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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549**

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**FORM 10-Q**

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

For the quarterly period ended March 29, 2009

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 Number 0-21794

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**GTC BIOTHERAPEUTICS, INC.**

(Exact Name of Registrant as Specified in Its Charter)

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Massachusetts  
(State or Other Jurisdiction of  
Incorporation or Organization)

04-3186494  
(I.R.S. Employer  
Identification No.)

175 Crossing Boulevard, Framingham, Massachusetts  
(Address of Principal Executive Offices)

01702  
(Zip Code)

(508) 620-9700

(Registrant's Telephone Number, Including Area Code)

(Former Name, Former Address and Former Fiscal Year, if Changed Since Last Report)

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Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 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 whether the registrant has submitted electronically and posted on its corporate web site if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes  No

Indicate by check mark whether registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

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

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

Class

Outstanding at May 7, 2009

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Common Stock, \$0.01 par value

104,391,892

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## **NOTE REGARDING FORWARD-LOOKING STATEMENTS**

This Quarterly Report on Form 10-Q 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 our Annual Report on Form 10-K for the fiscal year ended December 28, 2008 as filed with the Securities and Exchange Commission

The forward-looking statements in this Quarterly Report on Form 10-Q speak as of the date of this report. We expressly disclaim any obligation or undertaking to disseminate any updates or revisions to any forward-looking statement contained in this Quarterly Report to reflect any change in our expectations with regard thereto or any change in events, conditions or circumstances on which any forward-looking statement is based, except as may be required by law.

**GTC BIOTHERAPEUTICS, INC.**  
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**PART I—FINANCIAL INFORMATION**

**ITEM 1. FINANCIAL STATEMENTS.**

**GTC BIOTHERAPEUTICS, INC.  
CONSOLIDATED BALANCE SHEETS  
(Unaudited, dollars in thousands except share amounts)**

	<u>March 29, 2009</u>	<u>December 28, 2008</u>
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents .....	\$ 6,774	\$ 11,643
Accounts receivable and unbilled contract revenue .....	25	287
Inventory .....	308	863
Other current assets .....	<u>1,698</u>	<u>962</u>
Total current assets .....	8,805	13,755
Net property, plant and equipment.....	12,982	13,396
Intangible assets, net .....	6,024	6,249
Other assets .....	2,338	2,404
Restricted cash .....	<u>4,599</u>	<u>4,599</u>
Total assets.....	<u>\$ 34,748</u>	<u>\$ 40,403</u>
<b>LIABILITIES AND SHAREHOLDERS' DEFICIT</b>		
Current liabilities:		
Accounts payable .....	\$ 7,258	\$ 8,024
Accrued liabilities.....	5,596	5,962
Short-term deferred contract revenue.....	5,840	688
Current portion of long-term debt .....	<u>1,339</u>	<u>1,383</u>
Total current liabilities .....	20,033	16,057
Long-term deferred contract revenue.....	8,740	9,180
Long-term debt, net of current portion.....	6,397	6,577
Long-term convertible notes to LFB Biotechnologies, net of debt discount.....	12,917	12,692
Other long-term liabilities.....	<u>116</u>	<u>20</u>
Total liabilities .....	48,203	44,526
Shareholders' deficit:		
Preferred stock, \$.01 par value; 5,000,000 shares authorized: 15,000 shares designated as Series D convertible preferred stock, \$.01 par value; 115 shares were issued and outstanding at March 29, 2009 and December 28, 2008.....	—	—
Common stock, \$.01 par value; 210,000,000 shares authorized; 104,361,701 and 102,964,778 shares were issued and outstanding at March 29, 2009 and December 28, 2008, respectively ...	1,043	1,029
Capital in excess of par value.....	297,720	298,963
Accumulated deficit .....	<u>(312,218)</u>	<u>(304,115)</u>
Total shareholders' deficit .....	<u>(13,455)</u>	<u>(4,123)</u>
Total liabilities and shareholders' deficit.....	<u>\$ 34,748</u>	<u>\$ 40,403</u>

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

**GTC BIOTHERAPEUTICS, INC.**  
**CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS**  
(Unaudited, dollars in thousands except per share amounts)

	Fiscal three months ended	
	March 29, 2009	March 30, 2008
Revenues:		
Service revenue .....	\$ 198	\$ 3,482
Product revenue .....	—	63
Total revenue .....	198	3,545
Costs of revenue and operating expenses:		
Cost of service revenue .....	434	1,255
Cost of product revenue .....	—	72
Research and development .....	6,800	7,704
Selling, general and administrative .....	2,509	2,711
	9,743	11,742
Operating loss .....	(9,545)	(8,197)
Other income (expense):		
Interest income .....	1	103
Interest expense .....	(810)	(307)
Other income .....	—	178
Net loss attributable to GTC .....	\$ (10,354)	\$ (8,223)
Net loss per common share (basic and diluted) .....	\$ (0.10)	\$ (0.10)
Weighted average number of common shares outstanding (basic and diluted) .....	104,075	83,245

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

**GTC BIOTHERAPEUTICS, INC.**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**  
(Unaudited, dollars in thousands)

	<u>Fiscal three months ended</u>	
	<u>March 29, 2009</u>	<u>March 30, 2008</u>
Cash flows from operating activities:		
Net loss from operations.....	\$ (10,354)	\$ (8,223)
Adjustments to reconcile net loss from operations to net cash used in operating activities: ...		
Depreciation and amortization .....	549	797
Stock based compensation .....	227	90
Amortization of premium (discount) on marketable securities.....	—	118
Common stock issuance to GTC savings and retirement plan.....	793	—
Write off of fixed assets.....	222	—
Non-cash interest expense.....	225	36
Changes in assets and liabilities: .....		
Accounts receivable and unbilled contract revenue.....	262	(74)
Inventory.....	555	(1,371)
Other assets and liabilities .....	(579)	(127)
Accounts payable.....	(766)	(259)
Accrued liabilities .....	(366)	99
Deferred contract revenue.....	4,712	(170)
Net cash used in operating activities.....	<u>(4,520)</u>	<u>(9,084)</u>
Cash flows from investing activities:		
Purchase of property, plant and equipment .....	(14)	(229)
Redemption of marketable securities .....	—	5,846
Net cash (used in) provided by investing activities.....	<u>(14)</u>	<u>5,617</u>
Cash flows from financing activities:		
Net proceeds from the issuance of common stock, net of offering costs.....	—	5,580
Net proceeds from employee stock purchase plan .....	7	24
Repayment of long-term debt and capital leases .....	(342)	(283)
Net cash (used in) provided by financing activities .....	<u>(335)</u>	<u>5,321</u>
Net increase (decrease) in cash and cash equivalents .....	(4,869)	1,854
Cash and cash equivalents at beginning of period .....	<u>11,643</u>	<u>9,075</u>
Cash and cash equivalents at end of period .....	<u>\$ 6,774</u>	<u>\$ 10,929</u>
Supplemental disclosure of cash flow information:		
Conversion of LFB debt, net of debt discount .....	\$ —	\$ 1,135
Reclassification of warrants to liability .....	96	—
Assets purchased under capital lease .....	118	—

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

**GTC BIOTHERAPEUTICS, INC. AND SUBSIDIARIES**  
**NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS**

1. Basis of Presentation:

These unaudited consolidated financial statements should be read in conjunction with the Annual Report on Form 10-K of GTC Biotherapeutics, Inc., or GTC, for the fiscal year ended December 28, 2008 (referred to as the 2008 Form 10-K) and the financial statements and footnotes included therein. Certain information and footnote disclosures normally included in financial statements prepared in accordance with accounting principles generally accepted in the United States of America have been condensed or omitted pursuant to Securities and Exchange Commission rules and regulations.

Our significant accounting policies are the same as described in Note 2 to our Notes to Consolidated Financial Statements included in our 2008 Form 10-K. The financial statements for the three fiscal months ended March 29, 2009 and March 30, 2008, are unaudited but include, in our opinion, all adjustments necessary for a fair presentation of the results for the periods presented. These adjustments are normal and recurring in nature. Comprehensive loss is substantially the same as our net loss.

We are subject to risks common to companies in the biotechnology industry, including, but not limited to, the uncertainties of clinical trials and the regulatory requirements for approval of therapeutic compounds, dependence on existing and new collaborations, the need for additional capital, competitive new technologies, dependence on key personnel, protection of proprietary technology, and compliance with the regulations of the United States Food and Drug Administration and other governmental agencies.

On June 30, 2008, we entered into an additional amendment to the Joint Development and Commercialization Agreement with LFB Biotechnologies, S.A.S.U., or LFB, a related party, to establish LFB/GTC LLC as a separate legal entity for the joint venture. Our investment in the joint venture is being accounted for at cost based on our ownership percentage and is not being consolidated in accordance with FASB Interpretation No. 46, Consolidation of Variable Interest Entities, or FIN 46(R), as we are not the primary beneficiary of the joint venture.

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 since inception and have an accumulated deficit of \$312.2 million at March 29, 2009. Our recurring losses from operations and limited funds raise substantial doubt about our ability to continue as a going concern. The financial statements do not include any adjustments relating to the recoverability and classification of recorded assets or the amount of reclassification of liabilities, or any adjustments that might be necessary should we be unable to continue as a going concern. Our primary sources of additional capital raised have been equity financings and debt financings. Management expects that future sources of funding will include sales of equity or debt securities and new or expanded partnering arrangements. Our failure to raise capital as and when needed would have a negative impact on our financial condition and our ability to pursue our business strategies. If no funds are available we would have to sell or liquidate the business. If adequate funds are not available we may be required to delay, reduce the scope of or eliminate our research and development programs, reduce our planned commercialization efforts, or obtain funds through arrangements with collaborators or others that may require us to relinquish rights to certain product candidates that we might otherwise seek to develop or commercialize independently. Additionally, any future equity funding will dilute ownership of our current equity investors. Based on our cash balance as of March 29, 2009, as well as potential cash receipts from existing programs and temporary deferral of certain vendor payments, we have the ability to continue our operations through the second quarter of 2009, including normal recurring debt service payments. We are actively engaged in discussions with new and existing investors to refinance the company through the sale of equity or debt securities and we anticipate completion of a transaction in the second quarter of 2009. In addition, we are currently in discussions for potential new partnering transactions with a plan to bring further financial resources into GTC in the second half of 2009 through upfront payments. However, there can be no assurance that we will be able to enter into anticipated partnering arrangements, or raise additional capital, on terms that are acceptable to us, or at all.

2. Net Loss per Common Share:

Per share information is based upon the weighted average number of shares of common stock outstanding during the period. Potential common shares, consisting of shares issuable upon conversion or exercise of convertible preferred stock, warrants, stock options and stock to be issued under the defined contribution retirement plan, totaled 53.2 million shares and 28.1 million shares at March 29, 2009 and March 30, 2008, respectively. Since we were in a net loss position at March 29, 2009 and March 30, 2008, these potential common shares were not used to compute diluted loss per share, as the effect would have been antidilutive. We also have two convertible notes payable to LFB. The first convertible note has a current principal balance of \$642,000, net of an unamortized debt discount of \$200,000, 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. The second convertible note is due June 30, 2012 and has a current principal balance of \$12.3 million, net of unamortized debt discount of \$461,000, which may be converted into our common stock at \$0.31 per share at LFB's discretion at any time after June 1, 2009. We have the right to redeem the convertible debt on or before June 1, 2009.

3. Inventory:

Inventory consists of:

	(dollars in thousands)	
	At March 29, 2009	At December 28, 2008
Finished goods .....	\$ 308	\$ 863
Total inventory .....	<u>\$ 308</u>	<u>\$ 863</u>

We carry inventory at the lower of cost or market using the first-in, first-out method. We expect that all inventory which we capitalize will be sold for clinical trials or commercial use. Currently, because we have only one customer, we only capitalize inventory if orders have been received. If at any time we believe that the sale of inventory is no longer probable, we will charge the inventory to expense. Because our current cost of production exceeds our agreed upon maximum price, we are expensing these excess costs as incurred. Inventories on hand at March 30, 2009 and December 28, 2008 were related to ATryn<sup>®</sup>, which we capitalized after completion of the clinical trials in anticipation of marketing approval for commercial sale in the U.S. which we received in February 2009. We anticipate our cost of production will be substantially reduced as we move to larger production volumes to support clinical and commercial requirements.

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-offs may be required. Also, if we 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.

4. Business Agreements:

**LEO Pharma A/S (“LEO”)**

LEO Pharma informed us in September 2008 of their internal reprioritization and desire to transfer the ATryn<sup>®</sup> program to us or a third party. LEO attempted to terminate its 2005 collaboration agreement with us for alleged cause before completion of the Phase II study in DIC. However, LEO made it clear to us that their decision was not based on any safety or efficacy issues with ATryn<sup>®</sup>. We do not believe that LEO had any basis for such termination, and we further believe that LEO is in breach of the agreement. We initiated International Chamber of Commerce (ICC) arbitration proceedings in the fourth quarter of 2008. We have asked the tribunal to determine that LEO is not legally entitled to exercise its contractual remedies on termination for alleged cause and that we are entitled to damages with respect to LEO’s actions. In March 2009, we notified LEO that we were terminating the agreement pursuant to the terms of the agreement. This process is still in the preliminary stages, and we cannot predict its likely outcome or, in the event of an unfavorable outcome, the potential consequences to us, including cost. We expect a resolution within the next twelve months and, therefore, we have reclassified the related deferred revenue of approximately \$4.4 million to short-term.

**JCOM Co. Ltd (“JCOM”)**

In February 2009, we entered into a license and development agreement with JCOM, a subsidiary of Dong-A Pharmaceuticals, whereby we granted to JCOM a twelve month option for an exclusive license for Asia and, a separate option for a co-exclusive license for the rest of the world, under our patent and know-how rights for JCOM to make, use, sell, offer for sale and import recombinant human insulin products in these territories. Over the next 12 months we plan to develop appropriate cell lines and demonstrate production of recombinant human insulin products for JCOM. The agreement contemplates the subsequent establishment of a transgenic production system in South Korea. During the first quarter of 2009, we received \$750,000 from JCOM, which was recorded as deferred revenue and which will be recognized as revenue when JCOM exercises its options for Asia and the rest of the world or when the options expire, whichever comes first.

**Lundbeck Inc. (formerly OVATION Pharmaceuticals)**

In June 2008, we entered into a collaboration agreement with Lundbeck Inc, or Lundbeck, to develop and market ATryn<sup>®</sup> in the United States. The collaboration agreement includes the commercialization of ATryn<sup>®</sup> in the hereditary antithrombin deficiency, or HD, indication and the further development of ATryn<sup>®</sup> in acquired antithrombin deficiency indications. Under the agreement the milestone payments to us to date include a total of \$9 million through approval of ATryn<sup>®</sup> for HD in the U.S., including \$5 million paid to us during 2008. An additional \$4 million was paid to us in the first quarter of 2009. We recorded the \$9 million in total milestones received to date as deferred revenue as of the end of the first quarter 2009. The collaboration anticipates further development of ATryn<sup>®</sup> in larger market acquired deficiencies such as the treatment of heparin resistance in patients undergoing surgery requiring cardiopulmonary bypass and the treatment of disseminated intravascular coagulation associated with severe sepsis.

We will be responsible for production of ATryn<sup>®</sup> and will receive a transfer price for delivery of commercial product to Lundbeck, a royalty on net sales, \$257 million in potential milestone payments (including those already paid), and payment for product used in clinical trials. If Lundbeck decides to proceed with an indication in acquired deficiency, Lundbeck will fund our anticipated costs of clinical development. Lundbeck will be responsible for sales and marketing of ATryn<sup>®</sup> in the U.S., including all launch activities. In May 2009, Lundbeck launched the sale of ATryn<sup>®</sup> in the U.S.

5. Accrued Liabilities:

Accrued liabilities included the following:

	(dollars in thousands)	
	At March 29, 2009	At December 28, 2008
Accrued payroll and benefits .....	\$ 1,652	\$ 2,456
Accrued bonuses .....	1,419	1,254
Other .....	2,525	2,252
Total accrued expenses.....	<u>\$ 5,596</u>	<u>\$ 5,962</u>

6. Intangible Assets:

Our intangible assets consist of marketing rights and technology licenses with amortization lives between 9 years and 15 years. Amortization expense was approximately \$225,000 for each of the fiscal three month periods ended March 29, 2009 and March 30, 2008.

The estimated aggregate amortization expense for all our intangible assets over the next five years is as follows:

Nine months remaining in 2009 .....	\$ 677,000
2010.....	\$ 902,000
2011.....	\$ 902,000
2012.....	\$ 902,000
2013.....	\$ 902,000
2014 and thereafter.....	\$ 1,739,000

7. Stockholders' Deficit:

In February 2008, we received approximately \$5.4 million in proceeds from a registered direct offering, net of approximately \$600,000 in offering costs and fees. In the offering, we sold 6.9 million shares of our common stock at \$0.87 per share and 7-year warrants, which were immediately exercisable, to purchase an aggregate of 6.9 million shares of our common stock at an exercise price of \$0.87 per share.

In March 2008, LFB converted 14,500 shares of Series D Convertible Preferred Stock into 14,500,000 shares of common stock.

8. Long-Term Debt:

In December 2006, we entered into a term loan with GE Capital in the amount of \$10 million, of which \$7.1 million was used to pay off a previous loan from GE Capital. In connection with the term loan, we were required to provide \$450,000 of cash collateral for two outstanding stand-by letters of credit, which appears as restricted cash on the balance sheet. There are two separate amortization schedules. The first, in the amount of \$8 million, carries a fixed 10.8% annual interest rate and monthly payment 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 a first lien on all of our existing and future assets and a second lien on our intellectual property.

In December 2006, as part of the second tranche of investment under an agreement with LFB, we issued a \$2.6 million, five-year convertible note to 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 outstanding common stock on an as converted basis. In connection with the closing of our February 2008 registered direct offering, \$1.7 million of the principal amount of this note and approximately \$40,000 of accrued interest on that principal amount were converted into approximately 2 million shares of our common stock at the rate of \$0.87 per share. Based on our effective borrowing rate of 10.8%, upon issuance of the note, we recorded a debt discount of approximately \$1.1 million for the difference between the stated interest rate and our effective borrowing rate. The discount is being amortized over the five year term of the note, resulting in additional interest expense of approximately \$18,000 and \$36,000 during the first quarter of 2009 and 2008, respectively. Upon the February 2008 partial conversion of the note, approximately \$600,000 of unamortized debt discount was reclassified to additional paid in capital.

In December 2008, we issued a \$15 million convertible note and a warrant to LFB. Under this agreement, the convertible note will mature on June 20, 2012 and bears interest at an annual rate of 8%. The debt may be converted into our common stock at a conversion price of \$0.31 per share at LFB's discretion at any time after June 1, 2009. Per the agreement, if we pay the note in full before June 1, 2009, which is at our sole discretion, LFB will have the right to require us to redeem the warrants for an aggregate price of \$1.5 million in cash. If we pay the note in full upon maturity, we have the option to pay the \$1.5 million in shares of our common stock. The proceeds of \$15 million were allocated to the convertible note and the warrant based on their relative fair values. Based on that allocation, we recorded approximately \$2.5 million to additional paid in capital and debt discount which is being amortized over the term of the note, resulting in additional interest expense of \$172,000 during the first quarter of 2009. Under this agreement we issued to LFB a 5-year warrant to purchase 23,193,548 shares of our common stock at an exercise price of \$0.31 per share. In connection with the agreement, we recorded a debt discount of approximately \$500,000 for costs incurred by us on LFB's behalf. The debt discount is being amortized over the term of the note, resulting in additional interest expense of approximately \$35,000 during the first quarter of 2009. As of March 29, 2009, if LFB fully exercised its warrant and fully converted the \$15 million convertible note (which is not convertible before June 1, 2009), LFB would hold, on an as converted basis, approximately 52.2% of our common stock. Collateral for the loan includes a second priority lien on all of our existing and future acquired assets and a first priority lien on our intellectual property.

In December 2008, as a condition of the financing, we entered into an amendment to our term loan with GE Capital which required us to place \$4 million of the proceeds from the December 2008 transaction into escrow to secure our existing debt to GE Capital, which is included in other assets on our balance sheet. Net of this escrow, \$3.7 million is due on the GE loans. This \$4 million escrow requirement is not a covenant under our original term loan with GE Capital. If our cash balance remains below the minimum amount per the agreement for five consecutive days, we have ten days to cure before GE has the option to apply the \$4 million escrow balance to the outstanding debt balance. On May 5, 2009, our cash balance fell below the minimum amount per the agreement with GE for the fifth consecutive day. If we are unable to cure this by May 15, 2009 and GE exercises their option to apply the \$4 million escrow balance to the outstanding debt balance, we are under no obligation to replenish the escrow. Further, this is not considered a default under either the amendment to our term loan with GE or the original term loan with GE. The repayment of the remaining \$3.7 million of the GE loans is unaffected and is repayable in accordance with the original agreement terms.

9. Fair Value:

In September 2006, the Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standards No. 157 "Fair Value Measurements" (SFAS 157). SFAS 157 introduced a framework for measuring fair value and expanded required disclosure about fair value measurements of assets and liabilities. SFAS 157 for financial assets and liabilities was effective for fiscal years beginning after November 15, 2007, and we have adopted the standard for those assets and liabilities as of December 31, 2007. The adoption of this statement did not have a material impact on our financial position or results of operations. In accordance with the provisions of FSP No. FAS 157-2, "Effective Date of FASB Statement No. 157", we elected to defer until January 1, 2009 implementation of SFAS 157 as it relates to our non-financial assets and non-financial liabilities that are recognized and disclosed at fair value in the financial statements on a nonrecurring basis. The implementation of SFAS 157 in the first quarter of 2009 did not have an impact on our financial position and results of operations.

SFAS 157 defines fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. SFAS 157 also establishes a fair value hierarchy which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The standard describes three levels of inputs that may be used to measure fair value:

*Level 1* - Quoted prices in active markets for identical assets or liabilities.

*Level 2* - Observable inputs other than Level 1 prices such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.

*Level 3* - Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

Assets and liabilities measured at fair value on a recurring basis are summarized below:

Description	Fair Value Measure as of March 29, 2009			
	(dollars in thousands)			
	Total	Level 1	Level 2	Level 3
Money Market Fund .....	\$ 2,947	\$ 2,947	\$ —	\$ —
Total.....	\$ 2,947	\$ 2,947	\$ —	\$ —

  

Description	Fair Value Measure as of December 28, 2009			
	(dollars in thousands)			
	Total	Level 1	Level 2	Level 3
Money Market Fund .....	\$ 2,947	\$ 2,947	\$ —	\$ —
Total.....	\$ 2,947	\$ 2,947	\$ —	\$ —

10. Retention Incentive Plan:

In June 2008, we established a Retention Incentive Plan, or Retention Plan, the purpose of which is to encourage the continued employment of our executive officers and other senior personnel through the grant of equity awards and other payments conditioned on continued employment with the Company. Our Compensation Committee is administering the Retention Plan and has the authority to determine the individual participants and the amount of any awards under the Retention Plan. Eligible participants besides our executive officers include Vice Presidents, Senior Directors, Directors and Associate Directors.

Participants in the Retention Plan are eligible to receive awards of restricted stock units issued pursuant to our 2002 Equity Incentive Plan. We granted 615,825 restricted stock units during 2008 and 102,600 in January 2009. The restricted stock units awarded under the Retention Plan will not become vested and settle until June 30, 2009, provided the participant remains an employee until that date. If we terminate a participant's employment without cause (as provided in the Retention Plan) prior to June 30, 2009, all of the participant's restricted stock units shall become fully vested on the date of the participant's termination of employment.

During the first quarter of 2009, we recorded approximately \$86,000 of compensation expense related to the restricted stock units.

Participant's in the Retention Plan who remain employed by us through March 31, 2010 will also receive a specified retention payment, payable at the discretion of our Compensation Committee either in a lump sum cash payment or in shares of our common stock. We are accruing this amount on a straight line basis over a 22 month period, resulting in an expense of approximately \$117,000 during the first quarter of 2009. If the payment is made in shares of our common stock, the Retention Plan provides for specified minimum valuation levels of our common stock, depending on the employee's level of seniority, which will be used in determining the number of shares to be issued in lieu of cash.

If we terminate a participant's employment without cause prior to March 31, 2010, the participant will be entitled to receive his or her retention payment within 30 days following the date of termination.

In November 2008, our Compensation Committee approved and adopted a further retention plan, referred to as the Supplemental Retention Plan. The establishment of this retention plan was also a required condition for the closing of the transactions under the Convertible Note and Warrant Purchase Agreement that we entered into with LFB in October 2008. The purposes and administration of the Supplemental Retention Plan, and the eligible participants, are the same as for the original Retention Plan. Eligible participants under the Supplemental Retention Plan received stock options with a term of five years and an exercise price equal to the \$0.31 conversion price of the convertible note and warrants issued to LFB under the Convertible Note and Warrant Purchase Agreement. The stock options will vest in two equal installments on each of September 30, 2009 and June 30, 2010, provided that the recipient remains our employee until these dates.

11. Emerging Issues Task Force Issue No. 07-5:

In June 2008, the FASB ratified the consensus reached on Emerging Issues Task Force (EITF) Issue No. 07-05, *Determining Whether an Instrument (or Embedded Feature) Is Indexed to an Entity's Own Stock*. EITF Issue No. 07-05 clarifies the determination of whether an instrument (or an embedded feature) is indexed to an entity's own stock, which would qualify as a scope exception under SFAS No. 133, *Accounting for Derivative Instruments and Hedging Activities*. We adopted EITF Issue No. 07-05 as of January 1, 2009. 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 were exercisable on or after February 10, 2006. This warrant was reassessed under EITF 07-5 and due to a price adjustment clause included in this warrant, it is no longer deemed to be indexed to our stock and therefore, no longer meets the scope exception of FAS 133. Therefore, this warrant was determined to be a derivative and was reclassified to a liability and will be marked to market going forward. As a result, we recorded a cumulative catch up adjustment of approximately \$2.3 million to additional paid in capital and approximately \$97,000 to other liabilities

## 12. New Accounting Pronouncements:

In April 2009, the FASB issued Staff Position No. 115-a, 124-a and EITF 99-20-b, "Recognition and Presentation of Other-Than-Temporary Impairments" ("FSP 115-a"). FSP 115-a will change the method for determining whether an other-than-temporary impairment exists for debt securities and the amount of an impairment charge to be recorded in earnings. To determine whether an other-than-temporary impairment exists, an entity will assess the likelihood of selling the security prior to recovering its costs basis. This is a change from the current requirement for an entity to assess whether it has the intent and ability to hold a security to recovery. FSP 115-a will be effective for interim and annual periods ending after June 15, 2009, with early adoption permitted for periods ending after March 15, 2009. We will adopt FSP 115-a in the second quarter of 2009, and we do not anticipate the adoption will have an impact on our financial position and results of operations.

In April 2009, the FASB issued Staff Position No. 107-b and APB 28-a, "Interim Disclosures about Fair Value of Financial Instruments" ("FSP 107-b"). FSP 107-b will increase the frequency of fair value disclosures from annual only to quarterly to provide financial statement users with more timely information about the effects of current market conditions on their financial statements. FSP 107-b will require public entities to disclose in their interim financial statements the fair value of all financial instruments within the scope of FASB No. 107, as well as the method(s) and significant assumptions used to estimate the fair value of those financial instruments. FSP 107-b will be effective for interim and annual periods ending June 15, 2009, with early adoption permitted for periods ending after March 15, 2009. We will adopt FSP 107-b in the second quarter of 2009, and we do not anticipate the adoption will have an impact on our financial position and results of operations.

## **ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.**

### **Business Overview**

We are the leader in the development and production of human therapeutic proteins through transgenic technology that enables animals to produce what is known as a recombinant form of a specified human protein in their milk. Using this technology, we are developing a portfolio of recombinant blood proteins to treat a range of genetic and acquired blood deficiencies, including hemophilia and other blood coagulation disorders. These blood proteins, also known as plasma proteins, are difficult to produce in other manufacturing systems, and some are currently only available by extraction from human blood. We have also initiated the development of a portfolio of monoclonal antibodies, or MAb's, for use as potential follow-on biologics targeted at several large market products. The level and speed of our proprietary products will be dependent upon our financial resources and new partnering arrangements as well as progress made in the legislative process related to follow-on biologics. After ATryn<sup>®</sup>, the next highest priority is recombinant factor VIIa referred to as rhFVIIa.

Our first product, ATryn<sup>®</sup>, is a recombinant form of human antithrombin, a blood protein with anticoagulation and anti-inflammatory properties. On February 6, 2009, we received United States Food and Drug Administration, or FDA, approval for ATryn<sup>®</sup> for patients with hereditary antithrombin deficiency, or HD, undergoing surgery or childbirth in the United States, making ATryn<sup>®</sup> the first transgenically derived therapeutic protein approved by the FDA. The FDA has also designated ATryn<sup>®</sup> an Orphan Drug in this indication. Along with the approval of ATryn<sup>®</sup>, the FDA's Center for Veterinary Medicine also approved our New Animal Drug Application, the first of its kind to regulate genetically engineered animals. This is now required for a recombinant technology used to develop transgenic animals, such as the goats that produce recombinant antithrombin. In 2006, we obtained European Commission approval of the use of ATryn<sup>®</sup> as a prophylactic treatment for HD patients undergoing surgical procedures. We believe that the regulatory approval of ATryn<sup>®</sup> in the U.S. and Europe achieved an important validation of our production technology, which will assist in obtaining approvals for other compounds and in other countries. We plan to develop ATryn<sup>®</sup> and several of our other recombinant proteins through strategic collaborations.

In September 2006, we entered into a collaboration agreement with LFB Biotechnologies, or LFB, to develop selected recombinant plasma proteins and MAb's. The first program in this collaboration is for the development of a recombinant form of human blood coagulation factor VIIa for the treatment of patients with hemophilia. This collaboration has now been established in a separate joint venture entity, and we have now added to the joint venture programs to develop a recombinant form of human blood coagulation factor IX, recombinant human alpha-1 antitrypsin, as well as an antibody to the CD20 immune system receptor, the same target as for the MAb marketed as Rituxan<sup>®</sup>.

In June 2008, we entered into our collaboration agreement with Lundbeck Inc., (formerly OVATION Pharmaceuticals), to develop and market ATryn<sup>®</sup> in the U.S. The collaboration agreement includes the commercialization of ATryn<sup>®</sup> in the HD indication and the further development of ATryn<sup>®</sup> in acquired antithrombin deficiency indications, or AD.

We believe that the cost and large scale supply advantages of our transgenic production technology are ideally suited to developing cost-effective, follow-on biologics, particularly MABs, once the innovator biologics no longer have patent protection. MABs are proteins that are generated by the immune system and bind to a specific target. MABs typically express at reasonable levels in traditional recombinant production systems, but are often required in large quantities for their use in chronic disease indications. The patents for the first generation of therapeutic MABs and other antibody-like proteins begin to expire in 2013, creating a significant opportunity for companies that are capable of producing biosimilar versions of the innovator products. The regulatory requirements for biosimilar products following patent expiration has been defined in Europe, and in the U.S. Congress is considering similar legislation. We anticipate that each follow-on product will generally require some level of clinical study, although not necessarily as extensive as that performed for the innovator antibody. We also have a development agreement in place with AgResearch in New Zealand for co-funding further development of selected follow-on biologics.

We have demonstrated transgenic production of a number of MABs in both our proprietary and contract research and development programs. We have 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 bacterial production technologies.

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 two active external programs, one with PharmAthene and another with JCOM. Most of our first quarter 2009 and 2008 revenues were derived from our external programs.

We have operated at a net loss since our inception in 1993, and we used \$4.5 million of net cash in our operating cash flows during the first three months of 2009. Our recurring losses from operations and our limited funds raise substantial doubt about our ability to continue as a going concern. 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. Based on our cash balance as of March 29, 2009, as well as potential cash receipts from existing programs and temporary deferral of certain vendor payments, our resources will be sufficient to fund operations through the second quarter of 2009. We expect that future sources of funding will include sales of equity or debt securities and new or expanded collaboration arrangements. If no funds are available, we would have to sell or liquidate the business. If adequate funds are not available, we may be required to delay, reduce the scope of or eliminate our research and development programs, obtain funds through arrangements with collaborators or others that may require us to relinquish rights to certain product candidates that we might otherwise seek to develop or commercialized independently. Additionally, any future equity funding will dilute ownership of our existing equity investors.

This discussion and analysis of our financial condition should be read in connection with our consolidated financial statements herein and the accompanying notes thereto, and, our Annual Report on Form 10-K for the fiscal year ended December 28, 2008 (our 2008 Form 10-K), in particular, the information set forth therein under Item 7 – “Management’s Discussion and Analysis of Financial Condition and Results of Operations”.

**Results of Operations** The key components to our losses are revenue, costs of revenue, and research and development expenses.

*Fiscal three months ended March 29, 2009 and March 30, 2008*

	(dollars in thousands)			
	March 29, 2009	March 30, 2008	\$ Change	% Change
Revenue.....	\$ 198	\$ 3,545	\$ (3,347)	(95)%
Cost of revenue .....	\$ 434	\$ 1,327	\$ (893)	(68)%
Research and development.....	\$ 6,800	\$ 7,704	\$ (904)	(12)%

*Revenue.* During the first quarter of 2009, our revenue was derived from our external development programs. During the first quarter of 2008, we derived approximately \$3.4 million of our revenue from our external development programs, primarily with Merrimack and PharmAthene. The Merrimack agreement was completed during the third quarter of 2008, and the work on the PharmAthene agreement was substantially completed during the fourth quarter of 2008. We expect revenue from external programs to continue to vary from quarter to quarter due to the nature, timing and specific requirements for these development activities. In subsequent quarters we expect shipments of ATryn<sup>®</sup> product to also generate revenue, though it will vary from quarter to quarter. During the first quarter of 2009 we received \$4 million in milestone payments from Lundbeck and \$750,000 in milestone payments from JCOM neither of which were recorded as revenue. The milestone payments from Lundbeck and JCOM were recorded as deferred revenue on our balance sheet due to cash received for which revenue had not yet been recognized pursuant to our revenue recognition policy.

*Cost of revenue.* The decrease in cost of revenue is primarily a result of a decrease of approximately \$780,000 on the PharmAthene program related to development activities. The level of expenses for our external programs will fluctuate from period to period depending upon the stage of development of individual programs as they progress.

*Research and development expense.* Our first quarter 2009 research and development expense included \$3.8 million related to the ATryn<sup>®</sup> program, a decrease of \$1.3 million as compared to \$5.1 million in the first quarter of 2008. Details of ATryn<sup>®</sup> related expenses for the respective quarters are as follows:

	(dollars in millions)	
	Fiscal three months ended	
	March 29, 2009	March 30, 2008
ATryn <sup>®</sup> manufacturing expenses.....	\$ 0.9	\$ 2.5
EMEA regulatory process expenses .....	0.2	0.3
U.S. clinical trial and regulatory expenses.....	1.2	1.3
Other .....	1.5	1.0
<b>Total.....</b>	<b>\$ 3.8</b>	<b>\$ 5.1</b>

Manufacturing costs include costs of producing clinical material in excess of the maximum transfer price to Lundbeck, as well as process development and validation costs for scale up of the ATryn<sup>®</sup> manufacturing process and costs associated with establishment of a second fill site.

During the first quarter of 2009, we incurred approximately \$1.2 million in support of the programs in our LFB joint venture (FVIIa, FIX, CD20 and AAT). During the first quarter of 2008, we incurred approximately \$1.6 million of expense in support of the programs in our LFB collaboration (FVIIa, FIX, CD20 and AAT). We also incurred approximately \$1.8 million of expense on other research and development programs, including follow on biologics, during the first quarter of 2009 as compared to \$900,000 in the first quarter of 2008. Reimbursement by LFB of the expenses incurred in support of the programs in our LFB collaboration did not begin until the second quarter of 2008.

We cannot estimate the costs to complete our ongoing research and development programs due to significant variability in clinical trial costs and the regulatory approval process.

## Liquidity and Capital Resources

Our objective is to finance our business appropriately through a mix of equity financings, partnering payments, receipts from contracts for external programs, grant proceeds, 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. We expect that our ability to raise future funds will be affected by our ability to enter into new or expanded partnering arrangements or contracts for external programs, the terms and progress of such arrangements or contracts for external programs and our internal programs, including the transfer of European marketing rights to a new partner, the market launch of ATryn<sup>®</sup> in the U.S. for HD, the progress of initial clinical trials of ATryn<sup>®</sup> for AD indications, the results of research and development and preclinical testing of our other proprietary product candidates, and advances in competing products and technologies, as well as general market conditions.

We use our cash primarily to pay salaries, wages and benefits, facility and facility-related costs of farm, laboratory and office space and other outside direct costs such as manufacturing and clinical trial expenses. During the first three months of 2009 we had a net decrease in cash and marketable securities of \$4.9 million, which reflects \$4.5 million used in operations and \$342,000 to pay down debt. We are actively engaged in discussions with new and existing investors to refinance the company through the sale of equity or debt securities and we anticipate completion of a transaction in the second quarter of 2009. In addition, we are currently in discussions for potential new partnering arrangements with a plan to bring in further financial resources in the second half of 2009 through upfront payments. However, there can be no assurance that we will be able to enter into anticipated partnering arrangements, or raise additional capital, on terms that are acceptable to us, or at all. We estimate the net use of cash in operations for the remainder of 2009 to be approximately \$13 million to \$17 million assuming that in the remainder of 2009 we receive \$14 million to \$18 million from new or expanded partnership relationships.

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 the first quarter of 2009 and since inception, and we have an accumulated deficit of \$312.2 million at March 29, 2009. The primary sources of additional capital raised in 2008 and the first three months of 2009 have been equity financings and debt financings. Based on our cash balance as of March 29, 2009, as well as potential cash receipts from existing programs and temporary deferral of certain vendor payments, we have the ability to continue our operations through the second quarter of 2009. We expect that future sources of funding will include sales of equity or debt securities and new or expanded collaboration arrangements. If no funds are available we would have to sell or liquidate the business. If adequate funds are not available, we may be required to delay, reduce the scope of or eliminate our research and development programs, reduce our planned commercialization efforts, or obtain funds through arrangements with collaborators or others that may require us to relinquish rights to certain product candidates that we might otherwise seek to develop or commercialize independently. Additionally, any future equity funding will dilute ownership of our existing equity investors.

### ***Cash Flows used in Operating Activities***

Cash used in operating activities decreased by approximately \$4.6 million from \$9.1 million for the first three months of 2008 to \$4.5 million in the first three months of 2009. The decrease is primarily a result of milestone payments of \$4 million received from Lundbeck and \$750,000 received from JCOM in 2009.

### ***Cash Flows from Investing Activities***

There were no significant cash flows provided by or used in investing activities during the first quarter of 2009 as compared to \$5.6 million provided by investing activities in the first quarter of 2008. The decrease is a result of the redemption of all of our short term investments during 2008.

### ***Cash Flows from Financing Activities***

#### ***Equity Financing Activities***

In February 2008, we received approximately \$5.6 million in proceeds from a registered direct offering, net of approximately \$600,000 in offering costs and fees. In the offering, we sold 6.9 million shares of our common stock at \$0.87 per share (market price on the date of the agreement) and 7-year warrants, which were immediately exercisable, to purchase an aggregate of 6.9 million shares of our common stock at an exercise price of \$0.87 per share.

#### ***Credit Facility***

Our \$20.7 million of outstanding long-term debt at March 29, 2009 includes \$7.7 million owed to GE Capital, approximately \$13 million owed to LFB net of unamortized discount of approximately \$461,000 on the LFB convertible note that we issued to LFB in December 2008 and approximately \$642,000 owed to LFB net of an unamortized discount of approximately \$201,000 on the LFB convertible note that we issued to LFB in December 2006. Of the \$20.7 million, approximately \$1.3 million was classified as current, which reflects the amount due through March 2010 on our GE Capital term loan.

In December 2008, as a condition of the financing, we entered into an amendment to our term loan with GE Capital which required us to place \$4 million of the proceeds from the December 2008 transaction into escrow to secure our existing debt to GE Capital, which is included in other assets on our balance sheet. Net of this escrow, \$3.7 million is due on the GE loans. This \$4 million escrow requirement is not a covenant under our original term loan with GE Capital. If our cash balance remains below the minimum amount per the agreement for five consecutive days, we have ten days to cure before GE has the option to apply the \$4 million escrow balance to the outstanding debt balance. On May 5, 2009, our cash balance fell below the minimum amount per the agreement with GE for the fifth consecutive day. If we are unable to cure this by May 15, 2009 and GE exercises their option to apply the \$4 million escrow balance to the outstanding debt balance, we are under no obligation to replenish the escrow. Further, this is not considered a default under either the amendment to our term loan with GE or the original term loan with GE. The repayment of the remaining \$3.7 million of the GE loans is unaffected and is repayable in accordance with the original agreement terms.

### **COMMITMENTS AND CONTINGENCIES**

Our commitments and contingencies are disclosed in Note 6 in the Notes to Consolidated Financial Statements included in Item 8 of our 2008 Form 10-K. We have reviewed the commitments and contingencies at March 29, 2009 and noted that there were no material changes or additions.

### **ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.**

There have been no material changes in our market risk since December 28, 2008. Our market risk disclosures are discussed in our 2008 Form 10-K under the heading Item 7A — “Quantitative and Qualitative Disclosures About Market Risk.”

#### **ITEM 4. CONTROLS AND PROCEDURES.**

##### **(a) Evaluation 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, or the Exchange Act. 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 quarterly report.

##### **(b) Changes in Internal Control over Financial Reporting**

There was no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) identified in connection with the evaluation of our internal control that occurred during our last fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

### **PART II. OTHER INFORMATION**

#### **ITEM 1. LEGAL PROCEEDINGS.**

LEO Pharma informed us in September 2008 of their internal reprioritization and desire to transfer the ATryn<sup>®</sup> program to us or a third party. LEO attempted to terminate its 2005 collaboration agreement with us for alleged cause before completion of the Phase II study in DIC. However, LEO made it clear to us that their decision was not based on any safety or efficacy issues. We do not believe that LEO had any basis for such termination, and we further believe that LEO is in breach of the agreement. We initiated International Chamber of Commerce (ICC) arbitration proceedings in the fourth quarter of 2008. We have asked the tribunal to determine that LEO is not legally entitled to exercise its contractual remedies on termination for alleged cause and that we are entitled to damages with respect to LEO's actions. In March 2009, we notified LEO that we were terminating the agreement pursuant to the terms of the agreement. This process is still in the preliminary stages, and we cannot predict its likely outcome or, in the event of an unfavorable outcome, the potential consequences to us, including cost.

BioProtein Technologies Company, a French corporation, brought a legal action against LFB and GTC in France on a breach of contract claim regarding a contract between BioProtein and LFB. LFB is the principal defendant, but we were joined in the lawsuit based on the allegations by BioProtein that we tortiously interfered with an existing contract between LFB and BioProtein. The total claim against both parties is for 31 million euros. We have retained counsel in France and we will vigorously defend ourselves. However, pursuant to our Joint Commercialization and Development Agreement with LFB, LFB has agreed to fully indemnify us with respect to any legal fees and damages arising from this lawsuit.

We are not party to any other material pending legal proceedings, other than ordinary routine litigation incidental to our business.

**ITEM 6. EXHIBITS.**

<u>Exhibit</u>	<u>Description</u>
3.1	Restated Articles of Organization of the Company filed with the Secretary of the Commonwealth of Massachusetts on May 8, 2009.
3.2	By-Laws of the Company, as amended, filed as Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended July 4, 1999 (File No. 0-21794) and incorporated herein by reference.
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a).
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a).
32	Certifications pursuant to 18 U.S.C. Section 1350.

## SIGNATURES

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

Date: May 13, 2009

GTC BIOTHERAPEUTICS, INC.

By: /s/ John B. Green

John B. Green  
Senior Vice President,  
Chief Financial Officer and Treasurer

**EXHIBIT INDEX**

<b><u>Exhibit No.</u></b>	<b><u>Description</u></b>
3.1	Restated Articles of Organization of the Company filed with the Secretary of the Commonwealth of Massachusetts on May 8, 2009.
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.
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.

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PC

**The Commonwealth of Massachusetts  
William Francis Galvin**

Secretary of the Commonwealth  
One Ashburton Place, Boston, Massachusetts 02108-1512

**Restated Articles of Organization  
(General Laws Chapter 156D, Section 10.07; 950 CMR 113.35)**

- (1)Exact name of corporation: GTC Biotherapeutics
- (2)Registered office address: 175 Crossing Boulevard, Framingham, MA 01702  
*(number, street, city or town, state, zip code)*
- (3)Date adopted: May 6, 2009  
*(month, day, year)*

(4)Approved by:

*(check appropriate box)*

the directors without shareholder approval and shareholder approval was not required;

OR

the board of directors and the shareholders in the manner required by G.L. Chapter 156D and the corporation's articles of organization.

(5)The following information is required to be included in the articles of organization pursuant to G.L. Chapter 156D, Section 2.02 except that the supplemental information provided for in Article VIII is not required:\*

**ARTICLE I**

The exact name of the corporation is:

GTC Biotherapeutics, Inc.

**ARTICLE II**

Unless the articles of organization otherwise provide, all corporations formed pursuant to G.L. Chapter 156D have the purpose of engaging in any lawful business. Please specify if you want a more limited purpose:\*\*

To develop, produce and market proteins of therapeutic and diagnostic value through the use of transgenic technology and to engage generally in any lawful business, operations or activity for which corporations may be organized under the Massachusetts Business Corporation Act.

\* *Changes to Article VIII must be made by filing a statement of change of supplemental information form.*

\*\* *Professional corporations governed by G.L. Chapter 156A and must specify the professional activities of the corporation.*

**ARTICLE III**

State the total number of shares and par value,\* if any, of each class of stock that the corporation is authorized to issue. All corporations must authorize stock. If only one class or series is authorized, it is not necessary to specify any particular designation.

<u>WITHOUT PAR VALUE</u>		<u>WITH PAR VALUE</u>		
<u>TYPE</u>	<u>NUMBER OF SHARES</u>	<u>TYPE</u>	<u>NUMBER OF SHARES</u>	<u>PAR VALUE</u>

See Continuation Sheet 3A

**ARTICLE IV**

Prior to the issuance of shares of any class or series, the articles of organization must set forth the preferences, limitations and relative rights of that class or series. The articles may also limit the type or specify the minimum amount of consideration for which shares of any class or series may be issued. Please set forth the preferences, limitations and relative rights of each class or series and, if desired, the required type and minimum amount of consideration to be received.

See Continuation Sheet 4A

**ARTICLE V**

The restrictions, if any, imposed by the articles or organization upon the transfer of shares of any class or series of stock are:

None.

**ARTICLE VI**

Other lawful provisions, and if there are no such provisions, this article may be left blank.

See Continuation Sheet 6A

*Note: The preceding six (6) articles are considered to be permanent and may be changed only by filing appropriate articles of amendment.*

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\* *G.L. Chapter 156D eliminates the concept of par value, however a corporation may specify par value in Article III. See G.L. Chapter 156D, Section 6.21, and the comments relative thereto.*

## ARTICLE VII

The effective date of organization of the corporation is the date and time the articles were received for filing if the articles are not rejected within the time prescribed by law. If a later effective date is desired, specify such date, which may not be later than the 90th day after the articles are received for filing:

It is hereby certified that these restated articles of organization consolidate all amendments into a single document. If a new amendment authorizes an exchange, or effects a reclassification or cancellation, of issued shares, provisions for implementing that action are set forth in these restated articles unless contained in the text of the amendment.

Specify the number(s) of the article(s) being amended:        Article Third and Article Fourth

See Continuation Sheet 7A

Signed by: /s/ Geoffrey F. Cox  
*(signature of authorized individual)*

- Chairman of the board of directors,
- President,
- Other officer,
- Court-appointed fiduciary,

on this 6<sup>th</sup> day of May, 2009.

**COMMONWEALTH OF MASSACHUSETTS**

William Francis Galvin  
Secretary of the Commonwealth  
One Ashburton Place, Boston, Massachusetts 02108-1512

**Restated Articles of Organization  
(General Laws Chapter 156D, Section 10.07; 950 CMR 113.35)**

I hereby certify that upon examination of these restated articles of organization, duly submitted to me, it appears that the provisions of the General Laws relative to the organization of corporations have been complied with, and I hereby approve said articles; and the filing fee in the amount of \$ \_\_\_\_\_ having been paid, said articles are deemed to have been filed with me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, at \_\_\_\_\_ a.m./p.m.  
*time*

Effective date: \_\_\_\_\_  
*(must be within 90 days of date submitted)*

WILLIAM FRANCIS GALVIN  
*Secretary of the Commonwealth*

\_\_\_\_\_  
Examiner

Filing fee: Minimum filing fee \$200, plus \$100 per article amended, stock increases \$100 per 100,000 shares, plus \$100 for each additional 100,000 shares or any fraction thereof.

\_\_\_\_\_  
Name  
approval

\_\_\_\_\_  
C

**TO BE FILLED IN BY CORPORATION**  
Contact Information:

\_\_\_\_\_  
M

Jason Copeland, Paralegal  
Edwards Angell Palmer & Dodge LLP  
111 Huntington Avenue, Boston, MA 02199  
Telephone: 617.239.0462  
Email: jcopeland@eapdlaw.com

Upon filing, a copy of this filing will be available at [www.sec.state.ma.us/cor](http://www.sec.state.ma.us/cor). If the document is rejected, a copy of the rejection sheet and rejected document will be available in the rejected queue.

CONTINUATION SHEET 3A

WITHOUT PAR VALUE		WITH PAR VALUE		
TYPE	NUMBER OF SHARES	TYPE	NUMBER OF SHARES	PAR VALUE
		Common Stock .....	210,000,000	\$ 0.01
		Undesignated Preferred Stock .....	4,910,000	\$ 0.01
		Series C Junior Participating Preferred Stock .....	75,000	\$ 0.01
		Series D Preferred Stock .....	15,000	\$ 0.01

\* \* \* \*

**4.1 Undesignated Preferred Stock**

Except to the extent otherwise designated herein, the Board of Directors is authorized, subject to limitations prescribed by law and the provisions of this Article Four, to provide by resolution for the issuance of the shares of Preferred Stock in one or more series, and by filing a certificate pursuant to the applicable laws of the Commonwealth of Massachusetts, to establish from time to time the number of shares to be included in each such series, and to fix the designations, powers, preferences and rights of the shares of each such series and the qualifications, limitations or restrictions thereof. The authority of the Board with respect to each such series shall include, but shall not be limited to, determination of the following:

(a) The number of shares constituting that series and the distinctive designation of that series;

(b) The dividend rate, if any, on the shares of that series, whether dividends shall be cumulative, and if so, from which date or dates, and the relative rights of priority, if any, of payment of dividends on shares of the series;

(c) Whether that series shall have voting rights, in addition to the voting rights provided by law, and, if so, the terms of such voting rights;

(d) Whether that series shall have conversion privileges, and, if so, the terms and conditions of such privileges, including provision for adjustment of the conversion rate in such events as the Board of Directors shall determine;

(e) Whether or not the shares of that series shall be redeemable, and if so, the terms and conditions of such redemption, including the date or dates upon or after which they shall be redeemable, and the amount per share payable in case of redemption, which amount may vary under different conditions and at different redemption dates;

(f) Whether that series shall have a sinking fund for the redemption or purchase of shares of that series, and if so, the terms and amount of such sinking fund;

(g) The rights of the shares of that series in the event of voluntary or involuntary liquidation, dissolution or winding up of the Corporation, and the relative rights of priority, if any, of payment of shares of that series; and

(h) Any other relative rights, preferences and limitation of that series.

If upon any voluntary or involuntary liquidation, dissolution or winding up of the Corporation, the assets available for distribution to holders of shares of Preferred Stock of all series shall be insufficient to pay such holders the full preferential amount to which they are entitled, then such assets shall be distributed ratably among the shares of all series of Preferred Stock in accordance with the respective preferential amounts (including unpaid cumulative dividends, if any) payable with respect thereto.

## **4.2 Common Stock**

The Common Stock is subject to the rights and preferences of the Preferred Stock as hereinbefore set forth or authorized.

Subject to the provisions of any applicable law or of the By-laws of the Corporation as from time to time amended, with respect to the fixing of a record date for the determination of stockholders entitled to vote, and except as otherwise provided herein or by law or by the resolution or resolutions providing for the issue of any series of Preferred Stock, the holders of outstanding shares of Common Stock shall have exclusive voting rights for the election of directors and for all other purposes, each holder of record of shares of Common Stock being entitled to one vote for each share of Common Stock standing in his name on the books of the Corporation.

Subject to the rights of any one or more series of Preferred Stock, the holders of Common Stock shall be entitled to receive such dividends from time to time as may be declared by the Board of Directors out of any funds of the Corporation legally available for the payment of such dividends.

In the event of the liquidation, dissolution, or winding up of the Corporation, whether voluntary or involuntary, after payment shall have been made to the holders of the Preferred Stock of the full amount to which they are entitled, the holders of Common Stock shall be entitled to share ratably according to the number of shares of Common Stock held by them, in all remaining assets of the Corporation available for distribution to its stockholders.

## **4.3 Issuance**

Subject to the provisions of these Restated Articles of Organization and except as otherwise provided by law, the shares of stock of the Corporation, regardless of class, may be issued for such consideration and for such corporate purposes as the Board of Directors may from time to time determine.

## **4.4 Designation of Series C Junior Participating Cumulative Preferred Stock**

4.4.1. Designation and Amount. The shares of such series shall be designated as "Series C Junior Participating Cumulative Preferred Stock" (the "Series C Preferred Stock"), and the number of shares initially constituting such series shall be seventy-five thousand (75,000).

### 4.4.2. Dividends and Distributions.

(a) (i) Subject to the rights of the holders of any shares of any series of preferred stock (or any similar stock) ranking prior and superior to the Series C Preferred Stock with respect to dividends, the holders of shares of Series C Preferred Stock, in preference to the holders of shares of common stock and of any other junior stock, shall be entitled to receive, when, as and if declared by the Board of Directors out of funds legally available for the purpose, quarterly dividends payable in cash on the first day of March, June, September and December in each year (each such date being referred to herein as a "Quarterly Dividend Payment Date"), commencing on the first Quarterly Dividend Payment Date after the first issuance of a share or fraction of a share of Series C Preferred Stock, in an amount per share (rounded to the nearest cent) equal to the greater of (A) \$1.00 or (B) subject to the provisions for adjustment hereinafter set forth, 10,000 times the aggregate per share amount of all cash dividends, and 10,000 times the aggregate per share amount (payable in kind) of all non-cash dividends or other distributions other than a dividend payable in shares of common stock or a subdivision of the outstanding shares of common stock (by reclassification or otherwise), declared on the common stock since the immediately preceding Quarterly Dividend Payment Date, or, with respect to the first Quarterly Dividend Payment Date, since the first issuance of any share or fraction of a share of Series C Preferred Stock. The multiple of cash and non-cash dividends declared on the common stock to which holders of the Series C Preferred Stock are entitled, which shall be 10,000 initially but which shall be adjusted from time to time as hereinafter provided, is hereinafter referred to as the "Dividend Multiple." In the event the Corporation shall at any time after May 31, 2001 (the "Rights Declaration Date") (i) declare or pay any dividend on common stock payable in shares of common stock, or (ii) effect a subdivision or combination or consolidation of the outstanding shares of common stock (by reclassification or otherwise than by payment of a dividend in shares of common stock) into a greater or lesser number of shares of common stock, then in each such case the Dividend Multiple thereafter applicable to the determination of the amount of dividends which holders of shares of Series C Preferred Stock shall be entitled to receive shall be the Dividend Multiple applicable immediately prior to such event multiplied by a fraction, the numerator of which is the number of shares of common stock outstanding immediately after such event and the denominator of which is the number of shares of common stock that were outstanding immediately prior to such event.

(ii) Notwithstanding anything else contained in this paragraph (a), the Corporation shall, out of funds legally available for that purpose, declare a dividend or distribution on the Series C Preferred Stock as provided in this paragraph (a) immediately after it declares a dividend or distribution on the common stock (other than a dividend payable in shares of common stock); provided that, in the event no dividend or distribution shall have been declared on the common stock during the period between any Quarterly Dividend Payment Date and the next subsequent Quarterly Dividend Payment Date, a dividend of \$1.00 per share on the Series C Preferred Stock shall nevertheless be payable on such subsequent Quarterly Dividend Payment Date.

(b) Dividends shall begin to accrue and be cumulative on outstanding shares of Series C Preferred Stock from the Quarterly Dividend Payment Date next preceding the date of issue of such shares of Series C Preferred Stock, unless the date of issue of such shares is prior to the record date for the first Quarterly Dividend Payment Date, in which case dividends on such shares shall begin to accrue from the date of issue of such shares, or unless the date of issue is a Quarterly Dividend Payment Date or is a date after the record date for the determination of holders of shares of Series C Preferred Stock entitled to receive a quarterly dividend and before such Quarterly Dividend Payment Date, in either of which events such dividends shall begin to accrue and be cumulative from such Quarterly Dividend Payment Date. Accrued but unpaid dividends shall not bear interest. Dividends paid on the shares of Series C Preferred Stock in an amount less than the total amount of such dividends at the time accrued and payable on such shares shall be allocated pro rata on a share-by-share basis among all such shares at the time outstanding. The Board of Directors may fix in accordance with applicable law a record date for the determination of holders of shares of Series C Preferred Stock entitled to receive payment of a dividend or distribution declared thereon, which record date shall be not more than such number of days prior to the date fixed for the payment thereof as may be allowed by applicable law.

4.4.3. Voting Rights. In addition to any other voting rights required by law, the holders of shares of Series C Preferred Stock shall have the following voting rights:

(a) Subject to the provision for adjustment hereinafter set forth, each share of Series C Preferred Stock shall entitle the holder thereof to 10,000 votes on all matters submitted to a vote of the shareholders of the Corporation. The number of votes which a holder of a share of Series C Preferred Stock is entitled to cast, which shall initially be 10,000 but which may be adjusted from time to time as hereinafter provided, is hereinafter referred to as the "Vote Multiple." In the event the Corporation shall at any time after the Rights Declaration Date (i) declare or pay any dividend on common stock payable in shares of common stock, or (ii) effect a subdivision or combination or consolidation of the outstanding shares of common stock (by reclassification or otherwise than by payment of a dividend in shares of common stock) into a greater or lesser number of shares of common stock, then in each such case the Vote Multiple thereafter applicable to the determination of the number of votes per share to which holders of shares of Series C Preferred Stock shall be entitled shall be the Vote Multiple immediately prior to such event multiplied by a fraction, the numerator of which is the number of shares of common stock outstanding immediately after such event and the denominator of which is the number of shares of common stock that were outstanding immediately prior to such event.

(b) Except as otherwise provided herein or by law, the holders of shares of Series C Preferred Stock and the holders of shares of common stock and the holders of shares of any other capital stock of this Corporation having general voting rights, shall vote together as one class on all matters submitted to a vote of shareholders of the Corporation.

(c) Except as otherwise required by applicable law or as set forth herein, holders of Series C Preferred Stock shall have no special voting rights and their consent shall not be required (except to the extent they are entitled to vote with holders of common stock as set forth herein) for taking any corporate action.

4.4.4. Certain Restrictions.

(a) Whenever dividends or distributions payable on the Series C Preferred Stock as provided in Section 4.4.2 are in arrears, thereafter and until all accrued and unpaid dividends and distributions, whether or not declared, on shares of Series C Preferred Stock outstanding shall have been paid in full, the Corporation shall not:

(i) declare or pay dividends on, make any other distributions on, or redeem or purchase or otherwise acquire for consideration any shares of stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series C Preferred Stock;

(ii) declare or pay dividends on or make any other distributions on any shares of stock ranking on a parity (either as to dividends or upon liquidation, dissolution or winding up) with the Series C Preferred Stock, except dividends paid ratably on the Series C Preferred Stock and all such parity stock on which dividends are payable or in arrears in proportion to the total amounts to which the holders of all such shares are then entitled;

(iii) except as permitted in subsection 4.4.4(a)(iv) below, redeem, purchase or otherwise acquire for consideration shares of any stock ranking on a parity (either as to dividends or upon liquidation, dissolution or winding up) with the Series C Preferred Stock, provided that the Corporation may at any time redeem, purchase or otherwise acquire shares of any such parity stock in exchange for shares of any stock of the Corporation ranking junior (either as to dividends or upon dissolution, liquidation or winding up) to the Series C Preferred Stock; or

(iv) purchase or otherwise acquire for consideration any shares of Series C Preferred Stock, or any shares of any stock ranking on a parity (either as to dividends or upon liquidation, dissolution or winding up) with the Series C Preferred Stock, except in accordance with a purchase offer made in writing or by publication (as determined by the Board of Directors) to all holders of such shares upon such terms as the Board of Directors, after consideration of the respective annual dividend rates and other relative rights and preferences of the respective series and classes, shall determine in good faith will result in fair and equitable treatment among the respective series or classes.

(b) The Corporation shall not permit any subsidiary of the Corporation to purchase or otherwise acquire for consideration any shares of stock of the Corporation unless the Corporation could, under subsection (a) of this Section 4.4.4, purchase or otherwise acquire such shares at such time and in such manner.

4.4.5. Reacquired Shares. Any shares of Series C Preferred Stock purchased or otherwise acquired by the Corporation in any manner whatsoever shall be retired and canceled promptly after the acquisition thereof. All such shares shall upon their cancellation become authorized but unissued shares of preferred stock and may be reissued as part of a new series of preferred stock to be created by resolution or resolutions of the Board of Directors, subject to the conditions and restrictions on issuance set forth herein.

4.4.6. Liquidation, Dissolution or Winding Up. Upon any liquidation (voluntary or otherwise), dissolution or winding up of the Corporation, no distribution shall be made (x) to the holders of shares of stock ranking junior (either as to dividends or upon liquidation, dissolution or winding up) to the Series C Preferred Stock unless, prior thereto, the holders of shares of Series C Preferred Stock shall have received an amount equal to accrued and unpaid dividends and distributions thereon, whether or not declared, to the date of such payment, plus an amount equal to the greater of (1) \$10,000.00 per share or (2) an aggregate amount per share, subject to the provision for adjustment hereinafter set forth, equal to 10,000 times the aggregate amount to be distributed per share to holders of common stock, or (y) to the holders of stock ranking on a parity (either as to dividends or upon liquidation, dissolution or winding up) with the Series C Preferred Stock, except distributions made ratably on the Series C Preferred Stock and all other such parity stock in proportion to the total amounts to which the holders of all such shares are entitled upon such liquidation, dissolution or winding up. In the event the Corporation shall at any time after the Rights Declaration Date (i) declare or pay any dividend on common stock payable in shares of common stock, or (ii) effect a subdivision or combination or consolidation of the outstanding shares of common stock (by reclassification or otherwise than by payment of a dividend in shares of common stock) into a greater or lesser number of shares of common stock, then in each such case the aggregate amount per share to which holders of shares of Series C Preferred Stock were entitled immediately prior to such event under clause (x) of the preceding sentence shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of common stock outstanding immediately after such event and the denominator of which is the number of shares of common stock that were outstanding immediately prior to such event.

Neither the consolidation of nor merging of the Corporation with or into any other corporation or corporations, nor the sale or other transfer of all or substantially all of the assets of the Corporation, shall be deemed to be a liquidation, dissolution or winding up of the Corporation within the meaning of this Section 4.4.6.

4.4.7. Consolidation, Merger, etc. In case the Corporation shall enter into any consolidation, merger, combination or other transaction in which the shares of common stock are exchanged for or changed into other stock or securities, cash and/or any other property, then in any such case the shares of Series C Preferred Stock shall at the same time be similarly exchanged or changed in an amount per share (subject to the provision for adjustment hereinafter set forth) equal to 10,000 times the aggregate amount of stock, securities, cash and/or any other property (payable in kind), as the case may be, into which or for which each share of common stock is changed or exchanged, plus accrued and unpaid dividends, if any, payable with respect to the Series C Preferred Stock. In the event the Corporation shall at any time after the Rights Declaration Date (i) declare or pay any dividend on common stock payable in shares of common stock, or (ii) effect a subdivision or combination or consolidation of the outstanding shares of common stock (by reclassification or otherwise than by payment of a dividend in shares of common stock) into a greater or lesser number of shares of common stock, then in each such case the amount set forth in the preceding sentence with respect to the exchange or change of shares of Series C Preferred Stock shall be adjusted by multiplying such amount by a fraction, the numerator of which is the number of shares of common stock outstanding immediately after such event and the denominator of which is the number of shares of common stock that were outstanding immediately prior to such event.

4.4.8. Redemption. The shares of Series C Preferred Stock shall not be redeemable; provided, however, that the foregoing shall not limit the ability of the Corporation to purchase or otherwise deal in such shares to the extent otherwise permitted hereby and by law.

4.4.9. Ranking. Unless otherwise expressly provided in these Restated Articles of Organization or a Certificate of Vote of Directors Establishing a Class of Stock relating to any other series of preferred stock of the Corporation, the Series C Preferred Stock shall rank junior to every other series of the Corporation's preferred stock previously or hereafter authorized, as to the payment of dividends and the distribution of assets on liquidation, dissolution or winding up and shall rank senior to the common stock.

4.4.10. Amendment. These Restated Articles of Organization shall not be amended in any manner which would materially alter or change the powers, preferences or special rights of the Series C Preferred Stock so as to affect them adversely (within the meaning of Section 77 of Chapter 156B of the Massachusetts General Laws) without the affirmative vote of the holders of two-thirds or more of the outstanding shares of Series C Preferred Stock, voting separately as a class.

4.4.11. Fractional Shares. Series C Preferred Stock may be issued in whole shares or in any fraction of a share that is one ten-thousandth (1/10,000th) of a share or any integral multiple of such fraction, which shall entitle the holder, in proportion to such holder's fractional shares, to exercise voting rights, receive dividends, participate in distributions and to have the benefit of all other rights of holders of Series C Preferred Stock. In lieu of fractional shares, the Corporation may elect to make a cash payment as provided in the Rights Agreement for fractions of a share other than one ten-thousandth (1/10,000th) of a share or any integral multiple thereof.

#### **4.5 Designation of Series D Preferred Stock**

4.5.1. Authorized Amount and Designation. Fifteen thousand (15,000) shares of the authorized and unissued Preferred Stock of the Corporation are hereby designated "Series D Preferred Stock" with the rights, preferences, powers, privileges and restrictions, qualifications and limitations set forth below. Upon the conversion of any shares of Series D Preferred Stock or upon any other reacquisition of such shares by the Corporation, such shares shall be restored to the status of undesignated Preferred Stock. Upon any such conversion or reacquisition, the Board may, without action by the stockholders, authorize the amendment of this Section 4.5.1 either to reduce the number of shares of Preferred Stock designated as Series D Preferred Stock to reflect a partial conversion or reacquisition, or to eliminate this Section 4.5.1 to reflect the conversion or reacquisition of all outstanding shares of Series D Preferred Stock.

4.5.2. Dividends. The holders of the Series D Preferred Stock shall be entitled to receive, when, as and if declared by the Board, dividends out of any funds legally available therefor.

4.5.3. Liquidation, Dissolution or Winding Up. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation (each, a "Liquidation"), each holder of shares of Series D Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its shareholders, on the same terms and with the same rights and preferences as the holders of the Common Stock.

#### **4.5.4. Voting.**

(a) General Rights. Each holder of outstanding shares of Series D Preferred Stock shall be entitled to the number of votes equal to the number of whole shares of Common Stock into which the shares of Series D Preferred Stock held by such holder are then convertible (as adjusted from time to time pursuant to Section 4.5.5 below), at each meeting of stockholders of the Corporation with respect to any and all matters presented to the stockholders of the Corporation for their action or consideration. Except as provided by law, by the provisions of Subsections 4.5.4(b) and 4.5.4(c) below or by the provisions establishing any other series of Preferred Stock, the holders of Series D Preferred Stock shall vote together with the holders of Common Stock as a single class.

(b) Election of Director. Provided that at least 8,000 shares of Series D Preferred Stock have been issued hereunder, the holders of record of the shares of Series D Preferred Stock, exclusively and as a separate class, shall be entitled to elect one (1) director of the Corporation (the "Series D Director"). The Series D Director shall be a member of the class of directors whose current terms in effect on the Original Issue Date expire at the annual meeting of stockholders of the Corporation to be held in 2009. At any meeting held for the purpose of electing directors of the same class as the Series D Director, the presence in person or by proxy of the holders of at least a majority of the shares of Series D Preferred Stock then outstanding shall constitute a quorum of the Series D Preferred Stock for the purpose of electing the Series D Director by holders of the Series D Preferred Stock. A vacancy in any directorship filled by the holders of Series D Preferred Stock shall be filled only by vote or written consent in lieu of a meeting of the holders of at least a majority of the Series D Preferred Stock.

(c) Separate Vote of Series D Preferred Stock. In addition to any other rights provided by law, the Corporation shall not, without first obtaining the affirmative vote or written consent of the holders of not less than a majority of the then outstanding shares of Series D Preferred Stock consenting or voting (as the case may be) separately as a class:

(i) alter or change the rights, preferences or privileges of the Series D Preferred Stock, whether through merger, sale consolidation or otherwise;

(ii) alter or change the rights, preferences or privileges of any capital stock of the Corporation so as to affect adversely the rights of the Series D Preferred Stock, whether through merger, sale consolidation or otherwise;

(iii) issue any shares of Series D Preferred Stock, other than pursuant to the Stock Purchase Agreement (as defined below); and

(iv) increase the number of authorized shares of Series D Preferred Stock.

4.5.5. Optional Conversion. The holders of the Series D Preferred Stock shall have conversion rights as follows (the “Conversion Rights”):

(a) Right to Convert. Each share of Series D Preferred Stock shall be convertible, at the option of the holder thereof, at any time and from time to time, into 1,000 fully paid and nonassessable shares of Common Stock (the “Conversion Rate”) (as appropriately adjusted for stock splits, stock dividends, combinations or other recapitalizations affecting the Series D Preferred Stock). The rate at which shares of Series D Preferred Stock may be converted into shares of Common Stock shall be subject to adjustment as provided below.

In the event of a Liquidation, the Conversion Rights shall terminate at the close of business on the first full day preceding the date fixed for the payment of any amounts distributable on Liquidation to the holders of Series D Preferred Stock.

(b) Fractional Shares. No fractional shares of Common Stock shall be issued upon conversion of Series D Preferred Stock. In lieu of any fractional shares to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the then applicable Conversion Price or, in the case of a mandatory conversion under Section 4.5.6 below, the public offering price for the Common Stock.

(c) Mechanics of Conversion.

(i) In order for a holder of Series D Preferred Stock to convert shares of Series D Preferred Stock into shares of Common Stock, such holder shall surrender the certificate or certificates for such shares of Series D Preferred Stock at the office of the transfer agent for the Series D Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent), together with written notice that such holder elects to convert all or any number of the shares of the Series D Preferred Stock represented by such certificate or certificates. Such notice shall state such holder’s name or the names of the nominees in which such holder wishes the certificate or certificates for shares of Common Stock to be issued. If a holder wishes to convert shares and have them issued in the name of a nominee, certificates surrendered for conversion shall be endorsed or accompanied by a written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or his or its attorney duly authorized in writing. The date of receipt of such certificates and notice by the transfer agent (or by the Corporation if the Corporation serves as its own transfer agent) shall be the conversion date (“Conversion Date”). The Corporation shall, as soon as practicable after the Conversion Date, but in no event later than five (5) business days, issue and deliver to such holder of Series D Preferred Stock or to his or its nominees a certificate or certificates, dated the Conversion Date, for the number of shares of Common Stock to which such holder shall be entitled, together with cash in lieu of any fraction of a share and payment of all declared but unpaid dividends, if any, on the shares converted as provided in clause (iv) below.

(ii) The Corporation shall at all times when the Series D Preferred Stock shall be outstanding, reserve and keep available out of its authorized but unissued stock, for the purpose of effecting the conversion of the Series D Preferred Stock, such number of its duly authorized shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding Series D Preferred Stock.

(iii) Upon any such conversion, no adjustment shall be made for any declared but unpaid dividends on the Series D Preferred Stock surrendered for conversion, which dividends shall be paid in accordance with clause (iv) below.

(iv) All shares of Series D Preferred Stock that shall have been surrendered for conversion as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares, including the rights, if any, to receive notices and to vote, shall immediately cease and terminate on the Conversion Date, except only the right of the holders thereof to receive shares of Common Stock in exchange therefor, cash in lieu of any fractional share and payment of any declared but unpaid dividends thereon, and all other rights as a recordholder of Common Stock as of the Conversion Date, including, but not limited to, the right to vote such shares of Common Stock as of the Conversion Date. Any shares of Series D Preferred Stock so converted shall be retired and canceled and shall not be reissued, and the Corporation may from time to time take such appropriate action as may be necessary to reduce the authorized Series D Preferred Stock accordingly.

(v) The Corporation shall pay any and all taxes that may be imposed upon it with respect to the issuance and delivery of the shares of Common Stock upon the conversion of the Series D Preferred Stock, provided however, that the Corporation shall not be required to pay any tax which may be payable in respect of any transfer involved in the issuance and delivery of any shares of Common Stock in a name other than the holder of the Series D Preferred Stock.

(d) Adjustment for Stock Splits and Combinations. If the Corporation shall at any time or from time to time after the Original Issue Date effect a subdivision of the outstanding Common Stock, the Conversion Rate then in effect immediately before that subdivision shall be proportionately decreased. “Original Issue Date” shall mean the date on which shares of Series D Preferred Stock are first issued. If the Corporation shall at any time or from time to time after the Original Issue Date combine the outstanding shares of Common Stock into a smaller number, the Conversion Rate then in effect immediately before the combination shall be proportionately increased. Any adjustment under this paragraph shall become effective at the close of business on the date the subdivision or combination becomes effective.

(e) Adjustment for Certain Dividends and Distributions. In the event the Corporation at any time, or from time to time after the Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in additional shares of Common Stock, then and in each such event the Conversion Rate then in effect shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the Conversion Rate then in effect by a fraction:

(1) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date plus the number of shares of Common Stock issuable in payment of such dividend or distribution; and

(2) the denominator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date;

provided, however, if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Conversion Rate shall be recomputed accordingly as of the close of business on such record date and thereafter the Conversion Rate shall be adjusted pursuant to this paragraph as of the time of actual payment of such dividends or distributions; and provided further, however, that no such adjustment shall be made if the holders of Series D Preferred Stock simultaneously receive (i) a dividend or other distribution of shares of Common Stock in a number equal to the number of shares of Common Stock as they would have received if all outstanding shares of Series D Preferred Stock had been converted into Common Stock on the date of such event or (ii) a dividend or other distribution of shares of Series D Preferred Stock which are convertible, as of the date of such event, into such number of shares of Common Stock as is equal to the number of shares of Common Stock as they would have received if all outstanding shares of Series D Preferred Stock had been converted into Common Stock on the date of such event.

(f) Adjustments for Other Dividends and Distributions. In the event the Corporation at any time or from time to time after the Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation other than shares of Common Stock, then and in each such event provision shall be made so that the holders of Series D Preferred Stock shall receive upon conversion thereof in addition to the number of shares of Common Stock receivable thereupon, the amount of securities of the Corporation that they would have received had the Series D Preferred Stock been converted into Common Stock on the date of such event and had thereafter, during the period from the date of such event to and including the conversion date, retained such securities receivable by them as aforesaid during such period giving application to all adjustments called for during such period, under this paragraph with respect to the rights of the holders of the Series D Preferred Stock.

(g) Adjustment for Reclassification, Exchange, or Substitution. If the Common Stock issuable upon the conversion of the Series D Preferred Stock shall be changed into the same or a different number of shares of any class or classes of stock, whether by capital reorganization, reclassification, or otherwise (other than a subdivision or combination of shares or stock dividend provided for above, or a reorganization, merger, consolidation, or sale of assets provided for below), then and in each such event the holder of each such share of Series D Preferred Stock shall have the right thereafter to convert such share into the kind and amount of shares of stock and other securities and property receivable upon such reorganization, reclassification, or other change, by holders of the number of shares of Common Stock into which such shares of Series D Preferred Stock might have been converted immediately prior to such reorganization, reclassification, or change, all subject to further adjustment as provided herein.

(h) Adjustment for Merger or Reorganization, etc. In case of any consolidation or merger of the Corporation with or into another corporation or the sale, lease or license of all or substantially all of the assets of the Corporation to another corporation, each share of Series D Preferred Stock shall thereafter be convertible into the kind and amount of shares of stock or other securities or property to which a holder of the number of shares of Common Stock of the Corporation deliverable upon conversion of such Series D Preferred Stock would have been entitled upon such event.

(i) No Impairment. The Corporation will not, by amendment of this Certificate of Incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms to be observed or performed hereunder by the Corporation, but will at all times in good faith assist in the carrying out of all the provisions of this Section 4.5.5 and in the taking of all such action as may be necessary or appropriate in order to protect the Conversion Rights of the holders of the Series D Preferred Stock against impairment.

(j) Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Conversion Rate pursuant to this Section 4.5.5, the Corporation at its expense shall promptly compute such adjustment or readjustment in accordance with the terms hereof and furnish to each holder of Series D Preferred Stock a certificate setting forth such adjustment or readjustment and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, upon the written request at any time of any holder of Series D Preferred Stock, furnish or cause to be furnished to such holder a similar certificate setting forth (i) such adjustments and readjustments, (ii) the Conversion Rate then in effect, and (iii) the number of shares of Common Stock and the amount, if any, of other property which then would be received upon the conversion of Series D Preferred Stock.

(k) Notice of Record Date. In the event:

(i) that the Corporation declares a dividend (or any other distribution) on its Common Stock payable in Common Stock or other securities of the Corporation;

(ii) that the Corporation splits, subdivides or combines its outstanding shares of Common Stock;

(iii) of any reclassification of the Common Stock of the Corporation (other than a stock split, subdivision or combination of its outstanding shares of Common Stock or a stock dividend or stock distribution thereon), or of any consolidation or merger of the Corporation into or with another corporation, or of the sale, lease or license of all or substantially all of the assets of the Corporation; or

(iv) of any other Liquidation of the Corporation;

then the Corporation shall cause to be filed at its principal office or at the office of the transfer agent of the Series D Preferred Stock, and shall cause to be mailed to the holders of the Series D Preferred Stock at their last addresses as shown on the records of the Corporation or such transfer agent, at least ten (10) days prior to the record date specified in (A) below or twenty (20) days before the date specified in (B) below, a notice stating

(A) the record date of such dividend, distribution, stock split, subdivision or combination, or, if a record is not to be taken, the date as of which the holders of Common Stock of record to be entitled to such dividend, distribution, stock split, subdivision or combination are to be determined, or

(B) the date on which such reclassification or Liquidation is expected to become effective, and the date as of which it is expected that holders of Common Stock of record shall be entitled to exchange their shares of Common Stock for securities or other property deliverable in such transaction.

(1) Lost or Stolen Certificates. Upon receipt by the Corporation of (i) evidence of the loss, theft, destruction or mutilation of a certificate for Series D Preferred Stock and (ii) (y) in the case of loss, theft or destruction, of indemnity (without any bond or other security) reasonably satisfactory to the Corporation or (z) in the case of mutilation upon surrender and cancellation of such certificate for Series D Preferred Stock, the Corporation shall execute and deliver a new certificate of like tenor and date; provided however, that the Corporation shall not be obligated to reissue such lost or stolen certificate if the holder contemporaneously requests conversion of all or any part of the shares covered thereby.

#### 4.5.6. Mandatory Conversion.

(a) Beginning after June 30, 2012, or if the annual shareholder meeting for 2012 in which directors are elected is held after June 30, 2012, after the date of such meeting, (x) if the right of the original purchaser of the shares of Series D Preferred Stock to nominate the "Purchaser Designee" pursuant to the terms of the Stock Purchase Agreement dated as of September 29, 2006 by and between the Corporation and Laboratoire Francais Du Fractionnement et des Biotechnologies (the "Stock Purchase Agreement") automatically terminates pursuant to Section 9(c) of the Stock Purchase Agreement; or (y) if the Fair Market Value (as defined below) per share of the Corporation's Common Stock shall equal or exceed 200% of the original purchase price of the Series D Preferred Stock on an "as converted" basis (as such price may be adjusted from time to time due to any event set forth in Section 4.5.5 above) for five consecutive Trading Days (as defined below), the Corporation shall have the right to require conversion of all of the outstanding shares of Series D Preferred Stock into shares of Common Stock, at the then effective Conversion Rate and the number of authorized shares of Series D Preferred Stock shall be automatically reduced by the number of shares of Preferred Stock so converted. The Corporation shall have sixty (60) Trading Days after the occurrence of the event set forth in clause (y) above to exercise its right to require conversion under this Section 4.5.6.

For the purpose of this Agreement, the "Fair Market Value" of a share of Common Stock on any Trading Day shall be deemed to be:

(i) if the Common Stock is listed on a national securities exchange or traded in the over-the-counter market, and sales prices are regularly reported for the Common Stock, the closing or last sale price of the Common Stock on the composite tape or other comparable reporting system for such Trading Day; and

(ii) if the Common Stock is not traded on a national securities exchange but is traded on the over-the-counter market, if sales prices are not regularly reported for the Common Stock for the Trading Day referred to in clause (i), and if bid and asked prices for the Common Stock are regularly reported, the mean between the bid and the asked price for the Common Stock at the close of trading in the over-the-counter market for such Trading Day.

For the purpose of this Agreement, the term “Trading Day” shall mean a day on which the principal national securities exchange on which such security is listed or admitted to trading is open for the transaction of business or, if such security is not listed or admitted to trading on any national securities exchange, but is traded on the over-the-counter market, a day on which such over-the-counter market is open for the transaction of business.

(b) If the Corporation determines to exercise the right set forth in Section 4.5.6(a) above, it shall deliver written notice to all holders of record of shares of Series D Preferred Stock. Such notice shall state the effective date (the “Mandatory Conversion Date”) of the mandatory conversion (which Mandatory Conversion Date shall not be earlier than five (5) business days after the date the notice is sent to such holders) and the number of shares being so converted and shall be sent by first class or registered mail, postage prepaid, to each record holder of Series D Preferred Stock at such holder’s address appearing on the stock register. Each holder of shares of Series D Preferred Stock shall surrender his or its certificate or certificates for all such shares to the Corporation at the place designated in such notice. On the Mandatory Conversion Date, all rights with respect to the Series D Preferred Stock so converted will terminate, except only the rights of the holders thereof, upon surrender of their certificate or certificates therefor, to receive certificates for the number of shares of Common Stock into which such Series D Preferred Stock has been converted, cash in lieu of any fractional share and payment of any declared but unpaid dividends thereon, and all other rights as a recordholder of Common Stock as of the Mandatory Conversion Date, including, but not limited to, the right to vote such shares of Common Stock as of the Mandatory Conversion Date. All certificates evidencing shares of Series D Preferred Stock that are required to be surrendered for conversion in accordance with the provisions hereof shall, from and after the date such certificates are so required to be surrendered, be deemed to have been retired and canceled and the shares of Series D Preferred Stock represented thereby converted into Common Stock for all purposes, notwithstanding the failure of the holder or holders thereof to surrender such certificates on or prior to such date. As soon as practicable after the date of such mandatory conversion and the surrender of the certificate or certificates for Series D Preferred Stock, but in no event later than five (5) business days after the later of the Mandatory Conversion Date and the date of surrender of the certificate or certificates, the Corporation shall cause to be issued and delivered to such holder, or on his or its written order, a certificate or certificates, dated the Mandatory Conversion Date, for the number of full shares of Common Stock issuable on such conversion in accordance with the provisions hereof and cash as provided in Subsection 4.5.5(b) above in respect of any fraction of a share of Common Stock otherwise issuable upon such conversion.

\* \* \* \*

CONTINUATION SHEET 6A

6.1 Meetings of the stockholders may be held anywhere within the United States.

6.2 No contract or other transaction of this Corporation with any other person, corporation, association, or partnership shall be affected or invalidated by the fact that (i) this Corporation is a stockholder or partner in such other corporation, association, or partnership, or (ii) any one or more of the officers or directors of this Corporation is an officer, director or partner of such other corporation, association or partnership, or (iii) any officer or director of this Corporation, individually or jointly with others, is a party to or is interested in such contract or transaction. Any director of this Corporation may be counted in determining the existence of a quorum at any meeting of the Board of Directors for the purpose of authorizing or ratifying any such contract or transaction, and may vote thereon, with like force and effect as if he were not so interested or were not an officer, director, or partner of such other corporation, association, or partnership.

6.3 The Corporation may be a partner in any business enterprise which it would have power to conduct itself.

6.4 The By-laws may provide that the directors may make, amend, or repeal the By-laws in whole or in part, except with respect to any provision thereof which by law, these Restated Articles of Organization, or the By-laws requires action by the stockholders.

6.5 A director shall not be liable to the corporation or its stockholders for monetary damages for any breach of fiduciary duty as a director, except to the extent that the elimination or limitation of liability is not permitted under the Massachusetts Business Corporation Law as in effect when such liability is determined. No amendment or repeal of this provision shall deprive a director of the benefits hereof with respect to any act or omission occurring prior to such amendment or repeal.

6.6 Classified Board. The Board of Directors shall consist of not less than three nor more than fifteen directors, the exact number to be determined from time to time by resolution adopted by the affirmative vote of a majority of the directors then in office. At such time, the directors shall be divided into three classes, as nearly equal in number as the then total number of directors constituting the entire Board permits, with the term of office of one class expiring at the next succeeding annual meeting, the initial directors of the second class shall be elected to hold office for a term expiring at the second succeeding annual meeting and the initial directors of the third class shall be elected to hold office for a term expiring at the third succeeding annual meeting. At each succeeding annual meeting of stockholders beginning in the first year following the election of such staggered Board of Directors, successors to the class of directors whose term expires at the meeting shall be elected for a three-year term. If the number of directors is changed, any increase or decrease shall be apportioned among the classes so as to maintain the number of directors in each class as nearly equal as possible, and any additional directors of any class elected to fill a vacancy resulting from an increase in the size of such class shall hold office for a term that shall coincide with the remaining term of that class, but in no event will a decrease in the number of directors shorten the term of any incumbent director. Any vacancies in the Board of Directors for any reason, and any directorships resulting from any increase in the number of directors, may be filled by the Board of Directors, acting by a majority of the directors then in office, although less than a quorum, and any directors so chosen shall hold office until the next election of the class for which such directors shall have been chosen. Notwithstanding the foregoing, and except as otherwise required by law, whenever the holders of any one or more series of Preferred Stock shall have the right, voting separately as a class, to elect one or more directors of the Corporation, the election, terms of office and other features of such directorships shall be governed by the terms of these Restated Articles of Organization and certificates of designation applicable thereto, and such directors so elected shall not be divided into classes pursuant to this Section 6.6 unless expressly provided by such terms. Subject to the foregoing, at each annual meeting of stockholder the successors to the class of directors whose terms shall then expire shall be elected to hold office for a term expiring at the annual meeting of the year in which their term expires and until their successors shall be elected and qualified, subject to prior death, resignation, retirement or removal.

6.7 Stockholder Vote Required for Certain Actions. The Corporation, by vote of a majority of each class of stock outstanding and entitled to vote thereon may (i) authorize any amendment to these Restated Articles of Organization, (ii) authorize the sale, lease or exchange of all or substantially all of the Corporation's property and assets, including its goodwill and (iii) approve a merger or consolidation of the Corporation with or into any other corporation; so long as such amendment, sale, lease, exchange, merger or consolidation shall have been approved by the Board of Directors.

\* \* \* \*

CONTINUATION SHEET 7A

These Restated Articles of Organization restate the Corporation's Restated Articles of Organization as heretofore amended to reflect that:

- (i) the Corporation's previously authorized and outstanding shares of Series A Convertible Preferred Stock have been redeemed and restored to the status of authorized but unissued shares of Preferred Stock by vote of the directors of the Corporation;
- (ii) the Corporation's previously authorized and outstanding shares of Series B Convertible Preferred Stock have been converted into shares of Common Stock; and
- (iii) the prior designation of a Series C Junior Participating Cumulative Preferred Stock was not labeled as a section of Article Fourth.

Accordingly, these Restated Articles of Organization (i) delete the provisions of the Corporation's existing Restated Articles of Organization designating the terms of the Series A Convertible Preferred Stock and Series B Convertible Preferred Stock, which are now unnecessary, (ii) correct the provisions of Article Fourth of the Corporation's existing Restated Articles of Organization by including the designation of the Series C Junior Participating Cumulative Preferred Stock as Section 4.4 and renumbering the provision designating the Series D Preferred Stock as Section 4.5, and (iii) create a defined term for the "Stock Purchase Agreement" in Section 4.5.6, which is referenced in Section 4.5.4.

\* \* \* \*

**CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Geoffrey F. Cox, certify that:

1. I have reviewed this quarterly report on Form 10-Q of GTC Biotherapeutics, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
  - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 13, 2009

/s/ Geoffrey F. Cox

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

**CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, John B. Green, certify that:

1. I have reviewed this quarterly report on Form 10-Q of GTC Biotherapeutics, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, 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;
  - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 13, 2009

/s/ John B. Green

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John B. Green  
Senior Vice President,  
Chief Financial Officer and Treasurer

**CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,  
AS ADOPTED PURSUANT TO  
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report on Form 10-Q of GTC Biotherapeutics, Inc. (the "Company") for the quarterly period ended March 29, 2009, as filed with the Securities and Exchange Commission on the date hereof, (the "Report"), each of the undersigned hereby certifies, pursuant to 18 U.S.C. Section 1350, that:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 13, 2009

/s/ Geoffrey F. Cox

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

Date: May 13, 2009

/s/ John B. Green

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John B. Green  
Senior Vice President,  
Chief Financial Officer and Treasurer