dated July 16, 2002. Filed as Exhibit 10.4 to GTC's Quarterly Report on Form 10-Q for the quarter ended June 30, 2002 (File No. 0-21794) filed on August 2, 2002 and incorporated by reference herein.

10.15* Service Agreement by and between GTC and Cambrex Bio Science MA, Inc., dated as of August 20, 2002. Filed as Exhibit 10.21 to GTC's Annual Report on Form 10-K for the year ended December 29, 2002 (File No. 0-21794) filed on March 28, 2003 and incorporated by reference herein.

10.16 Amended and Restated Master Security Agreement by and between GTC and General Electric Capital Corporation, dated as of December 29, 2006. Filed as Exhibit 10.3 to GTC's Current Report on Form 8-K (File No. 0-21794) filed on January 4, 2007 and incorporated by reference herein.

10.17 Promissory Note in the amount of $8 million by and between GTC and General Electric Capital Corporation, dated as of December 29, 2006. Filed as Exhibit 10.1 to GTC's Current Report on Form 8-K (File No. 0-21794) filed on January 4, 2006 and incorporated by reference herein.

10.18 Promissory Note in the amount of $2 million by and between GTC and General Electric Capital Corporation, dated as of December 29, 2006. Filed as Exhibit 10.2 to GTC's Current Report on Form 8-K (File No. 0-21794) filed on January 4, 2006 and incorporated by reference herein.

10.20* Licensing and Supply Agreement by and between GTC and LEO Pharma A/S, dated as of October 31, 2005. Filed as Exhibit 10.1 to GTC's Current Report on Form 8-K/A (File No. 0-21794) filed on November 28, 2005 and incorporated by reference herein.

10.21* Master Agreement Relating to the Production of Clarified Goat's Milk Containing Recombinant Human Alpha Fetoprotein by and between GTC and Merrimack Pharmaceuticals, Inc., dated September 9, 2005. Filed as Exhibit 10.21 to GTC's Annual Report on Form 10-K for the year ended January 1, 2006 (File No. 0-21794) filed on March 15, 2006 and incorporated by reference herein.

10.22* Manufacturing Agreement by and between GTC and Merrimack Pharmaceuticals, Inc., dated September 9, 2005. Filed as Exhibit 10.22 to GTC's Annual Report on Form 10-K for the year ended January 1, 2006 (File No. 0-21794) filed on March 15, 2006 and incorporated by reference herein.

10.23 Form of Lock-up Agreement. Filed as Exhibit 10.1 to GTC's Current Report on Form 8-K (File No. 0-21794) filed on December 27, 2005 and incorporated by reference herein.

10.24** GTC Amended and Restated 1993 Equity Incentive Plan. Filed as Exhibit 10.7 to GTC's Annual Report on Form 10-K for the year ended December 30, 2001 (File No. 0-21794) filed on March 22, 2002 and incorporated by reference herein.

10.25** GTC 2002 Equity Incentive Plan. Filed as Exhibit 10.6 to GTC's Amended Quarterly Report on Form 10-Q for the quarter ended March 31, 2002 (File No. 0-21794) filed on June 27, 2002 and incorporated by reference herein.

10.26** GTC 2002 Employee Stock Purchase Plan. Filed as Exhibit 10.7 to GTC's Quarterly Report on Form 10-Q for the quarter ended March 31, 2002 (File No. 0-21794) filed on May 1, 2002 and incorporated by reference herein.

10.27 GTC Form of Confidential and Proprietary Information Agreement signed by GTC employees. Filed as Exhibit 10.9 to GTC's Registration Statement on Form S-1 (File No. 33-62782) and incorporated by reference herein.

10.28 GTC Form of Agreement Not to Compete. Filed as Exhibit 10.10 to GTC's Registration Statement on Form S-1 (File No. 33-62782) and incorporated by reference herein.

10.29 Form of Indemnification Agreement between GTC and its directors. Filed as Exhibit 10.12 to GTC's Annual Report on Form 10-K for the year ended December 31, 1994 (File No. 0-21794) and incorporated by reference herein. Such agreements are materially different only as to the signing directors and the dates of execution.

10.30** Employment Agreement, dated as of March 27, 1996, by and between GTC and Harry Meade. Filed as Exhibit 10.44 to GTC's Quarterly Report on Form 10-Q for the quarter ended March 31, 1996 (File No. 0-21794) and incorporated by reference herein.

10.31.1** Amended and Restated Employment Agreement, dated as of August 28, 1997, by and between GTC and John B. Green. Filed as Exhibit 10.2 to GTC's Quarterly Report on Form 10-Q for the quarter ended September 28, 1997 (File No. 0-21794) filed on November 5, 1997 and incorporated by reference herein.

10.31.2** Amendment No. 1 to Employment Agreement by and between GTC and John B. Green. Filed as Exhibit 10.3 to GTC's Quarterly Report on Form 10-Q for the quarter ended September 27, 1998 (File No. 0-21794) filed on November 12, 1998 and incorporated by reference herein.

10.32** Executive Employment Agreement, dated as of July 18, 2001, by and between GTC and Geoffrey F. Cox. Filed as Exhibit 10.2 to GTC's Quarterly Report on Form 10-Q for the quarter ended September 30, 2001 (File No. 0-21794) filed on November 13, 2001 and incorporated by reference herein.

10.33** Management Agreement by and between GTC and Daniel Woloshen dated as of May 27, 1999. Filed as Exhibit 10.1 to GTC's Quarterly Report on Form 10-Q for the quarter ended March 30, 2003 (File No. 0-21794) filed on May 6, 2006 and incorporated by reference herein.

10.34** Management Agreement by and between GTC and Gregory Liposky dated as of June 14, 2000. Filed as Exhibit 10.2 to GTC's Quarterly Report on Form 10-Q for the quarter ended March 30, 2003 (File No. 0-21794) filed on May 6, 2003 and incorporated by reference herein.

10.35** Form of Management Agreement. Filed as Exhibit 10.1 to GTC's Current Report on Form 8-K (File No. 0-21794) filed on August 3, 2006 and incorporated by reference herein.

10.36** Form of Executive Change in Control Agreement. Filed as Exhibit 10.2 to GTC's Current Report on Form 8-K (File No. 0-21794) filed on August 3, 2006 and incorporated by reference herein.

10.37 Promissory Note, dated December 24, 2005, by and between GTC and General Electric Capital Corporation. Filed as Exhibit 10.36 to GTC's Amendment No. 1 to Annual Report on Form 10-K/A (File No. 0-21794) filed on October 5, 2006 and incorporated by reference herein.

10.38* Joint Development and Commercialization Agreement dated September 29, 2006 by and between GTC and LFB Biotechnologies S.A.S.U. Filed as Exhibit 10.3 to GTC's Quarterly Report on Form 10-Q for the quarter ended October 1, 2006 (File No. 0-21794) filed on November 3, 2006 and incorporated by reference herein.

10.39 Stock and Note Purchase Agreement dated September 29, 2006, by and between GTC and LFB Biotechnologies S.A.S.U., including the form of convertible note attached as Exhibit B thereto. Filed as Exhibit 10.1 to GTC's Current Report on Form 8-K (File No. 0-21794) filed on October 5, 2006 and incorporated by reference herein.

10.40 Keepwell Agreement dated September 29, 2006, by and between GTC and Laboratories Francais du Fractionnement et des Biotechnologies S.A. Filed as Exhibit 10.2 to GTC's Current Report on Form 8-K (File No. 0-21794) filed on October 5, 2006 and incorporated by reference herein.

21 List of Subsidiaries. Filed herewith.

23 Consent of PricewaterhouseCoopers LLP. Filed herewith.

31.1 Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. Filed herewith.

31.2 Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. Filed herewith.

32 Certifications pursuant to 18 U.S.C. Section 1350. Filed herewith.

* Certain confidential information contained in the document has been omitted and filed separately with the Securities and Exchange Commission pursuant to Rule 406 of the Securities Act of 1933, as amended, or Rule 24b-2 promulgated under the Securities and Exchange Act of 1934, as amended.

** Indicates a management contract or compensatory plan.

Corporate Information

BOARD OF DIRECTORS

Geoffrey F. Cox, Ph.D.
Chairman of the Board
President and Chief Executive Officer
GTC Biotherapeutics, Inc.

Robert W. Baldridge
Independent Business Consultant
Former CEO and Director of
TSI Corporation

Kenneth A. Bauer, M.D.
Professor of Medicine
Harvard Medical School
Director, Thrombosis Clinical Research
Beth Israel Deaconess Medical Center

Christian Béchon
Chairman and Chief Executive Officer
LFB Biotechnologies, SAS

Francis J. Bullock, Ph.D.
Independent Consultant
Former Sr. Vice President of
Research Operations
Schering-Plough Research Institute

James A. Geraghty
Senior Vice President
Genzyme Corporation

Michael J. Landine
Vice President
Corporate Development
Alkermes, Inc.

Pamela W. McNamara
Chief Executive Officer
CRF, Inc.
Former CEO, Arthur D. Little

Marvin L. Miller
Independent Business Consultant
Onconova Therapeutics, Inc.
Former President and CEO
Nextran, an affiliate of
Baxter Healthcare Corporation

Alan W. Tuck
Partner
The Bridgespan Group,
a nonprofit consulting organization

EXECUTIVE OFFICERS

Geoffrey F. Cox, Ph.D.
Chairman of the Board
President and Chief Executive Officer
GTC Biotherapeutics, Inc.

John B. Green, C.P.A.
Senior Vice President
Chief Financial Officer and Treasurer
GTC Biotherapeutics, Inc.

Gregory F. Liposky
Senior Vice President
Operations
GTC Biotherapeutics, Inc.

Harry M. Meade, Ph.D.
Senior Vice President
Research and Development
GTC Biotherapeutics, Inc.

Richard A. Scotland
Senior Vice President
Regulatory Affairs
GTC Biotherapeutics, Inc.

Daniel S. Woloshen
Senior Vice President and
General Counsel
GTC Biotherapeutics, Inc.

CORPORATE OFFICES

GTC Biotherapeutics, Inc.
175 Crossing Boulevard
Framingham, MA 01702
(508) 620-9700 www.gtc-bio.com

INDEPENDENT ACCOUNTANTS

PricewaterhouseCoopers LLP
Boston, MA

EXTERNAL LEGAL COUNSEL

Edwards Angell Palmer & Dodge LLP
Boston, MA

TRANSFER AGENT

American Stock Transfer
& Trust Company
59 Maiden Lane
New York, NY 10038
(800) 937-5449 www.amstock.com

The transfer agent is responsible for handling shareholder questions regarding lost stock certificates, address changes and changes of ownership or name in which shares are held.

MARKET FOR COMMON STOCK

Nasdaq National Market System
Trading Symbol: GTCB

REPORT ON FORM 10-K

GTC's Annual Report on Form 10-K for the year ended December 31, 2006 is included herein. The report on Form 10-K and its accompanying exhibits are filed with the U.S. Securities and Exchange Commission and can be accessed in the SEC's EDGAR database (at www.sec.gov). Copies are available without charge upon written request to the Company at 175 Crossing Boulevard, Framingham, MA 01702 or by calling Thomas Newberry at (508) 620-9700, x6374.

ANNUAL MEETING

The Annual Meeting of Shareholders will be held on Wednesday, May 23, 2007 at 1:00 p.m. at the Forefront Center for Meetings and Conferences, 404 Wyman Street, Waltham, Massachusetts 02451.

GTC Biotherapeutics, Inc.

175 Crossing Boulevard
Framingham, MA 01702

END