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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 July 4, 2010

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 July 22, 2010
<b>Common Stock, \$0.01 par value</b>	<b>30,444,645</b>

## **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 January 3, 2010 as filed with the Securities and Exchange Commission, as supplemented and amended by the “Risk Factors” contained in our Quarterly Reports on Form 10-Q.

The forward-looking statements in this Quarterly Report on Form 10-Q are 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.

## **NOTE REGARDING REVERSE STOCK SPLIT**

On May 26, 2009 we effected a reverse stock split of our outstanding common stock. In order to provide accurate comparisons of our financial position as of the end of the quarterly period ended July 4, 2010 to prior periods, we have adjusted certain stock amounts and conversion prices of prior periods to accurately reflect the impact of the reverse stock split on our outstanding common stock.

**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>July 4, 2010</u>	<u>January 3, 2010</u>
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 6,220	\$ 3,816
Accounts receivable and unbilled contract revenue	222	243
Related party receivable	891	1,500
Inventory	—	56
Restricted cash	599	599
Other receivable- arbitration award	4,032	—
Other current assets	1,021	1,217
Total current assets	12,985	7,431
Net property, plant and equipment	11,837	12,456
Intangible assets, net	4,897	5,348
Other assets	669	765
Total assets	<u>\$ 30,388</u>	<u>\$ 26,000</u>
<b>LIABILITIES AND SHAREHOLDERS' DEFICIT</b>		
Current liabilities:		
Accounts payable	\$ 7,342	\$ 6,945
Accrued liabilities	8,557	6,685
Short-term deferred contract revenue	10,353	6,875
Derivative liability	—	2,660
Current portion of long-term debt	25	51
Current portion of debt to related party	302	300
Total current liabilities	26,579	23,516
Long-term deferred contract revenue	—	8,173
Long-term debt, net of current portion	41	54
Long-term debt to related party, net of debt discount	31,106	16,704
Other long-term liabilities	20	37
Total liabilities	57,746	48,484
Redeemable convertible preferred stock:		
Series E-1 Redeemable Convertible Preferred stock, net of offering costs; \$.01 par value; 18,000 shares authorized and 6,000 shares were issued and outstanding at January 3, 2010	—	4,223
Series E-2 Redeemable Convertible Preferred stock, \$.01 par value; 20,250 shares authorized and 6,750 shares were issued and outstanding at January 3, 2010	—	4,370
Related party subscription receivable	—	(6,375)
Total redeemable convertible preferred stock	—	2,218
Shareholders' deficit:		
Preferred stock, \$.01 par value; 5,000,000 shares authorized: 15,000 shares were designated as Series D convertible preferred stock; 115 were issued and outstanding at July 4, 2010 and January 3, 2010	—	—
Common stock, \$.01 par value; 210,000,000 shares authorized; 30,443,535 and 24,727,010 shares were issued and outstanding at July 4, 2010 and January 3, 2010, respectively	304	247
Capital in excess of par value	309,215	303,869
Accumulated deficit	(336,877)	(328,818)
Total shareholders' deficit	<u>(27,358)</u>	<u>(24,702)</u>
Total liabilities, redeemable convertible preferred stock and shareholders' deficit	<u>\$ 30,388</u>	<u>\$ 26,000</u>

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

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

	<u>Fiscal three months ended</u>		<u>Fiscal six months ended</u>	
	<u>July 4, 2010</u>	<u>June 28, 2009</u>	<u>July 4, 2010</u>	<u>June 28, 2009</u>
<b>Revenues:</b>				
Service revenue	\$ 275	\$ 461	\$ 441	\$ 638
Product revenue	4,650	194	4,830	215
Total revenue	4,925	655	5,271	853
<b>Costs of revenue and operating expenses:</b>				
Cost of service revenue	518	354	526	620
Cost of product revenue	33	16	53	16
Research and development	5,150	6,805	9,918	13,773
Selling, general and administrative	2,750	3,136	5,533	5,645
Total cost of revenue and operating expenses	8,451	10,311	16,030	20,054
Operating loss	(3,526)	(9,656)	(10,759)	(19,201)
<b>Other income (expense):</b>				
Interest income	—	20	—	21
Interest expense	(581)	(1,201)	(1,095)	(2,011)
Other income (expense)	3,795	80	3,795	80
Net loss	\$ (312)	\$ (10,757)	\$ (8,059)	\$(21,111)
Net loss per common share (basic and diluted)	\$ (0.01)	\$ (1.03)	\$ (0.27)	\$ (2.03)
Weighted average number of common shares outstanding (basic and diluted)	30,434	10,440	30,365	10,424

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 six months ended</u>	
	<u>July 4, 2010</u>	<u>June 28, 2009</u>
Cash flows from operating activities:		
Net loss from operations	\$ (8,059)	\$(21,111)
Adjustments to reconcile net loss from operations to net cash used in operating activities:		
Depreciation and amortization	1,069	1,095
Stock based compensation	194	490
Common stock issuance to GTC savings and retirement plan	329	793
Non-cash interest expense	453	584
Changes in assets and liabilities:		
Accounts receivable and unbilled contract revenue	630	137
Inventory	56	540
Other assets and liabilities	(3,757)	(1,130)
Accounts payable	397	1,444
Accrued liabilities	1,872	1,390
Deferred contract revenue	(4,695)	5,550
Net cash used in operating activities	<u>(11,511)</u>	<u>(10,218)</u>
Cash flows from investing activities:		
Purchase of property, plant and equipment	<u>—</u>	<u>(34)</u>
Net cash provided by (used in) investing activities	<u>—</u>	<u>(34)</u>
Cash flows from financing activities:		
Proceeds from long term debt from related party	7,000	—
Proceeds from convertible debt financing from related party	7,000	4,026
Net proceeds from employee stock purchase plan	3	18
Repayment of long-term debt and capital leases	<u>(88)</u>	<u>(696)</u>
Net cash provided by financing activities	<u>13,915</u>	<u>3,348</u>
Net increase (decrease) in cash and cash equivalents	2,404	(6,904)
Cash and cash equivalents at beginning of period	<u>3,816</u>	<u>11,643</u>
Cash and cash equivalents at end of period	<u>\$ 6,220</u>	<u>\$ 4,739</u>
Supplemental disclosure of cash flow information:		
Release of restricted cash for repayment of long-term debt	\$ —	\$ 4,000
Settlement of liability due to LFB conversion to convertible note	—	513
Reclassification of warrants to liability	—	96
Assets purchased under capital lease	—	159

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 January 3, 2010 (referred to as the 2009 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 2009 Form 10-K. The financial statements for the fiscal six months ended July 4, 2010 and June 28, 2009, 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.

In July 2010, our Board of Directors approved a change in our fiscal year end from January 2, 2011 to December 31, 2010 and a change in the end of the third fiscal quarter from October 3, 2010 to September 30, 2010, reflecting a change to the calendar year end reporting cycle.

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.

Under our Joint Development and Commercialization Agreement with LFB Biotechnologies, S.A.S., or LFB, a related party, we have established 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 as we are not the primary beneficiary of the joint venture. In determining whether we are the primary beneficiary, we consider a number of factors, including our ability to direct the activities that most significantly affect the entity's economic success, our contractual rights and responsibilities under the arrangement and the significance of the arrangement to each party. These considerations impact the way we account for our existing collaborative and joint venture relationships and may result in the future consolidation of companies or entities with which we have collaborative or other arrangements.

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 approximately \$337 million at July 4, 2010. We also have negative working capital of \$13.6 million as of July 4, 2010. Based on our cash balance as of July 4, 2010, as well as potential cash receipts from existing programs and the \$3.7 million of cash received, net of expenses, from the award in the LEO arbitration in July 2010, we believe our capital resources will be sufficient to fund operations to the middle of the fourth quarter of 2010. Our recurring losses from operations and limited funds raise substantial doubt about our ability to continue as a going concern. Our plans with regard to this matter include seeking additional financing arrangement and seeking collaboration arrangements. If no funds are available to us through these channels, we would have to sell or liquidate the business. 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 may include new or expanded partnering arrangements and additional sales of equity or debt securities. Adequate additional funding may not be available to us on acceptable terms or at all. Our failure to raise capital as and when needed has had a negative impact on our financial condition and our ability to pursue our business strategies. If adequate funds do not become available we may be required to take further steps 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 would dilute ownership of our existing equity investors. We are currently engaged in discussions for potential new partnering transactions and service contracts and plan to bring further financial resources into GTC in the future through some combination of partnering transactions, service contracts and other debt or equity financing arrangements. 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.

**GTC BIOTHERAPEUTICS, INC. AND SUBSIDIARIES**  
**NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

**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 warrants, stock options and stock to be issued under our defined contribution retirement plan totaled 5.8 million shares and 5.4 million shares at July 4, 2010 and June 28, 2009, respectively. Since we were in a loss position at July 4, 2010 and June 28, 2009, these potential common shares were not used to compute diluted loss per share, as the effect was antidilutive. We also have three convertible notes payable to LFB. The first convertible note has a current principal balance of approximately \$735,000, net of unamortized debt discount of approximately \$108,000, 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 has a current principal balance of approximately \$13.3 million, net of unamortized debt discount of approximately \$284,000 which may be converted into our common stock at \$3.10 per share at LFB's discretion. The third convertible note has a current principal balance of approximately \$7,000,000, which may be converted into our common stock of \$0.42 per share at LFB's discretion. See Note 3 below.

**3. Business Agreements:**

*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 included 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, or AD. Under the terms of the agreement, Lundbeck was obligated to make milestone payments to us for a total of \$9 million through the approval of ATryn<sup>®</sup> for HD in the U.S., all of which were paid. We recorded the \$9 million in total milestones received as deferred revenue, which is being recognized as revenue on a straight-line basis over the 20 year life of the agreement beginning with the first shipment of product to Lundbeck, which began in the first quarter of 2009. Since Lundbeck has a right of return on our first shipment of product, we are deferring the recognition of this product revenue until this product has been sold to end users. At July 4, 2010, we have approximately \$520,000 in deferred revenue related to product shipped to Lundbeck with a right of return. The collaboration anticipates further development of ATryn<sup>®</sup> in larger market acquired deficiencies of antithrombin, such as the treatment of heparin resistance, or HR, in patients undergoing coronary artery bypass graft (CABG) surgery that requires the use of a cardio pulmonary bypass (CPB) machine, as well as the treatment of disseminated intravascular coagulation, or DIC, associated with severe sepsis. We have recorded \$1.5 million of product revenue and approximately \$70,000 of royalty revenue associated with product shipped to Lundbeck that has been sold to end users.

In July 2010, we signed a definitive agreement with Lundbeck whereby we regained commercialization rights to ATryn<sup>®</sup> in the U.S. and terminated our collaboration with Lundbeck. The agreement includes a defined transition period of up to six months wherein Lundbeck will perform certain services on our behalf in order to ensure that ATryn<sup>®</sup> will continue to be available to physicians and their patients in an uninterrupted fashion as commercialization responsibilities are smoothly transitioned to us. We will pay Lundbeck a fixed monthly fee for sales and pharma-covigilance activities during the transition period and pay them for the direct distribution costs they incur plus a small mark up. Thereafter, Lundbeck will earn a royalty on net sales beginning in two years, with a predefined cumulative maximum. As a result of the agreement, we anticipate the recognition of deferred revenue of approximately \$8.9 million related to the Lundbeck agreement in the third quarter of 2010. As part of the agreement we will purchase Lundbeck's remaining inventory of ATryn<sup>®</sup> for total consideration of \$400,000, \$200,000 of which is to be paid upon the effective date of the agreement and the remaining \$200,000 to be paid on the last day of the transition period.

*LFB Biotechnologies*

*Collaboration Agreement*

In September 2006, we entered into a collaboration agreement with LFB, a related party, to develop selected recombinant plasma proteins and MAbs using our transgenic production platform. LFB is a subsidiary of LFB S.A., a vertically integrated plasma fractionation company based in France that currently markets 19 plasma-derived products in the areas of hemostasis, anesthesia-intensive care and immunology. LFB S.A. is a for-profit company currently 100% owned by the French government. The first program in this collaboration is for the development of a transgenically derived recombinant human factor FVIIa (for the treatment of hemophilia). We have subsequently added to the LFB collaboration programs to develop a transgenically derived recombinant form of human factor IX, an antibody to the CD20 immune system receptor (for use in the treatment of certain cancers and autoimmune diseases), and transgenically derived recombinant human alpha-1 antitrypsin (for use in the treatment of a form of emphysema).

**GTC BIOTHERAPEUTICS, INC. AND SUBSIDIARIES**  
**NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

*2010 Debt Financings*

On February 24, 2010, we issued and sold a \$7,000,000 secured note to LFB and received \$7,000,000 in gross proceeds. The secured note has a 36-month term and accrues interest at a rate of 4%, with a single payment of principal and interest at maturity. After January 1, 2011 LFB may annually adjust the rate of interest upwards or downwards, based on LFB's then-current cost of capital, as determined by LFB in the exercise of its commercially reasonable discretion. Over the term of the secured note LFB may elect to participate in any of our future equity financing transactions by cancelling all or any portion of the principal and interest outstanding under the secured note for any shares of our common stock or securities convertible, exercisable or exchangeable into shares of our common stock that we issue and sell in the financing. On February 24, 2010, we also entered into amendments to modify our existing security agreements with LFB to add the 2010 secured note to our debt that is secured by a first priority security interest on all of our assets, including our intellectual property, but excluding livestock.

On June 15, 2010, we issued and sold a \$7,000,000 secured convertible note to LFB and received \$7,000,000 in gross proceeds. The secured convertible note has a 36-month term and accrues interest at a rate of 4%, with a single payment of principal and interest at maturity. After January 1, 2011 LFB may annually adjust the rate of interest upwards or downwards, based on LFB's then-current cost of capital, as determined by LFB in the exercise of its commercially reasonable discretion. LFB may convert the debt into our common stock at a conversion price of \$0.42 per share at any time. Over the term of the secured note LFB may also elect to participate in any of our future equity financing transactions by cancelling all or any portion of the principal and interest outstanding under the secured note for any shares of our common stock or securities convertible, exercisable or exchangeable into shares of our common stock that we issue and sell in the financing. On June 15, 2010, we also entered into amendments to modify our existing security agreements with LFB to add the 2010 secured convertible note to our debt that is secured by a first priority security interest on all of our assets, including our intellectual property, but excluding livestock.

*JCOM Co. Ltd ("JCOM")*

In February 2009, we entered into a license and development agreement with JCOM, an affiliate of Dong-A Pharmaceuticals (a leading pharmaceutical company in South Korea), whereby we granted to JCOM an 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 to make, use, sell, offer for sale and import recombinant human insulin products in these territories. We are developing cell lines to demonstrate production of recombinant human insulin 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 which will be recognized as revenue when JCOM either exercises its options for Asia and the rest of the world or when the options expire, whichever comes first.

*PharmAthene, Inc. ("PharmAthene")*

In March 2007, we entered into a process and development and clinical supply manufacturing services agreement with PharmAthene for Protexia<sup>®</sup>, as well as an agreement providing PharmAthene an expanded license to our patent rights, which will support the further development, manufacturing, regulatory approval and commercialization process for PharmAthene's Protexia<sup>®</sup> program. The development of Protexia<sup>®</sup> is funded by the United States Department of Defense.

*LEO Pharma A/S ("LEO")*

In March 2009, we notified LEO that we were terminating our 2005 collaboration agreement with LEO pursuant to the terms of the agreement and the termination became final upon issuance of the arbitration award in our favor in July 2010. (see Note 12).

**4. Inventory:**

Inventory consists of finished goods at January 3, 2010. Inventories on hand were related to ATryn<sup>®</sup>, which has been approved for commercial sale in the U.S. and Europe.

We carry inventory at the lower of cost or market using the first-in, first-out method. We expect that all inventory capitalized will be sold for clinical trials or commercial use. Up through July 4, 2010, because we had only one customer, we only capitalized inventory if orders had been received. If at any time we believed that the sale of inventory was no longer probable, we charged the inventory to expense. Because our cost of production exceeded our agreed upon maximum price, we expensed these excess costs as they were incurred.

As noted above, we regained the U.S. commercialization rights to ATryn<sup>®</sup> in July 2010 and agreed to purchase Lundbeck's remaining inventory of ATryn<sup>®</sup>.

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

**GTC BIOTHERAPEUTICS, INC. AND SUBSIDIARIES**  
**NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

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 should need to use a portion of the capitalized inventory for clinical trials, we would expense the inventory when it was designated for use in such clinical trial.

**5. Accrued Liabilities:**

Accrued liabilities included the following:

	<b>(dollars in thousands)</b>	
	<b>At July 4, 2010</b>	<b>At January 3, 2010</b>
Accrued payroll and benefits	\$ 1,036	\$ 1,810
Accrued severance	2,036	159
Accrued bonuses	1,081	1,172
Other	4,404	3,544
Total accrued expenses	<u>\$ 8,557</u>	<u>\$ 6,685</u>

In November 2009, we announced a restructuring of our organization to meet the requirements of our key programs and extend the duration of our cash resources. Under the restructuring plan, headcount was reduced by approximately 30% from 154 to 109 full time equivalent employees. This restructuring included employees from most departments located at both our Framingham and central Massachusetts locations. During the fourth quarter of 2009 we recorded severance expense in the amount of \$460,000 of which approximately \$374,000 and \$86,000 was recorded to research and development expense and selling, general and administrative expense, respectively. At January 3, 2010 approximately \$159,000 remained in accrued liabilities all of which was paid out during the first six months of 2010. There are no further accrued liabilities in relation to unpaid severance costs for the November restructuring.

In June 2010, we implemented a further restructuring of our operations as part of an initiative to narrow our strategic and operational focus to three key areas; FVIIa, ATryn®, and our bio-superiors product portfolio. This restructuring maintained the key employee base to achieve these objectives while significantly decreasing our on-going financial resource requirements. Under this restructuring plan, headcount was reduced by approximately 44% from 109 to 61 employees. This restructuring included employees from most departments located at both our Framingham and central Massachusetts locations, including our Chief Executive Officer and our Chief Financial Officer. Board member William Heiden was named Chairman, Chief Executive Officer and President. During the second quarter of 2010, we recorded severance expense in the amount of approximately \$2.2 million, of which approximately \$800,000 and \$1.4 million were recorded to research and development expense and selling, general and administrative expense, respectively. During the second quarter of 2010, approximately \$137,000 was paid out of the severance reserve related to this restructuring and approximately \$2 million remained in accrued liabilities in relation to unpaid severance costs for the June 2010 restructuring, which will be paid out through the third quarter of 2011.

**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 July 4, 2010 and June 28, 2009 and \$451,000 for each of the six-month periods ended July 4, 2010 and June 28, 2009.

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

	<b>(dollars in thousands)</b>	
Six months remaining in 2010	\$	451
2011	\$	902
2012	\$	902
2013	\$	902
2014	\$	902

**7. Redeemable Convertible Preferred Stock:**

On January 8, 2010, LFB converted 12,750 shares of Series E Preferred Stock, representing all of the remaining shares of our Series E Preferred Stock that were then outstanding, into a total of 5,299,071 shares of our common stock. As a result of the conversion, the derivative liability of approximately \$2.7 million was credited against additional paid in capital.

**GTC BIOTHERAPEUTICS, INC. AND SUBSIDIARIES**

**NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

As of July 4, 2010, on an as converted basis, LFB beneficially owned approximately 82% of our common stock through its holdings of common stock, convertible debt and Series D preferred stock, exclusive of its warrants and options.

**8. Long-Term Debt:**

Our long-term debt consisted of the following:

	(dollars in thousands)	
	July 4, 2010	January 3, 2010
Capital leases, with monthly payments of approximately \$3 through May 2014	\$ 66	\$ 76
Convertible note to LFB, fixed annual interest of 2%, net of debt discount <sup>(1)</sup>	734	698
Convertible note to LFB, fixed annual interest of 4% <sup>(3)</sup> , net of debt discount <sup>(2)</sup>	13,323	12,907
Promissory note to LFB, fixed annual interest of 4% <sup>(3)(4)</sup>	3,351	3,400
Promissory note to LFB, fixed annual interest of 4%	7,000	—
Convertible note to LFB, fixed annual interest of 4%	7,000	—
Other debt	—	28
	<u>31,474</u>	<u>17,109</u>
Less current portion	<u>(327)</u>	<u>(351)</u>
	<u>\$31,147</u>	<u>\$ 16,758</u>

Maturities of long-term debt are as follows:

2010	\$ 327
2011	17,131
2012	14,010
2013	6
	<u>\$31,474</u>

<sup>(1)</sup> Based on our effective borrowing rate of 10.8%, we recorded a debt discount of approximately \$1.1 million for the difference between the stated interest rate and the effective borrowing rate. The debt discount is being amortized over the five-year term of the note. The debt discount balance as of July, 2010 is approximately \$108,000.

<sup>(2)</sup> We recorded a debt discount of approximately \$500,000 for the expenses incurred by us on LFB's behalf. The debt discount is being amortized over the term of the note. The debt discount balance as of July 4, 2010 is approximately \$284,000.

<sup>(3)</sup> In December 2009, we amended the convertible note and promissory note reducing the interest rate to 4% from 8% and 10.8%, respectively, effective January 1, 2010.

<sup>(4)</sup> As of July 4, 2010, we were in default of our promissory note to LFB as a result of not making principal and interest payments during the second quarter of 2010. In July 2010, we entered into a waiver and amendment to the promissory note whereby LFB waived all defaults under the promissory note, including payment of principal and interest that was due on July 1, 2010 and any penalties and/or interest related thereto. Pursuant to the terms of the waiver and amendment LFB also waived all cross-defaults under our other debt instruments that were triggered by defaults under the promissory note. The note was amended such that all principal and interest thereunder shall no longer be payable on a monthly basis, but shall instead be due and payable at maturity.

At July 4, 2010 and January 3, 2010, the fair values of all of our material debt instruments were as follows:

	(dollars in thousands)	
	At July 4, 2010	At January 3, 2010
Convertible note to LFB, fixed annual interest of 2%	\$ 741	\$ 688
Convertible note to LFB, fixed annual interest of 4%	17,022	17,022
Promissory note to LFB, fixed annual interest of 4%	2,798	2,802
Promissory note to LFB, fixed annual interest of 4%	5,000	—
Convertible note to LFB, fixed annual interest of 4%	4,817	—

The fair values of our LFB convertible notes and promissory note were calculated using a net present value approach using unobservable inputs that are supported by little or no market activity. We used an effective interest rate of 15% in our fair value

calculation.

**GTC BIOTHERAPEUTICS, INC. AND SUBSIDIARIES**  
**NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

**9. Fair Value:**

The accounting standards define 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. This accounting standard 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.

The Company utilizes the market approach to measure fair value for its financial assets and liabilities. The market approach uses prices and other relevant information generated by market transactions involving identical or comparable assets or liabilities.

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

Description	Fair Value Measure as of July 4, 2010			
	(dollars in thousands)			
	Total	Level 1	Level 2	Level 3
Money Market Fund	\$ 447	\$ 447	\$ —	\$ —
Total	\$ 447	\$ 447	\$ —	\$ —

Description	Fair Value Measure as of January 3, 2010			
	(dollars in thousands)			
	Total	Level 1	Level 2	Level 3
Money Market Fund	\$ 448	\$ 448	\$ —	\$ —
Derivative Liability	2,660	—	—	2,660
Total	\$ 3,108	\$ 448	\$ —	\$ 2,660

Given the complex structure of the warrant and derivative liabilities, we engaged a third party consulting firm to assist us with our valuation. We considered and relied in part on the valuation model from the third party consulting firm to establish the fair value for these instruments. The model utilized assumptions for volatility based on our historical volatility and credit spread based on Standard & Poor's Corporate Ratings criteria. We record all changes in fair value of the derivative to other income (expense).

The following table provides a reconciliation of fair value for which we used Level 3 or significant unobservable inputs at July 4, 2010 and January 3, 2010 (in thousands):

	January 3, 2010 Balance	Purchase of Series E Preferred Stock	Fair Value Adjustments	Conversion of Series E Preferred Stock	July 4, 2010 Balance
Derivative Liability	\$ 2,660	\$ —	\$ —	\$ (2,660)	\$ —
Total	\$ 2,660	\$ —	\$ —	\$ (2,660)	\$ —

**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 were eligible to receive awards of restricted stock units issued pursuant to our 2002 Equity Incentive Plan. We granted 61,583 restricted stock units during 2008 and 10,260 in January 2009. The restricted stock units awarded under the Retention Plan vested on June 30, 2009, for all participants who remained our employee until that date.

**GTC BIOTHERAPEUTICS, INC. AND SUBSIDIARIES**  
**NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

During the second quarter of 2009 and the first six months of 2009, we recorded approximately \$84,000 and \$170,000, respectively, of compensation expense related to the restricted stock units.

Participants in the Retention Plan who remained employed by us through March 31, 2010 also received a specified cash retention payment which was paid out in April 2010. We accrued the amount on a straight line basis over a 22-month period, resulting in an expense of approximately \$224,000 during the first quarter of 2010 and \$210,000 during the second quarter of 2009 and approximately \$327,000 during the first six months of 2009.

In December 2008, we granted 222,500 stock options to our executive officers and other senior personnel pursuant to a retention plan under our Equity Plan. The options to purchase our common stock are exercisable at a price of \$3.10 per share. Fifty percent of the options vested on September 30, 2009 and the remaining options vested on June 30, 2010.

**11. New Accounting Pronouncements:**

In June 2009, the FASB also issued an amendment to the accounting and disclosure requirements for the consolidation of variable interest entities (VIEs). The elimination of the concept of a qualified special purpose entity, as discussed above, removes the exception from applying the consolidation guidance within this amendment. This amendment requires an enterprise to perform a qualitative analysis when determining whether or not it must consolidate a VIE. The amendment also requires an enterprise to continuously reassess whether it must consolidate a VIE. Additionally, the amendment requires enhanced disclosures about an enterprise's involvement with VIEs and any significant change in risk exposure due to that involvement, as well as how its involvement with VIEs impacts the enterprise's financial statements. Finally, an enterprise will be required to disclose significant judgments and assumptions used to determine whether or not to consolidate a VIE. This amendment is effective for financial statements issued for fiscal years beginning after November 15, 2009. Our joint venture with LFB involves the development and commercialization of recombinant plasma proteins and MAbs. Our investment in the joint venture is being accounted for at cost based on our ownership percentage and is not being consolidated as we are not the primary beneficiary of the joint venture. Adoption did not have an impact in our consolidated financial statements. In determining whether we are the primary beneficiary, we consider a number of factors, including our ability to direct the activities that most significantly affect the entity's economic success, our contractual rights and responsibilities under the arrangement and the significance of the arrangement to each party. These considerations impact the way we account for our existing collaborative and joint venture relationships and may result in the future consolidation of companies or entities with which we have collaborative or other arrangements.

In October 2009, the FASB issued an update to existing guidance on revenue recognition for arrangements with multiple deliverables. This update will allow companies to allocate consideration received for qualified separate deliverables using estimated selling price for both delivered and undelivered items when vendor-specific objective evidence or third-party evidence is unavailable. Additional disclosures discussing the nature of multiple element arrangements, the types of deliverables under the arrangements, the general timing of their delivery, and significant factors and estimates used to determine estimated selling prices are required. This guidance is effective on a prospective basis for revenue arrangements entered into or materially modified in the fiscal years beginning on or after June 15, 2010. Early adoption is permitted. We have not yet determined when we will adopt this update or what the impact will be on our financial position or results of operations.

In January 2010, the FASB issued a standard to further update the fair value measurement guidance to improve fair value measurement disclosures. This update to the standard requires new disclosures related to transfers in and out of Level 1 and Level 2, as well as activity in Level 3 fair value measurements, and provides clarification to existing disclosures. This standard is effective for interim periods and annual periods beginning after December 15, 2009, except for disclosures about purchases, sales, issuances, and settlements in the rollforward of activity in Level 3 fair value measurements as these disclosures are effective for fiscal years beginning after December 15, 2010, and for interim periods within those fiscal years. We adopted this standard during the first quarter of 2010. Adoption did not have an impact in our consolidated financial statements.

In February 2010, the FASB issued a standard to amend the subsequent events guidance. The amendment states that SEC filers are no longer required to disclose the date through which subsequent events have been evaluated in originally issued and revised financial statements. We adopted this standard during the first quarter of 2010. Adoption did not have an impact in our consolidated financial statements.

In April 2010, the FASB issued updated guidance on the use of the milestone method of revenue recognition that applies to research or development transactions in which one or more payments are contingent upon achieving uncertain future events or circumstances. This update provides guidance on the criteria that should be met for determining whether the milestone method of revenue recognition is appropriate. This guidance is effective on a prospective basis for milestones achieved in fiscal years, and interim periods within those years, beginning on or after June 15, 2010. We are currently evaluating the impact of this guidance, and we have not yet determined the impact of the standard on our financial position or results of operation, if any



**GTC BIOTHERAPEUTICS, INC. AND SUBSIDIARIES**  
**NOTES TO UNAUDITED CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

**12. Legal Proceedings:**

In connection with our collaboration with LEO Pharma, we initiated International Chamber of Commerce (ICC) arbitration proceedings in the fourth quarter of 2008 and asked the tribunal to determine that LEO was not legally entitled to exercise its contractual remedies on termination for alleged cause and that we were entitled to damages with respect to LEO's actions. In July 2010, the tribunal in the ICC proceedings issued its final, non-appealable award, finding that we had validly terminated our collaboration agreement with LEO Pharma in March 2009 and awarding us a total of approximately \$4.1 million in damages and costs, which were paid by LEO in July 2010. In addition, LEO has been ordered to turn over to us all data related to the Phase II trial that LEO was conducting in patients with disseminated intravascular coagulation (DIC) and that was terminated before the planned completion of the trial. All of LEO Pharma's counterclaims in the arbitration were rejected.

As a result of the determination by the ICC that we validly terminated the agreement, we recognized approximately \$4 million of revenue, which had been previously deferred, associated with milestone payments previously paid by LEO. In addition, as a result of the award issued for damages and costs, we recorded a \$4.1 million receivable in the second quarter of 2010, of which \$3.8 million was recorded to other income, approximately \$200,000 of expenses related to court costs were recorded as an offset to selling, general and administrative expenses and approximately \$100,000 of expenses related to regulatory fees were recorded as an offset to research and development expenses.

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 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 specific human protein in their milk. Using the unique characteristics of this production technology, we are developing two portfolios of therapeutic proteins:

- **Recombinant plasma proteins.** Our portfolio of recombinant plasma proteins is being developed to treat a range of genetic and acquired blood deficiencies, including hemophilia and other blood coagulation disorders. Historically these blood proteins, also known as plasma proteins, have only been available by extraction from human blood. Recombinant versions of plasma proteins are difficult to produce in an economically viable manner using other manufacturing systems.
- **Monoclonal antibodies as follow-on biologics.** Our portfolio of monoclonal antibodies, or MAbs, is being developed for use as potential follow-on biologic therapeutics targeted at several large markets in oncology and autoimmune diseases. We believe that our technology may be particularly suited for the creation of bio-betters, or improved versions of many marketed biologic therapeutics.

We also continue to provide production services for external partners, which can provide us a continuing source of cash and revenue.

Our production technology has been validated by the regulatory approval of our first product ATryn<sup>®</sup>, which is a recombinant form of the human plasma protein antithrombin, by the European Medicines Agency, or EMA, in 2006 and by the United States Food and Drug Administration, or FDA, in February 2009. ATryn<sup>®</sup> was the first transgenically produced therapeutic protein to be approved anywhere in the world. In connection 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. We believe that these regulatory approvals of our transgenic technology are important benchmarks for obtaining future approvals for our portfolio of products in development.

The key characteristics of our transgenic production technology include:

- the manufacture of proteins that are difficult to express in other manufacturing systems;
- the production of proteins in large quantities;
- the production of proteins with significantly lower capital cost and lower cost of goods;
- predictable and flexible scale-up;
- naturally enhanced efficacy for oncology MAbs (increased Antibody Dependent Cell-mediated Cytotoxicity, or ADCC);
- strong intellectual property position and freedom to operate; and
- an established commercial scale infrastructure capable of supporting the production of our recombinant plasma protein and MAb products.

We plan to develop our portfolio of recombinant protein products through strategic collaborations. In September 2006, we entered into a collaboration agreement with LFB Biotechnologies, S.A.S, or LFB, to develop selected recombinant plasma proteins and MAbs. 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 is established in a separate joint venture entity, and we have added other programs to this joint venture, including a recombinant form of a human protein involved in blood coagulation, which we licensed from ProGenetics LLC, and a 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> or MabThera<sup>®</sup>.

We are also seeking collaborations for the further development and commercialization of ATryn<sup>®</sup> and all of our proteins in development including those in the portfolio with LFB, as well as recombinant alpha-fetoprotein, or AFP, for the treatment of multiple sclerosis and myasthenia gravis and our portfolio of MAbs. We acquired exclusive worldwide rights to AFP in 2009.

We are subject to risks common to companies in the biotechnology industry, including, but not limited to, the uncertainties of clinical trials and regulatory requirements for approval of therapeutic compounds, the risks of development of new biological products, the need for additional capital and collaboration partners, competitive new technologies, dependence on key personnel, protection of proprietary technology, and compliance with the FDA and other United States and foreign government regulations.

Our consolidated financial statements have been presented on the basis that we are a going concern, which contemplates the continuity of business, realization of assets and the satisfaction of liabilities in the ordinary course of business. We have operated at a net loss since our inception in 1993, and we used \$11.5 million of net cash in our operating cash flows during the first six months of 2010. We also have negative working capital of \$13.6 million as of July 4, 2010. 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 July 4, 2010, as well as potential cash receipts from existing programs and the \$3.7 million of cash received, net of expenses, from the award in the LEO arbitration in July 2010, we believe our capital resources will be sufficient to fund operations to the middle of the fourth quarter of 2010. Our recurring losses from operations and our limited available funds raise substantial doubt about our ability to continue as a going concern. Our plans with regard to this matter include seeking additional financing arrangements and seeking collaboration arrangements. If no funds are available, we would have to sell or liquidate the business. 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. Management expects that future sources of funding may include new or expanded partnering arrangements, contract service agreements, and additional sales of equity or debt securities. Adequate additional funding may not be available to us on acceptable terms or at all. Our failure to raise capital as and when needed could have a negative impact on our financial condition and our ability to pursue our business strategies. We may be required to delay, reduce the scope of or eliminate our research and development programs, 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 would dilute ownership of our existing equity investors. On November 5, 2009, we implemented a restructuring plan to enable us to meet the requirements of key programs and maximize the impact of our cash resources. In June 2010, we implemented a further restructuring of our operations as part of an initiative to narrow our strategic and operational focus and significantly decrease our on-going financial resource requirements. These restructuring plans, which are expected to provide savings of approximately \$13 million to \$15 million on an annualized basis, included a cumulative reduction in our work force from 154 to 61 employees.

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 January 3, 2010 (our 2009 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 drivers of our losses are costs of revenue and research and development expenses in relation to revenue. As discussed above we implemented two restructuring programs recently. Under these restructuring plans, headcount was reduced by approximately 60% from 154 to 61 full time equivalent employees. The restructurings included employees from most departments located at both our Framingham and central Massachusetts locations. During the second quarter of 2010 we recorded severance expense in the amount of approximately \$2.2 million, of which approximately \$800,000 and \$1.4 million were recorded to research and development expense and selling, general and administrative expense, respectively. During the first six months and the second quarter of 2010, approximately \$277,000 and \$168,000, respectively, was paid out of the severance reserve related to the 2009 and 2010 restructurings. There are no further amounts owed for the 2009 restructuring. Approximately \$2 million remains in accrued liabilities in relation to unpaid severance costs for the June 2010 restructuring, which will be paid out through the third quarter of 2011. The changes from both the 2009 and 2010 restructurings, along with other operating expense reductions are expected to provide savings of \$13 million to \$15 million on an annualized basis. Based on the first six months of 2010 and our projections for the remainder of 2010, we believe we are on track to achieve these savings. Through the end of the second quarter of 2010, we have reduced the run rate of expenses by approximately 50% of these expected reductions on an annual basis, which is in line with our plans.

*Fiscal three months ended July 4, 2010 and June 28, 2009*

	(dollars in thousands)			
	July 4, 2010	June 28, 2009	\$ Change	% Change
Revenue	\$4,925	\$ 655	\$ 4,270	651%
Cost of revenue	\$ 551	\$ 370	\$ 181	48%
Research and development expense	\$5,150	\$6,805	\$(1,655)	(24)%
Selling, general & administrative expense	\$2,750	\$3,136	\$ (386)	(12)%

*Revenue.* During the second quarter of 2010, as a result of the final award in the LEO arbitration confirming termination of our agreement with LEO, we recognized approximately \$4.4 million of revenue relating to upfront milestone payments which had previously been deferred. We also derived approximately \$217,000 from Lundbeck, of which approximately \$78,000 related to the sale of ATryn® product and approximately \$117,000 related to the amortization of milestone payments previously received. During the second quarter of 2009 our revenue was primarily derived from our external development program with PharmAthene. 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 July 2010 we regained the U.S. commercialization rights to ATryn® and, therefore, we will begin to sell directly to end users, which we expect will generate increased revenue in the future resulting from our ability to sell ATryn® at market price which is significantly higher than the transfer price at which we had been selling to Lundbeck. We expect revenue from sales of ATryn® will vary from quarter to quarter.

*Cost of revenue.* The increase in cost of revenue was primarily a result of an increase of approximately \$107,000 on the PharmAthene program related to contract service 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.* The decrease in research and development expense was primarily due to a decrease of ATryn® related expenses of approximately \$1.8 million as well as funding from LFB of \$890,000 in the second quarter of 2010, which were partially offset by an increase of \$1.7 million in the costs incurred on the programs in our joint collaboration with LFB.

Our second quarter 2010 research and development expense included \$1.4 million related to the ATryn® program as compared to \$3.2 million in the second quarter of 2009. Details of ATryn® related expenses for the respective quarters are as follows:

	(dollars in millions)	
	Fiscal three months ended	
	July 4, 2010	June 28, 2009
ATryn® manufacturing expenses	\$ 1.1	\$ 2.1
EMA regulatory process expenses	—	0.3
U.S. clinical trial and regulatory expenses	0.3	0.8
Total	\$ 1.4	\$ 3.2

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

During the second quarter of 2010 we incurred approximately \$3.2 million of expenses for our joint collaboration programs with LFB (FVIIa, FIX, CD20 and AAT) and we also recorded a \$890,000 receivable from LFB related to an agreed upon reimbursable portion of our costs incurred in these programs during the second quarter of 2010, which was reflected as a reduction in the program costs in research and development. During the second quarter of 2009, we incurred approximately \$1.5 million of expense in support of the programs in our LFB collaboration (FVIIa, FIX, CD20 and AAT).

We also incurred approximately \$1.4 million of expenses on other research and development programs, including approximately \$653,000 for follow-on biologics, most of which were internal costs, during the second quarter of 2010 as compared to \$2.1 million in the second quarter of 2009. This decrease is primarily due to lower expenses incurred on the follow-on biologics programs. 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.

*Selling, general and administrative expense.* The decrease in SG&A is primarily a result of lower expenses of approximately \$665,000 related to the LEO arbitration, a decrease of approximately \$77,000 in other legal costs as well as a decrease of approximately \$132,000 in costs associated with being an SEC reporting company partially offset by severance related costs of approximately \$553,000.

*Fiscal six months ended July 4, 2010 and June 28, 2009*

	(dollars in thousands)			
	July 4, 2010	June 28, 2009	\$ Change	% Change
Revenue	\$ 5,271	\$ 853	\$ 4,418	517%
Cost of revenue	\$ 579	\$ 636	\$ (57)	(8)%
Research and development expense	\$ 9,918	\$ 13,773	\$(3,855)	(28)%
Selling, general & administrative expense	\$ 5,533	\$ 5,645	\$ (112)	(1)%

*Revenue.* During 2010, as a result of the final award in the LEO arbitration, we recognized approximately \$4.4 million of revenue relating to the upfront milestone payments which had previously been deferred. Also during the first six months of 2010 we derived approximately \$397,000 from Lundbeck, of which approximately \$131,000 related to the sale of ATryn® product and approximately \$234,000 related to the amortization of milestone payments previously received, as well as approximately \$212,000 for our PharmAthene program. During the first six months of 2009, our revenue was primarily derived from our external development program with PharmAthene. 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 July 2010 we regained the U.S. commercialization rights to ATryn® and, therefore, we will begin to sell directly to end users, which we expect will generate increased revenue in the future resulting from our ability to sell ATryn® at market price which is significantly higher than the transfer price at which we had been selling to Lundbeck. We expect revenue from sales of ATryn® will vary from quarter to quarter.

*Cost of revenue.* The decrease in cost of revenue was primarily a result of a reversal of accrued royalties in 2010 of approximately \$118,000 associated with a technology agreement no longer in use partially offset by an increase of approximately \$39,000 on the PharmAthene program related to contract service 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.* The decrease in research and development expense was primarily due to a decrease of ATryn® related expenses of approximately \$3.4 million as well as funding from LFB of approximately \$2.8 million in the first six months of 2010, partially offset by an increase of \$3.9 million in the costs incurred on the programs in our joint collaboration with LFB. Also included in research and development expense in the first the six months of 2010 is a reversal of approximately \$270,000 of accrued royalties and license fees related to the technology agreement mentioned above.

The research and development expense for the first six months of 2010 included \$3.4 million related to the ATryn® program, a decrease of \$3.4 million as compared to \$6.8 million in the first six months of 2009. Details of ATryn® related expenses for the respective quarters are as follows:

	(dollars in millions)	
	Fiscal six months ended	
	July 4, 2010	June 28, 2009
ATryn® manufacturing expenses	\$ 2.8	\$ 4.3
EMA regulatory process expenses	0.2	0.5
U.S. clinical trial and regulatory expenses	0.4	2.0
Total	\$ 3.4	\$ 6.8

Manufacturing costs include costs of producing commercial material in excess of the maximum transfer price to Lundbeck, process development and validation costs for the scale up of the ATryn® manufacturing process, costs associated with the establishment of a second fill site, as well as the accrual of manufacturing costs. During the first six months of 2010, we incurred approximately \$6.7 million of expense on our joint collaboration programs with LFB (FVIIa, FIX, CD20 and AAT), and we also recorded \$2.8 million of funding from LFB related to an agreed upon reimbursable portion of our costs incurred in these programs during the first quarter of 2010, which was reflected as a reduction in the program costs in research and development of which \$1.9 million was subsequently received in the second quarter. During the first six months of 2009, we incurred approximately \$2.7 million of expense in support of the programs in our LFB collaboration (FVIIa, FIX, CD20 and AAT) for which we did not receive reimbursement from LFB.

We also incurred approximately \$2.7 million of expense on other research and development programs, including follow-on biologics of approximately \$1.4 million, most of which were internal costs, during the first six months of 2010 as compared to \$4.2 million in the first six months of 2009. 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.

*Selling, general and administrative expense.* The decrease in SG&A is primarily a result of lower expenses of approximately \$861,000 related to the LEO arbitration as well as a decrease of approximately \$227,000 in costs associated with being an SEC reporting company partially offset by an increase of approximately \$733,000 in consulting costs related to our financing and partnering efforts as well as severance related costs of approximately \$352,000.

### *Liquidity and Capital Resources*

Our objective is to finance our business appropriately through a mix of debt or equity financings, partnering payments, receipts from contracts for external programs, grant proceeds and interest income earned on our cash and cash equivalents, until such time as we have sufficient product sales and royalties to achieve positive cash flow from operations. We expect that our ability to raise future funds will be affected by our ability to enter into some combination of new or expanded partnering arrangements and service contracts for external programs, the terms of such arrangements and contracts, the results of research and development and preclinical and clinical testing of FVIIa and 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 office, farm and laboratory space and other outside direct costs such as manufacturing and clinical trial expenses. During the first six months of 2010 we had a net increase in cash and marketable securities of \$2.4 million, which reflects \$11.5 million used in operations and \$88,000 used to pay down debt, net of \$14 million of funding from LFB related to our issuance to LFB of two secured notes.

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 second quarter of 2010 and since inception, and we had an accumulated deficit of approximately \$337 million at July 4, 2010. The primary sources of additional capital raised in 2009 and the first six months of 2010 have been equity financings and debt financings. Based on our cash balance as of July 4, 2010, as well as the potential cash receipts from existing programs and the \$3.7 million of cash received, net of expenses, from the award in the LEO arbitration in July 2010, we anticipate that we have the ability to continue our operations to the middle of the fourth quarter of 2010. We are currently engaged in discussions for potential new partnering arrangements and plan to bring in further financial resources through some combination of partnering transactions, including milestones, contract services, and other debt or equity financings. 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. 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 would dilute the ownership percentage of our existing equity investors. On November 5, 2009, we implemented a restructuring plan to enable us to meet the requirements of key programs and maximize the impact of our cash resources. In June 2010, we implemented a further restructuring of our operations as part of an initiative to narrow our strategic and operational focus and significantly decrease our on-going financial resource requirements. These two restructuring plans, which are expected to provide savings of approximately \$13 million to \$15 million on an annualized basis, included a cumulative reduction in our work force from 154 to 61 employees.

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

Cash used in operating activities increased by approximately \$1.3 million from \$10.2 million for the first six months of 2009 to \$11.5 million in the first six months of 2010. The increase is primarily a result of an increase in accounts payable partially offset by \$2.8 million of cost reimbursement from LFB in the first six months of 2010 included in our net loss.

#### *Cash Flows from Investing Activities*

There were no significant cash flows provided by or used in investing activities during the first six months of 2010 and 2009.

#### *Cash Flows from Financing Activities*

In February 2010 we issued a secured note to LFB in the principal amount of \$7,000,000, the principal and accrued interest of which may be cancelled at LFB's option and credited to the purchase of shares of our common stock or securities convertible or exchangeable into shares of our common stock through participation, at LFB's option, in future offerings of our securities at the price per share of the respective offering.

In June 2010, we issued a secured convertible note to LFB in the principal amount of \$7,000,000. LFB may convert the debt into our common stock at any time at a conversion price of \$0.42 per share. Prior to a conversion, the principal and accrued interest may be cancelled at LFB's option and credited to the purchase of shares of our common stock or securities convertible or exchangeable into shares of our common stock through participation, at LFB's option, in future offerings or our securities at the price per share of the respective offering.

Our \$31.5 million of outstanding long-term debt at July 4, 2010 includes approximately \$13.3 million owed to LFB (net of unamortized discount of approximately \$284,000) on the convertible note that we issued to LFB in December 2008, approximately \$735,000 owed to LFB (net of an unamortized discount of approximately \$108,000) on the convertible note that we issued to LFB in December 2006, approximately \$3.4 million owed to LFB on the term debt promissory note that we issued in June 2009, approximately \$7 million on the term debt promissory note that was issued in February 2010 and approximately \$7 million on the convertible note that was issued in June 2010. Of the \$31.5 million, approximately \$327,000 was classified as current, which reflects the amount due through June 2011 on the convertible notes and the term debt promissory notes with LFB as well as the amounts due for capital leases.

### ***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 2009 Form 10-K. We have reviewed the commitments and contingencies at July 4, 2010 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 January 3, 2010. Our market risk disclosures are discussed in our 2009 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.**

In connection with our collaboration with LEO Pharma, we initiated International Chamber of Commerce (ICC) arbitration proceedings in the fourth quarter of 2008 and asked the tribunal to determine that LEO was not legally entitled to exercise its contractual remedies on termination for alleged cause and that we were entitled to damages with respect to LEO's actions. In July 2010, the tribunal in the ICC proceedings issued its final, non-appealable award, finding that we had validly terminated our collaboration agreement with LEO Pharma in March 2009 and awarding us a total of approximately \$4.1 million in damages and costs, which were paid by LEO in July 2010. In addition, LEO has been ordered to turn over to us all data related to the Phase II trial that LEO was conducting in patients with disseminated intravascular coagulation (DIC) and that was terminated before the planned completion of the trial. All of LEO Pharma's counterclaims in the arbitration were rejected.

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>
3.1.1	Restated Articles of Organization of the Company filed with the Secretary of the Commonwealth of Massachusetts on May 8, 2009. Filed as Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q for the quarter ended March 29, 2009 (File No. 0-21794) and incorporated herein by reference.
3.1.2	Articles of Amendment to the Restated Articles of Organization of the Company filed with the Secretary of the Commonwealth of Massachusetts on May 26, 2009. Filed at Exhibit 3.1 to the Company's Current Report on Form 8-K (File No. 0-21794) on May 27, 2009 and incorporated herein by reference.
3.1.3	Articles of Amendment to the Restated Articles of Organization of GTC Biotherapeutics, Inc., filed with the Secretary of the Commonwealth of Massachusetts on July 30, 2009. Filed as Exhibit 3.1 to the Company's Current Report on Form 8-K (File No. 0-21794) on July 31, 2009 and incorporated herein by reference.
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.
4.1	\$7,000,000 convertible secured note issued by the Company to LFB Biotechnologies S.A.S. on June 15, 2010. Filed as Exhibit 4.1 to the Company's Current Report on Form 8-K (File No. 0-21794) on June 18, 2010 and incorporated herein by reference.
10.1**	GTC Biotherapeutics, Inc. amended and restated 2002 Equity Incentive Plan. Filed as Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 0-21794) on June 1, 2010 and incorporated herein by reference.
10.2	Fourth Amendment to the Amended and Restated Security Agreement between the Company and LFB Biotechnologies S.A.S. Filed herewith.
10.3	Fourth Amendment to Mortgage Agreement and Fixture Filing between the Company and LFB Biotechnologies S.A.S. Filed herewith.
10.4**	Separation Agreement, dated as of June 17, 2010, by and between the Company and Geoffrey F. Cox. Filed herewith.
10.5**	Separation Agreement, dated as of June 17, 2010, by and between the Company and John B. Green. Filed herewith.
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a).
31.2	Certification of Principal Accounting Officer pursuant to Rule 13a-14(a).
32	Certifications pursuant to 18 U.S.C. Section 1350.

\*\* Indicates a management contract or compensatory plan.



## EXHIBIT INDEX

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\*\* Indicates a management contract or compensatory plan.

**FOURTH AMENDMENT TO  
AMENDED AND RESTATED SECURITY AGREEMENT**

THIS FOURTH AMENDMENT (the "Amendment") is made as of June 15, 2010 by and between GTC Biotherapeutics, Inc., a Massachusetts corporation (the "Debtor"), and LFB Biotechnologies, S.A.S., a société par actions simplifiée established under the laws of France (the "Secured Party").

**RECITALS**

A. The Debtor and the Secured Party are parties to an Amended and Restated Security Agreement dated as of June 18, 2009, as amended by that certain Omnibus Amendment Regarding Loan Agreement and that certain Omnibus Amendment Regarding Note and Warrant Purchase Agreement, each dated December 21, 2009 and that certain Third Amendment to Amended and Restated Security Agreement dated February 24, 2010 (as so amended and as the same may hereafter be amended, the "Security Agreement"). Capitalized terms used herein without definition shall have the meanings assigned to them in the Security Agreement.

B. The Debtor requested that the Security Agreement be amended as set forth herein.

C. Subject to certain terms and conditions contained herein, the Secured Party is willing to agree to the same as hereinafter set forth.

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

**1. Amendments to Security Agreement.**

(a) The fifth and sixth WHEREAS clauses contained in the Security Agreement are hereby amended and restated in their entireties as follows:

**WHEREAS**, pursuant to (i) that certain Note Purchase Agreement dated as of February 22, 2010 by and between the Debtor and the Secured Party (the "2010 Purchase Agreement"), the Secured Party has made a term loan to the Debtor in the aggregate principal amount of \$7,000,000 and in connection therewith the Debtor issued to the Secured Party a secured promissory note dated as of February 24, 2010 in the original principal amount of \$7,000,000 (the "2010 Note"), and (ii) that certain Note Purchase Agreement, dated as of June 15, 2010 by and between the Debtor and the Secured Party, and subject to the satisfaction of the conditions contained therein, the Secured Party has committed to make a term loan to the Debtor in the aggregate principal amount of \$7,000,000 and in connection therewith the Debtor is issuing to the Secured Party a secured convertible promissory note dated as of June 15, 2010 in the original principal amount of \$7,000,000 (the "Second 2010 Convertible Note"), and together with the 2006 Convertible Note, the 2008 Convertible Note, the 2010 Note, the Second 2010 Convertible Note and the Secured Note, collectively, the "Notes").

**WHEREAS**, in connection with the issuance of the Secured Note and that certain secured convertible note dated as of June 18, 2009 in the original principal amount of \$4,512,268 (which the parties hereto acknowledge has been indefeasibly paid in full, is no longer outstanding, and has been converted in its entirety to shares of the Debtor's Series E-1 10% convertible preferred stock in accordance with the terms thereof), the Debtor has amended and restated the Original Security Agreement in its entirety and delivered this Agreement in favor of Secured Party, pursuant to which all debts, obligations and liabilities of the Debtor to the Secured Party are secured, including without limitation, the obligations under the 2008 Purchase Agreement, the Loan Agreement, the 2006 Convertible Note, the 2008 Convertible Note, the 2010 Note, the Second 2010 Convertible Note and the Secured Note."

(b) Section 1 of the Security Agreement is hereby amended and restated in its entirety as follows:

**"1. CREATION OF SECURITY INTEREST.**

Debtor grants to Secured Party, its successors and assigns, a continuing security interest in, to and against all property listed on any collateral schedule now or in the future annexed to or made a part of this Agreement ("Collateral Schedule"), including without limitation the property listed on Collateral Schedule No. 1, whether now owned or existing or hereafter acquired or arising and wheresoever located, and in and against all additions, attachments, accessories and accessions to such property, all substitutions, replacements or exchanges therefor, and all proceeds or products thereof, in whatever form, including without limitation cash, deposit accounts (whether or not comprised solely of proceeds), certificates of deposit, insurance proceeds (including hazard, flood and credit insurance), negotiable instruments for the payment of money, chattel paper, security agreements, documents, eminent domain proceeds, condemnation proceeds and/or tort claim proceeds (all such property is individually and collectively called the "Collateral"). This security interest is given to secure the payment and performance of all debts, obligations and liabilities of any kind whatsoever (including all interest (whether or not allowed or disallowed), charges, expenses, fees and other sums accruing after commencement of any case, proceeding or other action relating to the bankruptcy, insolvency or reorganization of Debtor) of Debtor to Secured Party, now existing or arising in the future, including without limitation, the debts, obligations and liabilities of Debtor to Secured Party in connection with the payment and performance of the 2006 Convertible Note, the 2008 Convertible Note, the 2010 Note, the Second 2010 Convertible Note, the Secured Note, the 2008 Purchase Agreement (excluding the Warrant), the Loan Agreement, that certain Trademark

and License Security Agreement by and between the Debtor and the Secured Party dated as of December 22, 2008 (as amended, the "Trademark Security Agreement"), that certain Patent and License Security Agreement by and between the Debtor and the Secured Party dated as of December 22, 2008 (as amended, the "Patent Security Agreement"), and that certain Second Mortgage, Security Agreement and Fixture Filing dated December 22, 2008 granted by Debtor to Secured Party, as amended by that certain Amendment to Mortgage, Security Agreement and Fixture Filing dated June 18, 2009, by that certain Second Amendment to Mortgage, Security Agreement and Fixture Filing dated as of December 21, 2009, by that certain Third Amendment to Mortgage, Security Agreement and Fixture Filing dated as of February 24, 2010 and that certain Fourth Amendment to Mortgage and Security Agreement and Fixture Filing dated as of June 15, 2010 (as so amended, the "Mortgage"), together with all Schedules and attachments thereto and any renewals, extensions, modifications, amendments and/or restatements of any such debts, obligations and liabilities (such Notes, the 2008 Purchase Agreement, the Loan Agreement, Trademark Security Agreement, Patent Security Agreement, Mortgage, Schedules, debts, obligations and liabilities are called the "Indebtedness")."

(c) Section 7(d) of the Security Agreement is hereby amended and restated in its entirety as follows:

"(d) Proceeds from any sale or lease or other disposition shall be applied: first, to all costs of repossession, storage, and disposition including without limitation attorneys', appraisers', and auctioneers' fees; second, to discharge the obligations then in default; third, to discharge any Indebtedness of Debtor to Secured Party in connection with the Secured Note; fourth, to discharge any Indebtedness of Debtor to Secured Party in connection with the 2008 Convertible Note; fifth, to discharge any Indebtedness of Debtor to Secured Party in connection with the 2010 Note; sixth, to discharge any Indebtedness of Debtor to Secured Party in connection with the Second 2010 Convertible Note, seventh; to discharge any Indebtedness of Debtor to Secured Party in connection with the 2006 Convertible Note; eighth, to discharge any other Indebtedness of Debtor to Secured Party, whether as obligor, endorser, guarantor, surety or indemnitor; ninth, to reasonable, out-of-pocket expenses incurred in paying or settling liens and claims against the Collateral; and lastly, to Debtor, if there exists any surplus. Debtor shall remain fully liable for any deficiency."

**2. Ratification; No Further Amendments.** Except as specifically amended hereby, the Security Agreement shall remain unmodified and in full force and effect. All of the terms and conditions of the Security Agreement, including without limitation the grant of the security interest contained therein, are hereby ratified and affirmed in all respects. On and after the date hereof, each reference in the Security Agreement to "this Security Agreement", "hereunder", "hereof", or words of like import referring to the Security Agreement, shall mean and be a reference to the Security Agreement as amended by this Amendment, and each reference in any

other documents to the Security Agreement, “thereunder”, “thereof”, or words of like import referring to the Security Agreement shall mean a reference to the Security Agreement as amended by this Amendment.

**3. Miscellaneous.**

(a) This Amendment shall be governed by and construed in accordance with the laws of the Commonwealth of Massachusetts without reference to its conflicts of laws.

(b) This Amendment may be executed by the parties hereto in several counterparts hereof and by the different parties hereto on separate counterparts hereof, all of which counterparts shall together constitute one and the same agreement. Delivery of an executed signature page of this Amendment by facsimile transmission shall be effective as delivery of a manually executed counterpart hereof.

**[Signatures follow on next page]**

IN WITNESS WHEREOF, the Secured Party and the Debtor have caused this Amendment to be duly executed as a sealed instrument by their duly authorized representatives, all as of the day and year first above written.

DEBTOR:

GTC BIOTHERAPEUTICS, INC.

By: /s/ William K. Heiden  
Name: William K. Heiden  
Title: President and Chief Executive Officer

SECURED PARTY:

LFB BIOTECHNOLOGIES S.A.S.

By: /s/ Christian Béchon  
Name: Christian Béchon  
Title: President

When recorded return to:  
Christopher J. Lhulier, Esq.  
Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.  
One Financial Center  
Boston, MA 02111

**FOURTH AMENDMENT TO MORTGAGE, SECURITY AGREEMENT  
AND FIXTURE FILING**

THIS FOURTH AMENDMENT TO MORTGAGE, SECURITY AGREEMENT AND FIXTURE FILING (this "Amendment") is made as of the 15th day of June, 2010, by and between **GTC BIOTHERAPEUTICS, INC.**, a Massachusetts corporation, formerly known as **GENZYME TRANSGENICS CORPORATION**, having an address of 175 Crossing Boulevard, Suite 410, Framingham, Massachusetts 01702 (the "Grantor"), and **LFB BIOTECHNOLOGIES S.A.S.**, having an address of 3, avenue des Tropiques, LES ULIS, 91940 Courtaboeuf - FRANCE (the "Grantee").

WITNESSETH THAT:

WHEREAS, the Grantor granted the Grantee a certain Second Mortgage, Security Agreement and Fixture Filing dated as of December 22, 2008 and recorded with the Registry of Deeds for Worcester County, Massachusetts on December 22, 2008 in Book 43614, Page 182 with respect to certain real property of Grantor located in the Towns of Charlton and Spencer, County of Worcester, Commonwealth of Massachusetts and more particularly described therein and amended by that certain Amendment to Mortgage, Security Agreement and Fixture Filing dated as of June 18th, 2009 and recorded with the Registry of Deeds for Worcester County, Massachusetts on June 22, 2009 in Book 44458, Page 375, by that certain Second Amendment to Mortgage, Security Agreement and Fixture Filing dated as of December 21, 2009 and recorded with the Registry of Deeds for Worcester County, Massachusetts on February 25, 2010 in Book 45497, Page 264 and by that certain Third Amendment to Mortgage, Security Agreement and Fixture Filing dated as of February 24, 2010 and recorded with the Registry of Deeds for Worcester County, Massachusetts on February 25, 2010 in Book 45497, Page 269 (as amended, the "Existing Mortgage"), to secure, *inter alia*, certain indebtedness, obligations and liabilities of the Grantor to the Grantee; and

WHEREAS, the parties hereto desire to further amend the Existing Mortgage in the manner as hereinafter set forth.

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereto hereby agree as follows:

1. Recitals. The foregoing recitals are hereby incorporated by reference herein.

2. Amendments to the Existing Mortgage. The Existing Mortgage is hereby further amended as follows:

(a) The first WHEREAS clause of the Existing Mortgage is hereby deleted in its entirety and the following is hereby substituted in its stead:

“WHEREAS, Grantor is the holder of (i) the 2006 Convertible Note (as defined below), (ii) the 2008 Convertible Note (as defined below) issued pursuant to that certain Note and Warrant Purchase Agreement, executed on October 31, 2008, by and between the Grantor and the Grantee (the “NPA” or the “Purchase Agreement”), (iii) the Secured Note (as defined below) issued pursuant to that certain Loan Agreement dated as of June 18, 2009 by and between the Grantor and the Grantee (as amended, the “Loan Agreement”), (iv) the 2010 Secured Note (as defined below) issued pursuant to that certain Note Purchase Agreement dated as of February 19, 2010 by and between the Grantor and the Grantee (the “2010 NPA”) and (v) the Second 2010 Secured Note (as defined below) issued pursuant to that certain Note Purchase Agreement dated as of June 15, 2010 by and between the Grantor and the Grantee (the “Second 2010 NPA”); and”

(b) Section 1.1(a) of the Existing Mortgage is hereby amended as follows:

- i. The following new definition of “Second 2010 Secured Note” is hereby inserted into Section 1.1(a) in proper alphabetical order:

“**Second 2010 Secured Note**” means the Secured Convertible Note dated on or about June 15, 2010, executed by Grantor, payable to the order of Grantee, in the stated principal amount of Seven Million and 00/100 Dollars (\$7,000,000.00), which is scheduled to mature on June 15, 2013.”

- ii. The definitions of “Loan” and “Notes” are hereby deleted in their respective entirety and the following are hereby inserted in their respective steads:

“**Loan**” means collectively, (a) the loan in the aggregate original principal amount of Two Million Five Hundred Fifty Eight Thousand Six Hundred Fifty and 00/100 Dollars (\$2,558,650.00) made by Grantee to Grantor, evidenced by the 2006 Convertible Note, (b) the loan in the aggregate original principal amount of Fifteen Million and 00/100 Dollars (\$15,000,000.00) made by Grantee to Grantor pursuant to the NPA, evidenced by the 2008 Convertible Note, (c) the loan in the aggregate original principal amount of Seven Million and 00/100 Dollars (\$7,000,000.00) made by Grantee to Grantor pursuant to the 2010 NPA, evidenced by the 2010 Secured Note, (d) the loan in the aggregate original principal amount of Seven Million and 00/100 Dollars (\$7,000,000.00) to be made by Grantee to Grantor pursuant to the Second 2010 NPA, evidenced by the Second 2010 Secured Note and (d) the term loan

made by Grantee to Grantor pursuant to the Loan Agreement in the aggregate original principal amount of Three Million Five Hundred Thousand and 00/100 Dollars (\$3,500,000.00) evidenced by the Secured Note; all of which are to be secured by the Loan Documents.”

““Notes” means collectively, (a) the 2006 Convertible Note, (b) the 2008 Convertible Note, (c) the 2010 Secured Note, (d) the Second 2010 Secured Note, and (e) the Secured Note.”

(c) Subsections 4.7(f), (g), and (h) of the Existing Mortgage are hereby deleted in their respective entirety and the following are hereby inserted in their respective steads, together with the following new Subsection 4.7(i):

“(f) to the payment and performance of the Obligations of the Grantor to the Grantee in connection with the Second 2010 Secured Note;

(g) to the payment and performance of the Obligations of the Grantor to the Grantee in connection with the 2006 Convertible Note;

(h) to the payment and performance of the remainder of the Obligations of the Grantor to the Grantee in such manner and order of preference as Grantee in its sole discretion may determine; and

(i) the balance, if any, to the payment of the persons legally entitled thereto.”

3. Ratification. The Grantor and the Grantee each agree that, except as amended hereby, the Existing Mortgage shall remain in full force and effect and is in all other respects ratified and confirmed. The term “Mortgage” as used in the Existing Mortgage and any other documents or agreements between the parties hereto which relate to the indebtedness secured by the Existing Mortgage shall refer, from and after the date hereof, to the Existing Mortgage as amended by this Amendment and as the same may from time to time be further amended, supplemented, restated or otherwise modified.

4. Confirmation. The Grantor hereby confirms the grant to the Grantee of the Existing Mortgage with MORTGAGE COVENANTS and upon the STATUTORY CONDITION and with the STATUTORY POWER OF SALE.

5. Counterparts. This Amendment may be executed by the parties hereto in counterparts, each of which shall be deemed to be an original and all of which together shall constitute one and the same instrument.

**\*Balance of Page Intentionally Left Blank\***

IN WITNESS WHEREOF, Mortgagor and Mortgagee have each caused this Fourth Amendment to Mortgage, Security Agreement and Fixture Filing to be executed as an instrument under seal as of the day and year first written above.

Mortgagor:

**GTC BIOTHERAPEUTICS, INC.**

By: /s/ William K. Heiden  
Name: William K. Heiden  
Title: President

By: /s/ Kristie A. Bolieau  
Name: Kristie A. Bolieau  
Title: Assistant Treasurer

Commonwealth of Massachusetts

Middlesex County, ss.

On this 15th day of June, 2010, before me, the undersigned notary public, personally appeared William K. Heiden, proved to me through satisfactory evidence of identification, being (check whichever applies):  driver's license or other state or federal governmental document bearing a photographic image,  oath or affirmation of a credible witness known to me who knows the above signatory, or  my own personal knowledge of the identity of the signatory, to be the person whose name is signed above, and acknowledged the foregoing to be signed by him voluntarily for its stated purpose, as the duly authorized signatory of GTC Biotherapeutics, Inc.

/s/ Mary S. Thurlow  
Notary Public  
My commission expires: April 6, 2012  
Print Notary Public's Name: Mary S. Thurlow  
Qualified in the Commonwealth of Massachusetts  
[Notary Seal]

**\* Signatures Continued on Next Page \***

*[Signature page to Fourth Amendment to Mortgage]*



Mortgagee:

**LFB BIOTECHNOLOGIES, S.A.S.**

By: /s/ Max Berger as attorney-in-fact for Christian Béchon  
Christian Béchon  
President Directeur General

Commonwealth of Massachusetts

Suffolk County, ss.

On this 16th day of June, 2010, before me, the undersigned notary public, personally appeared Max Berger as attorney-in-fact for Christian Béchon, proved to me through satisfactory evidence of identification, being (check whichever applies):  driver's license or other state or federal governmental document bearing a photographic image,  oath or affirmation of a credible witness known to me who knows the above signatory, or  my own personal knowledge of the identity of the signatory, to be the person whose name is signed above, and acknowledged the foregoing to be signed by him voluntarily for its stated purpose, as the duly authorized signatory of LFB Biotechnologies, S.A.S.

Elizabeth A. Rockwell

Notary Public

My commission expires: 8/1/2014

Print Notary Public's Name: Elizabeth A. Rockwell

Qualified in the Commonwealth of Massachusetts

[Notary Seal]

*[Signature page to Fourth Amendment to Mortgage]*

June 17, 2010

Geoffrey F. Cox  
480 Beacon Street  
Boston, MA 02115

*Re: Separation Agreement*

Dear Geoff:

The purpose of this letter agreement (the "Agreement") is to set forth the terms of your separation from GTC Biotherapeutics, Inc. (the "Company"). Payment of the Separation Pay described below is contingent on your agreement to and compliance with the terms of this Agreement. This Agreement shall become effective on the eighth (8<sup>th</sup>) day following your acceptance of it as provided below (the "Effective Date").

**1. Separation of Employment and Resignation from Board.** The Company terminated your employment without cause as of June 14, 2010 (the "Separation Date"). You acknowledge and agree that, pursuant to your termination of employment, you also will resign your position as a member of the Company's Board of Directors (the "Board") as of the Separation Date, by executing the resignation letter attached as Exhibit A. You acknowledge that from and after the Separation Date, you shall have no authority to, and shall not, represent yourself as an employee or agent of the Company. As a courtesy, the Company will provide you with a draft of the press release regarding your separation from the Company prior to issuing a final version of the same, and will consider (but will not be required to adopt) any comments to the wording of such press release.

**2. Separation Pay.** In exchange for the mutual covenants set forth in this Agreement, the Company agrees to provide you with the following (the "Separation Pay"):

(a) Payment of an amount equal to ten (10) months of your gross monthly base salary (i.e., a total of \$400,000), less all applicable federal, state, local and other employment-related deductions, such payment to be made in four (4) equal cash lump sum quarterly installments on each of January 1, April 1, July 1 and October 1, 2011.

(b) Eligibility for payments on the following conditions:

(i) If the award by the International Chamber of Commerce (the "ICC") in the current arbitration between LEO Pharma and the Company (the "LEO Pharma Arbitration") or a settlement between the parties in the LEO Pharma Arbitration results in Final Net Proceeds (as defined below) to the Company of \$20,000,000 or more, then the Company shall pay you an amount equal to fourteen (14) months of your base salary (\$560,000) plus an additional amount equal to \$137,704 (i.e., a total payment of \$697,704), less all applicable federal, state, local and other employment-related deductions, on the following schedule: (A) if the Final Net Proceeds become definitely

determined, due and paid at any time prior to January 1, 2012, then this payment shall be made in five (5) equal cash lump sum quarterly installments payable on each of January 1, April 1, July 1, and October 1, 2012, and January 1, 2013, and **(B)** if the Final Net Proceeds become definitely determined, due and paid after January 1, 2012, then this payment shall be made in five (5) equal cash lump sum quarterly installments beginning within thirty (30) days following the date on which the Final Net Proceeds become definitely determined, due and paid.

**(ii)** If the arbitration award by the ICC or a settlement between the parties in the LEO Pharma Arbitration results in Final Net Proceeds (as defined below) to the Company of \$13,000,000 or more, but less than \$20,000,000, then the Company shall pay you an amount equal to fourteen (14) months of your base salary (\$560,000), less applicable federal, state, local and other employment-related deductions, on the following schedule: **(A)** if the Final Net Proceeds become definitely determined, due and paid at any time prior to January 1, 2012, then this payment shall be made in four (4) equal cash lump sum quarterly installments payable on each of January 1, April 1, July 1, and October 1, 2012, and **(B)** if the Final Net Proceeds become definitely determined, due and paid after January 1, 2012, then this payment shall be made in four (4) equal cash lump sum quarterly installments beginning within thirty (30) days following the date on which the Final Net Proceeds become definitely determined, due and paid.

**(iii)** If the arbitration award by the ICC or a settlement between the parties in the LEO Pharma Arbitration results in Final Net Proceeds (as defined below) to the Company of \$10,000,000 or more, but less than \$13,000,000, then the Company shall pay you an amount equal to seven (7) months of your base salary (\$280,000), less applicable federal, state, local and other employment-related deductions, on the following schedule: **(A)** if the Final Net Proceeds become definitely determined, due and paid at any time prior to January 1, 2012, then this payment shall be made in two (2) equal cash lump sum quarterly installments payable on each of January 1 and April 1, 2012, and **(B)** if the Final Net Proceeds become definitely determined, due and paid after January 1, 2012, then this payment shall be made in two (2) equal cash lump sum quarterly installments beginning within thirty (30) days following the date on which the Final Net Proceeds become definitely determined, due and paid.

For the purposes of this Section 2(b), "Final Net Proceeds" is defined as the monetary damages awarded to the Company pursuant to a final judgment by the ICC or the monetary settlement payments made to the Company pursuant to a settlement of the LEO Pharma Arbitration: **(x)** when judgment or settlement payment is no longer subject to any right of appeal, modification, reduction or remittitur, **(y)** when the damage award pursuant to such judgment or settlement payment pursuant to such settlement has been paid to the Company in full, and **(z)** less the amounts described in the schedule of legal fees attached hereto as Exhibit B. Also for purposes of this Section 2(b), a settlement between the parties shall refer to a settlement entered into between the Company and LEO Pharma with respect to which you shall not participate and the terms over which you shall have no influence, control or decision-making authority.

If the arbitration award by the ICC or a settlement between the parties in the LEO Arbitration results in Final Net Proceeds to the Company of less than \$10,000,000, then you shall not be eligible for or entitled to any payment under this Section 2(b).

The Company agrees to provide you with written notice of the terms of the monetary damages award or settlement payment described above within ten (10) days of receiving the same, and written notice of the date on which payment of such damages award or settlement payment is received within ten (10) day of receiving the same, provided that you agree that all information relating in any way to such damages award or settlement payment, including the terms and amount of same, shall be held confidential by you and shall not be publicized or disclosed to any person (other than an immediate family member, legal counsel or financial advisor, provided that any such individual to whom disclosure is made agrees to be bound by these confidentiality obligations), business entity or government agency (except as mandated by state or federal law).

(c) In the event that you choose to exercise your right under COBRA<sup>1/</sup> to continue your participation in the Company's health insurance plan (which you may do, to the extent permitted by COBRA, regardless of whether you accept this Agreement), the Company shall pay 100% of the premium cost for such coverage through June 30, 2012, on terms and conditions comparable to the coverage you receive as of the Separation Date or comparable replacement coverage. In addition, subject to the terms and conditions of the applicable plans maintained by the Company, the Company shall provide you with continued dental, life and accidental death and dismemberment insurance through June 30, 2012 and shall pay 100% of the premium cost related to continuing your coverage under such plans on terms and conditions comparable to the coverage you receive under such plans as of the Separation Date or comparable replacement coverage. Notwithstanding any other provision of this Agreement, any of the above-described obligations shall cease on the date you become eligible to receive a comparable insurance benefit (as applicable) through any other employer, and you agree to provide the Company with written notice immediately upon becoming eligible for such benefits. Your acceptance of any payment on your behalf or coverage provided hereunder shall be an express representation to the Company that you have no such eligibility.

(d) Separation from Service under Section 409A. Any portion of a payment to you under this Agreement that constitutes nonqualified deferred compensation under Section 409A payable as a result of a termination of employment may only be paid upon a "separation from service" under Section 409A(a)(2)(A)(i) of the Internal Revenue Code of 1986, as amended ("Section 409A"). For purposes of clarification, the foregoing sentence shall not cause any forfeiture of benefits on your part, but shall only act as a delay until such time as a "separation from service" occurs. Notwithstanding the foregoing, if any amount to be paid to you pursuant to this Agreement as a result of your termination of employment is subject to Section 409A, and if you are a "Specified Employee" under Section 409A as of the date of your termination of employment hereunder, then, to the extent necessary to avoid the imposition of excise taxes or other penalties under Section 409A, the payment of benefits, if any, scheduled to be paid by the Company to you hereunder during the first six (6) month period following the date of a termination of employment hereunder shall not be paid until the date which is the first business

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<sup>1/</sup> "COBRA" is the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended.

day following the six-month anniversary of your termination of employment for any reason other than death. Any deferred compensation payments delayed in accordance with the terms of this paragraph shall be paid in a lump sum when paid.

You acknowledge and agree that the Separation Pay is not otherwise due or owing to you under any Company employment agreement (oral or written) or policy or practice, and that the Separation Pay is not intended to, and shall not constitute, a severance plan, and shall confer no benefit on anyone other than the parties hereto. You further acknowledge that except for the Separation Pay, your final wages, and any accrued but unused vacation (which shall be paid to you in accordance with the Company's regular payroll practices and applicable law), you are not now and shall not in the future be entitled to any other compensation from the Company including, without limitation, other wages, commissions, bonuses, equity, vacation pay, holiday pay, paid time off or any other form of compensation or benefit.

**3. COBRA Benefits.** Regardless of whether you sign this Agreement, you shall have the right to elect to continue your medical, dental, vision, and flexible spending account (healthcare) benefits pursuant and subject to the terms and conditions of COBRA and the applicable plan, but in the event that you do not sign this Agreement, the Company shall not pay or contribute to the cost of premiums for your COBRA coverage, and you shall be solely responsible for same in accordance with the terms of the applicable plan. Your eligibility for benefits under COBRA, the amount of such benefits, and the terms and conditions of such benefits, shall be determined by COBRA statutory and regulatory guidelines and the applicable plan.

**4. Equity.** The terms and conditions of the Company's Amended and Restated 2002 Equity Incentive Plan (the "Stock Plan") and any agreements executed by you pursuant thereto (together, the "Stock Option Agreements"), are incorporated herein by reference and shall survive the signing of this Agreement. You acknowledge and agree that, as of the Separation Date, you are vested in a total of 113,498 shares of Company common stock under the Stock Plan and Stock Option Agreements. You further acknowledge and agree that as of the Separation Date, you shall not have any right to vest in any additional stock or stock options under the Stock Plan, Stock Option Agreements or any other Company stock or stock option plan (of whatever name or kind) that you may have participated in or were eligible to participate in during your employment and that any Stock Option Agreements or other stock based rights that have not vested as of the Separation Date shall terminate as of such date.

**5. Confidentiality, Non-Disparagement and Related Obligations.** The parties expressly acknowledge and agree to the following, as applicable:

(a) You agree to adhere to the terms of your July 17, 2001 Confidentiality and Non-Competition Agreement with the Company, which is expressly incorporated herein and survives the signing of this Agreement.

(b) You agree to promptly return to the Company all Company documents, files and property (and any copies thereof), and that you will otherwise abide by any and all common law and/or statutory obligations relating to protection of the Company's trade secrets and/or confidential and proprietary information.

(c) You, on the one hand, and the Company's officers and directors, on the other hand, agree that all information relating in any way to the negotiation of this Agreement, including the terms and amount of financial consideration provided for in this Agreement, shall be held confidential and shall not be publicized or disclosed to any person (other than an immediate family member, legal counsel, accountant or financial advisor, provided that any such individual to whom disclosure is made agrees to be bound by these confidentiality obligations), business entity or government agency (except as mandated by state or federal law), except that nothing in this section shall prohibit either party from participating in an investigation with a state or federal agency if requested by the agency to do so; notwithstanding the foregoing, the parties acknowledge and agree that the Company is required to file and shall be permitted to file a Form 8-K with the Securities and Exchange Commission following the Effective Date and shall be permitted to disclose or publicly file this Agreement (or the contents thereof) as otherwise required by state and federal law.

(d) You, on the one hand, and the Company's officers and directors, on the other hand, will not make any statements that are professionally or personally disparaging about, or adverse to, the interests of other party (including, with respect to your statements about the Company, statements about its officers, directors, employees and consultants) including, but not limited to, any statements that disparage any product, service, finances, financial condition, capabilities or any other aspect of the other party.

## **6. Your Release of Claims.**

(a) Release. You hereby agree and acknowledge that by signing this Agreement and accepting the Separation Pay, and for other good and valuable consideration provided for in this Agreement, you are waiving and releasing your right to assert any form of legal claim against the Company<sup>2/</sup> whatsoever for any alleged action, inaction or circumstance existing or arising from the beginning of time through the Separation Date. Your waiver and release herein is intended to bar any form of legal claim, charge, complaint or any other form of action (jointly referred to as "Claims") against the Company seeking any form of relief including, without limitation, equitable relief (whether declaratory, injunctive or otherwise), the recovery of any damages or any other form of monetary recovery whatsoever (including, without limitation, back pay, front pay, compensatory damages, emotional distress damages, punitive damages, attorneys fees and any other costs) against the Company, for any alleged action, inaction or circumstance existing or arising through the Separation Date.

Without limiting the generality of the foregoing, you specifically waive and release the Company from any waivable claim arising from or related to your employment relationship with the Company up through the Separation Date including, without limitation: (i) claims under any Massachusetts (or any other state) or federal discrimination, fair employment practices, or other

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<sup>2/</sup> For purposes of this Section, the "Company" means GTC Biotherapeutics, Inc. and its divisions, affiliates (including but not limited to LFB Biotechnologies S.A.S. and its affiliates), parents, subsidiaries and related entities, and its and their owners, partners, directors, officers, employees, trustees, agents, successors and assigns.

employment related statute, regulation or executive order (as they may have been amended through the Separation Date), including but not limited to the Age Discrimination in Employment Act, the Older Workers Benefit Protection Act, the Civil Rights Acts of 1866 and 1871, Title VII of the Civil Rights Act of 1964, the Civil Rights Act of 1991, the Equal Pay Act, the Americans With Disabilities Act, and any similar Massachusetts or other state or federal statute; **(ii)** claims under any other Massachusetts (or any other state) or federal employment related statute, regulation or executive order (as they may have been amended through the Separation Date) relating to wages, hours or any other terms and conditions of employment, including but not limited to the National Labor Relations Act, the Family and Medical Leave Act, the Employee Retirement Income Security Act of 1974, COBRA, and any similar Massachusetts or other state or federal statute; **(iii)** claims under any Massachusetts (or any other state) or federal common law theory, including, without limitation, wrongful discharge, breach of express or implied contract, promissory estoppel, unjust enrichment, breach of a covenant of good faith and fair dealing, violation of public policy, defamation, interference with contractual relations, intentional or negligent infliction of emotional distress, invasion of privacy, misrepresentation, deceit, fraud or negligence or any claim to attorneys' fees under any applicable statute or common law theory of recovery; and **(iv)** any other claim arising under other state or federal law.

**(b) Participation in Agency Proceedings; Agreement/Release Limitations.** Notwithstanding the foregoing, neither this section nor this Agreement: **(i)** releases the Company from any obligation expressly set forth in this Agreement; **(ii)** waives or releases any legal claims which you may not waive or release by law, including without limitation obligations under workers compensation laws; **(iii)** prohibits you from challenging the validity of this release under federal law, from filing a charge or complaint of employment related discrimination with the Equal Employment Opportunity Commission ("EEOC") or similar state agency, or from participating in any investigation or proceeding conducted by the EEOC or similar state agency; **(iv)** limits or otherwise impacts your indemnification rights (including rights to advancement of expenses) pursuant to the Company's articles of organization and bylaws in effect as of the Separation Date, which shall be governed solely by the terms and conditions of the applicable governing document; or **(v)** waives or releases any legal claims related exclusively to your status as a shareholder and/or option holder of GTC Biotherapeutics, Inc. (without impacting the scope and application of the release in subsection (a) as it relates to any other legal claims in any other context).

Your waiver and release, however, are intended to be a complete bar to any recovery or personal benefit by or to you with respect to any claim (except those which cannot be released under law), including those raised through a charge with the EEOC. Accordingly, nothing in this section shall be deemed to limit the Company's right to seek immediate dismissal of such charge or complaint on the basis that your signing of this Agreement constitutes a full release of any individual rights under the federal discrimination laws, or to seek restitution to the extent permitted by law of the economic benefits provided to you under this Agreement in the event you successfully challenge the validity of this release and prevail in any claim under the federal discrimination laws.

**(c) Acknowledgement.** You acknowledge and agree that, but for providing the waiver and release in this section, you would not be receiving the economic benefits being provided to you under the terms of this Agreement.

**7. ADEA/OWBPA Review and Revocation Period.** You and the Company acknowledge that you are over the age of 40 and that you, therefore, have specific rights under the Age Discrimination in Employment Act (“ADEA”) and the Older Workers Benefit Protection Act (the “OWBPA”), which prohibit discrimination on the basis of age. It is the Company’s desire and intent to make certain that you fully understand the provisions and effects of this Agreement, which includes a release of claims under the ADEA and OWBPA. To that end, you have been encouraged and given the opportunity to consult with legal counsel for the purpose of reviewing the terms of this Agreement. In addition, consistent with the provisions of the ADEA and OWBPA, the Company also is providing you with up to **twenty one (21) days** in which to consider and accept the terms of this Agreement by signing below and returning it to William Heiden, GTC Biotherapeutics, Inc. 175 Crossing Boulevard, 4<sup>th</sup> Floor, Suite 410, Framingham, MA 01701-9322. Additionally, you may rescind your assent to this Agreement if, within **seven (7) days** after you sign this Agreement, you deliver by hand or send by mail (certified, return receipt and postmarked within such 7 day period) a notice of rescission to William Heiden at the above-referenced address.

**8. Company’s Release of Claims.** The Company hereby agrees and acknowledges that by signing this Agreement and accepting the good and valuable consideration provided for in this Agreement, it is waiving and releasing its right to assert any form of legal claim against you whatsoever for any alleged action, inaction or circumstance existing or arising from the beginning of time through the Separation Date. The Company’s waiver and release herein is intended to bar any Claims against you seeking any form of relief including, without limitation, equitable relief (whether declaratory, injunctive or otherwise), the recovery of any damages, or any other form of monetary recovery whatsoever (including, without limitation, back pay, front pay, compensatory damages, emotional distress damages, punitive damages, attorneys’ fees and any other costs) for any alleged action, inaction or circumstance existing or arising through the Separation Date. Without limiting the generality of the foregoing, the Company specifically waives and releases you from all waivable Claims related to your employment relationship with the Company or the termination thereof, and all agreements executed by you pursuant thereto (other than those described as surviving herein), including, without limitation: **(i)** claims under any Massachusetts (or any other state) or federal common law theory; and **(ii)** any other claim arising under state or federal law. Notwithstanding the foregoing, neither this section nor this Agreement: **(i)** releases you from any obligation expressly set forth in this Agreement; **(ii)** waives or releases any legal claims which the Company may not waive or release by law; **(iii)** limits or otherwise impacts the Company’s rights pursuant to the Company’s articles of organization and bylaws in effect as of the Separation Date, which shall be governed solely by the terms and conditions of the applicable governing document; **(iv)** limits or otherwise impacts the Company’s rights pursuant to the Company’s Director and Officer Liability Insurance policies in effect as of the Separation Date, which shall be governed solely by the terms and conditions of the applicable policies.

**9. Director and Officer Liability Insurance.** The Company agrees to maintain Director and Officer Liability Insurance coverage for you in the same form providing the same or materially similar coverage terms or conditions (provided that the Company may substitute

therefor policies with at least the same coverage containing terms and conditions that are not materially less favorable) for a period of six (6) years following the Effective Date, *provided* that in no event shall the Company be required to expend pursuant to this section more than an amount equal to 200% of the current annual premiums paid by the Company for such insurance.

**10. Statements to Third Parties.** In the event that any third party inquires of the circumstances of your separation from employment, you (on the one hand) and the Company's officers and directors (on the other hand) agree to provide a statement that is materially consistent with the press release issued by the Company on June 16, 2010 regarding its financing, restructuring and management changes.

**11. Guarantee of Separation Pay Obligations.** The Company's obligation to provide you with the Separation Pay described in Section 2 is guaranteed by its parent company, LFB Biotechnologies S.A.S. (the "Parent"). In the event that the Company is unable to provide such Separation Pay, the Parent agrees to undertake the obligation to provide such Separation Pay, on the terms and conditions described herein. The Parent does not guarantee any other obligation set forth herein, including but not limited to any obligation of the Company in any section of this Agreement other than Section 2. The Parent consents to the jurisdiction of Massachusetts courts described in Section 17 below in connection with any legal action arising out of the guarantee described in this section.

**12. Waiver of Employment.** You hereby waive and release forever any right or rights you may have to employment with the Company and any affiliate thereof at any time in the future and agree not to seek or make application for employment with the Company or any affiliate thereof.

**13. Unemployment Benefits.** The Company agrees that it will not contest any claim for unemployment benefits by you with the Massachusetts Division of Unemployment Assistance. The Company, of course, shall not be required to falsify any information.

**14. Successors and Assigns.** This Agreement shall be binding on the Company's successors and assigns, and the Company agrees to cause this Agreement to be assumed by any such successor or assign. In the event of your death, this Agreement shall remain in effect and inure to the benefit of your heirs and/or estate.

**15. Taxes.** You acknowledge and agree that the Company does not guarantee the tax treatment or tax consequences associated with any payment or benefit arising under this Agreement, including but not limited to consequences related to Section 409A and Section 280G of the Internal Revenue Code of 1986, as amended, and that you shall be solely responsible for any such tax consequences.

**16. Attorneys' Fees.** Except as otherwise required by applicable law, in the event that a party to this Agreement files a complaint against the other party alleging a breach of such party's obligations herein, the prevailing party shall be entitled to recover from the non-prevailing party all reasonable fees, costs, and expenses of counsel (at pre-trial, trial and appellate levels), up to a maximum amount of twenty five thousand dollars (\$25,000).

**17. Entire Agreement; Modification; Waiver; Choice of Law; Enforceability.** You acknowledge and agree that, other than the agreements expressly incorporated herein and stated as surviving this Agreement, this Agreement supersedes any and all prior or contemporaneous oral and/or written agreements between you and the Company (including but not limited to your July 23, 2008 Amended and Restated Executive Employment Agreement with the Company), and sets forth the entire agreement between you and the Company. No variations or modifications hereof shall be deemed valid unless reduced to writing and signed by the parties hereto. The failure of the Company to seek enforcement of any provision of this Agreement in any instance or for any period of time shall not be construed as a waiver of such provision or of the Company's right to seek enforcement of such provision in the future. This Agreement shall be deemed to have been made in Massachusetts, shall take effect as an instrument under seal within Massachusetts, and shall be governed by and construed in accordance with the laws of Massachusetts, without giving effect to conflict of law principles. You agree that any action, demand, claim or counterclaim relating to the terms and provisions of this Agreement, or to its breach, shall be commenced in Massachusetts in a court of competent jurisdiction, and you further acknowledge that venue for such actions shall lie exclusively in Massachusetts and that material witnesses and documents would be located in Massachusetts. Both parties hereby waive and renounce in advance any right to a trial by jury in connection with such legal action. The provisions of this Agreement are severable, and if for any reason any part hereof shall be found to be unenforceable, the remaining provisions shall be enforced in full.

**18. Knowing and Voluntary Agreement.** By executing this Agreement, you are acknowledging that you have been afforded sufficient time to understand the terms and effects of this Agreement, that your agreements and obligations hereunder are made voluntarily, knowingly and without duress, and that neither the Company nor its agents or representatives have made any representations inconsistent with the provisions of this Agreement.

This Agreement may be signed on one or more copies, each of which when signed will be deemed to be an original, and all of which together will constitute one and the same Agreement. If the foregoing correctly sets forth our understanding, please sign, date and return the enclosed copy of this Agreement to William Heiden within **twenty one (21) days**. If we do not receive your acceptance on or before this date, the Agreement will terminate and be of no further force or effect.

**[Signature Page to Follow]**

Sincerely,

GTC Biotherapeutics, Inc.:

By: \_\_\_\_\_

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

SOLELY AS GUARANTOR OF GTC  
BIOTHERAPEUTICS, INC.'S OBLIGATIONS  
UNDER SECTION 2 HEREIN:

LFB Biotechnologies S.A.S.

By: \_\_\_\_\_

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

Agreed and Acknowledged:

    /s/ Geoffrey F. Cox      
Geoffrey F. Cox

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

**EXHIBIT A**

June 15, 2010

**VIA HAND DELIVERY**

GTC Biotherapeutics, Inc.  
175 Crossing Boulevard  
4<sup>th</sup> Floor, Suite 410  
Framingham, MA 01701-9322

**Re: Resignation from GTC Biotherapeutics, Inc. Board of Directors**

To Whom it May Concern:

This is to inform you that, effective June 14, 2010, I hereby resign my position as a director on the Board of Directors of GTC Biotherapeutics, Inc. and any affiliate of GTC Biotherapeutics, Inc.

Very truly yours,

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Geoffrey F. Cox

June 17, 2010

John B. Green  
91 Elliott Drive  
Lowell, MA 01852

*Re: Separation Agreement*

Dear Jack:

The purpose of this letter agreement (the "Agreement") is to set forth the terms of your separation from GTC Biotherapeutics, Inc. (the "Company"). Payment of the Separation Pay described below is contingent on your agreement to and compliance with the terms of this Agreement. This Agreement shall become effective on the eighth (8<sup>th</sup>) day following your acceptance of it as provided below (the "Effective Date").

**1. Separation of Employment.** The Company terminated your employment without cause as of June 14, 2010 (the "Separation Date"). You acknowledge that from and after the Separation Date, you shall have no authority to, and shall not, represent yourself as an employee or agent of the Company. As a courtesy, the Company will provide you with a draft of the press release regarding your separation from the Company prior to issuing a final version of the same, and will consider (but will not be required to adopt) any comments to the wording of such press release.

**2. Separation Pay.** In exchange for the mutual covenants set forth in this Agreement, the Company agrees to provide you with the following (the "Separation Pay"):

(a) Payment of an amount equal to ten (10) months of your gross monthly base salary (i.e., a total of \$255,285), less all applicable federal, state, local and other employment-related deductions, such payment to be made in four (4) equal cash lump sum quarterly installments on each of January 1, April 1, July 1 and October 1, 2011.

(b) Eligibility for payments on the following conditions:

(i) If the award by the International Chamber of Commerce (the "ICC") in the current arbitration between LEO Pharma and the Company (the "LEO Pharma Arbitration") or a settlement between the parties in the LEO Pharma Arbitration results in Final Net Proceeds (as defined below) to the Company of \$20,000,000 or more, then the Company shall pay you an amount equal to fourteen (14) months of your base salary (\$357,399) plus an additional amount equal to \$65,435 (i.e., a total payment of \$422,834, less all applicable federal, state, local and other employment-related deductions, on the following schedule: (A) if the Final Net Proceeds become definitely determined, due and paid at any time prior to January 1, 2012, then this payment shall be made in five (5) equal cash lump sum quarterly installments payable on each of January 1, April 1, July 1, and October 1, 2012, and January 1, 2013, and (B) if the Final Net Proceeds become

definitely determined, due and paid after January 1, 2012, then this payment shall be made in five (5) equal cash lump sum quarterly installments beginning within thirty (30) days following the date on which the Final Net Proceeds become definitely determined, due and paid.

**(ii)** If the arbitration award by the ICC or a settlement between the parties in the LEO Pharma Arbitration results in Final Net Proceeds (as defined below) to the Company of \$13,000,000 or more, but less than \$20,000,000, then the Company shall pay you an amount equal to fourteen (14) months of your base salary (\$357,399), less applicable federal, state, local and other employment-related deductions, on the following schedule: **(A)** if the Final Net Proceeds become definitely determined, due and paid at any time prior to January 1, 2012, then this payment shall be made in four (4) equal cash lump sum quarterly installments payable on each of January 1, April 1, July 1, and October 1, 2012, and **(B)** if the Final Net Proceeds become definitely determined, due and paid after January 1, 2012, then this payment shall be made in four (4) equal cash lump sum quarterly installments beginning within thirty (30) days following the date on which the Final Net Proceeds become definitely determined, due and paid.

**(iii)** If the arbitration award by the ICC or a settlement between the parties in the LEO Pharma Arbitration results in Final Net Proceeds (as defined below) to the Company of \$10,000,000 or more, but less than \$13,000,000, then the Company shall pay you an amount equal to seven (7) months of your base salary (\$178,700), less applicable federal, state, local and other employment-related deductions, on the following schedule: **(A)** if the Final Net Proceeds become definitely determined, due and paid at any time prior to January 1, 2012, then this payment shall be made in two (2) equal cash lump sum quarterly installments payable on each of January 1 and April 1, 2012, and **(B)** if the Final Net Proceeds become definitely determined, due and paid after January 1, 2012, then this payment shall be made in two (2) equal cash lump sum quarterly installments beginning within thirty (30) days following the date on which the Final Net Proceeds become definitely determined, due and paid.

For the purposes of this Section 2(b), "Final Net Proceeds" is defined as the monetary damages awarded to the Company pursuant to a final judgment by the ICC or the monetary settlement payments made to the Company pursuant to a settlement of the LEO Pharma Arbitration: **(x)** when judgment or settlement payment is no longer subject to any right of appeal, modification, reduction or remittitur, **(y)** when the damage award pursuant to such judgment or settlement payment pursuant to such settlement has been paid to the Company in full, and **(z)** less the amounts described in the schedule of legal fees attached hereto as Exhibit A. Also for purposes of this Section 2(b), a settlement between the parties shall refer to a settlement entered into between the Company and LEO Pharma with respect to which you shall not participate and the terms over which you shall have no influence, control or decision-making authority.

If the arbitration award by the ICC or a settlement between the parties in the LEO Arbitration results in Final Net Proceeds to the Company of less than \$10,000,000, then you shall not be eligible for or entitled to any payment under this Section 2(b).

The Company agrees to provide you with written notice of the terms of the monetary damages award or settlement payment described above within ten (10) days of receiving the same, and written notice of the date on which payment of such damages award or settlement payment is received within ten (10) day of receiving the same, provided that you agree that all information relating in any way to such damages award or settlement payment, including the terms and amount of same, shall be held confidential by you and shall not be publicized or disclosed to any person (other than an immediate family member, legal counsel or financial advisor, provided that any such individual to whom disclosure is made agrees to be bound by these confidentiality obligations), business entity or government agency (except as mandated by state or federal law).

(c) In the event that you choose to exercise your right under COBRA<sup>1/</sup> to continue your participation in the Company's health insurance plan (which you may do, to the extent permitted by COBRA, regardless of whether you accept this Agreement), the Company shall pay 100% of the premium cost for such coverage through June 30, 2012, on terms and conditions comparable to the coverage you receive as of the Separation Date or comparable replacement coverage. In addition, subject to the terms and conditions of the applicable plans maintained by the Company, the Company shall provide you with continued dental, life and accidental death and dismemberment insurance through June 30, 2012 and shall pay 100% of the premium cost related to continuing your coverage under such plans on terms and conditions comparable to the coverage you receive under such plans as of the Separation Date or comparable replacement coverage. Notwithstanding any other provision of this Agreement, any of the above-described obligations shall cease on the date you become eligible to receive a comparable insurance benefit (as applicable) through any other employer, and you agree to provide the Company with written notice immediately upon becoming eligible for such benefits. Your acceptance of any payment on your behalf or coverage provided hereunder shall be an express representation to the Company that you have no such eligibility.

(d) Separation from Service under Section 409A. Any portion of a payment to you under this Agreement that constitutes nonqualified deferred compensation under Section 409A payable as a result of a termination of employment may only be paid upon a "separation from service" under Section 409A(a)(2)(A)(i) of the Internal Revenue Code of 1986, as amended ("Section 409A"). For purposes of clarification, the foregoing sentence shall not cause any forfeiture of benefits on your part, but shall only act as a delay until such time as a "separation from service" occurs. Notwithstanding the foregoing, if any amount to be paid to you pursuant to this Agreement as a result of your termination of employment is subject to Section 409A, and if you are a "Specified Employee" under Section 409A as of the date of your termination of employment hereunder, then, to the extent necessary to avoid the imposition of excise taxes or other penalties under Section 409A, the payment of benefits, if any, scheduled to be paid by the Company to you hereunder during the first six (6) month period following the date of a termination of employment hereunder shall not be paid until the date which is the first business day following the six-month anniversary of your termination of employment for any reason other than death. Any deferred compensation payments delayed in accordance with the terms of this paragraph shall be paid in a lump sum when paid.

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<sup>1/</sup> "COBRA" is the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended.

You acknowledge and agree that the Separation Pay is not otherwise due or owing to you under any Company employment agreement (oral or written) or policy or practice, and that the Separation Pay is not intended to, and shall not constitute, a severance plan, and shall confer no benefit on anyone other than the parties hereto. You further acknowledge that except for the Separation Pay, your final wages, and any accrued but unused vacation (which shall be paid to you in accordance with the Company's regular payroll practices and applicable law), you are not now and shall not in the future be entitled to any other compensation from the Company including, without limitation, other wages, commissions, bonuses, equity, vacation pay, holiday pay, paid time off or any other form of compensation or benefit.

**3. COBRA Benefits.** Regardless of whether you sign this Agreement, you shall have the right to elect to continue your medical, dental, vision, and flexible spending account (healthcare) benefits pursuant and subject to the terms and conditions of COBRA and the applicable plan, but in the event that you do not sign this Agreement, the Company shall not pay or contribute to the cost of premiums for your COBRA coverage, and you shall be solely responsible for same in accordance with the terms of the applicable plan. Your eligibility for benefits under COBRA, the amount of such benefits, and the terms and conditions of such benefits, shall be determined by COBRA statutory and regulatory guidelines and the applicable plan.

**4. Equity.** The terms and conditions of the Company's Amended and Restated 2002 Equity Incentive Plan (the "Stock Plan") and any agreements executed by you pursuant thereto (together, the "Stock Option Agreements"), are incorporated herein by reference and shall survive the signing of this Agreement. You acknowledge and agree that, as of the Separation Date, you are vested in a total of 43,755 shares of Company common stock under the Stock Plan and Stock Option Agreements. You further acknowledge and agree that as of the Separation Date, you shall not have any right to vest in any additional stock or stock options under the Stock Plan, Stock Option Agreements or any other Company stock or stock option plan (of whatever name or kind) that you may have participated in or were eligible to participate in during your employment and that any Stock Option Agreements or other stock based rights that have not vested as of the Separation Date shall terminate as of such date.

**5. Confidentiality, Non-Disparagement and Related Obligations.** The parties expressly acknowledge and agree to the following, as applicable:

(a) You agree to adhere to the terms of your Confidentiality and Non-Competition Agreement with the Company, which is executed pursuant hereto in exchange for the mutual covenants set forth in this Agreement and other good and valuable consideration, receipt of which is expressly acknowledged by you, and which is expressly incorporated herein and survives the signing of this Agreement.

(b) You agree to promptly return to the Company all Company documents, files and property (and any copies thereof), and that you will otherwise abide by any and all common law and/or statutory obligations relating to protection of the Company's trade secrets and/or confidential and proprietary information.

(c) You, on the one hand, and the Company's officers and directors, on the other hand, agree that all information relating in any way to the negotiation of this Agreement, including the terms and amount of financial consideration provided for in this Agreement, shall be held confidential and shall not be publicized or disclosed to any person (other than an immediate family member, legal counsel, accountant or financial advisor, provided that any such individual to whom disclosure is made agrees to be bound by these confidentiality obligations), business entity or government agency (except as mandated by state or federal law), except that nothing in this section shall prohibit either party from participating in an investigation with a state or federal agency if requested by the agency to do so; notwithstanding the foregoing, the parties acknowledge and agree that the Company is required to file and shall be permitted to file a Form 8-K with the Securities and Exchange Commission following the Effective Date and shall be permitted to disclose or publicly file this Agreement (or the contents thereof) as otherwise required by state and federal law.

(d) You, on the one hand, and the Company's officers and directors, on the other hand, will not make any statements that are professionally or personally disparaging about, or adverse to, the interests of other party (including, with respect to your statements about the Company, statements about its officers, directors, employees and consultants) including, but not limited to, any statements that disparage any product, service, finances, financial condition, capabilities or any other aspect of the other party.

#### **6. Your Release of Claims.**

(a) Release. You hereby agree and acknowledge that by signing this Agreement and accepting the Separation Pay, and for other good and valuable consideration provided for in this Agreement, you are waiving and releasing your right to assert any form of legal claim against the Company<sup>2/</sup> whatsoever for any alleged action, inaction or circumstance existing or arising from the beginning of time through the Separation Date. Your waiver and release herein is intended to bar any form of legal claim, charge, complaint or any other form of action (jointly referred to as "Claims") against the Company seeking any form of relief including, without limitation, equitable relief (whether declaratory, injunctive or otherwise), the recovery of any damages or any other form of monetary recovery whatsoever (including, without limitation, back pay, front pay, compensatory damages, emotional distress damages, punitive damages, attorneys fees and any other costs) against the Company, for any alleged action, inaction or circumstance existing or arising through the Separation Date.

Without limiting the generality of the foregoing, you specifically waive and release the Company from any waivable claim arising from or related to your employment relationship with the Company up through the Separation Date including, without limitation: (i) claims under any Massachusetts (or any other state) or federal discrimination, fair employment practices, or other employment related statute, regulation or executive order (as they may have been amended through the Separation Date), including but not limited to the Age Discrimination in Employment Act, the Older Workers Benefit Protection Act, the Civil Rights Acts of 1866 and

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<sup>2/</sup> For purposes of this Section, the "Company" means GTC Biotherapeutics, Inc. and its divisions, affiliates (including but not limited to LFB Biotechnologies S.A.S. and its affiliates), parents, subsidiaries and related entities, and its and their owners, partners, directors, officers, employees, trustees, agents, successors and assigns.

1871, Title VII of the Civil Rights Act of 1964, the Civil Rights Act of 1991, the Equal Pay Act, the Americans With Disabilities Act, and any similar Massachusetts or other state or federal statute; **(ii)** claims under any other Massachusetts (or any other state) or federal employment related statute, regulation or executive order (as they may have been amended through the Separation Date) relating to wages, hours or any other terms and conditions of employment, including but not limited to the National Labor Relations Act, the Family and Medical Leave Act, the Employee Retirement Income Security Act of 1974, COBRA, and any similar Massachusetts or other state or federal statute; **(iii)** claims under any Massachusetts (or any other state) or federal common law theory, including, without limitation, wrongful discharge, breach of express or implied contract, promissory estoppel, unjust enrichment, breach of a covenant of good faith and fair dealing, violation of public policy, defamation, interference with contractual relations, intentional or negligent infliction of emotional distress, invasion of privacy, misrepresentation, deceit, fraud or negligence or any claim to attorneys' fees under any applicable statute or common law theory of recovery; and **(iv)** any other claim arising under other state or federal law.

**(b) Participation in Agency Proceedings; Agreement/Release Limitations.** Notwithstanding the foregoing, neither this section nor this Agreement: **(i)** releases the Company from any obligation expressly set forth in this Agreement; **(ii)** waives or releases any legal claims which you may not waive or release by law, including without limitation obligations under workers compensation laws; **(iii)** prohibits you from challenging the validity of this release under federal law, from filing a charge or complaint of employment related discrimination with the Equal Employment Opportunity Commission ("EEOC") or similar state agency, or from participating in any investigation or proceeding conducted by the EEOC or similar state agency; **(iv)** limits or otherwise impacts your indemnification rights (including rights to advancement of expenses) pursuant to the Company's articles of organization and bylaws in effect as of the Separation Date, which shall be governed solely by the terms and conditions of the applicable governing document; or **(v)** waives or releases any legal claims related exclusively to your status as a shareholder and/or option holder of GTC Biotherapeutics, Inc. (without impacting the scope and application of the release in subsection (a) as it relates to any other legal claims in any other context).

Your waiver and release, however, are intended to be a complete bar to any recovery or personal benefit by or to you with respect to any claim (except those which cannot be released under law), including those raised through a charge with the EEOC. Accordingly, nothing in this section shall be deemed to limit the Company's right to seek immediate dismissal of such charge or complaint on the basis that your signing of this Agreement constitutes a full release of any individual rights under the federal discrimination laws, or to seek restitution to the extent permitted by law of the economic benefits provided to you under this Agreement in the event you successfully challenge the validity of this release and prevail in any claim under the federal discrimination laws.

**(c) Acknowledgement.** You acknowledge and agree that, but for providing the waiver and release in this section, you would not be receiving the economic benefits being provided to you under the terms of this Agreement.

**7. ADEA/OWBPA Review and Revocation Period.** You and the Company acknowledge that you are over the age of 40 and that you, therefore, have specific rights under the Age Discrimination in Employment Act (“ADEA”) and the Older Workers Benefit Protection Act (the “OWBPA”), which prohibit discrimination on the basis of age. It is the Company’s desire and intent to make certain that you fully understand the provisions and effects of this Agreement, which includes a release of claims under the ADEA and OWBPA. To that end, you have been encouraged and given the opportunity to consult with legal counsel for the purpose of reviewing the terms of this Agreement. In addition, consistent with the provisions of the ADEA and OWBPA, the Company also is providing you with up to **twenty one (21) days** in which to consider and accept the terms of this Agreement by signing below and returning it to William Heiden, GTC Biotherapeutics, Inc. 175 Crossing Boulevard, 4<sup>th</sup> Floor, Suite 410, Framingham, MA 01701-9322. Additionally, you may rescind your assent to this Agreement if, within **seven (7) days** after you sign this Agreement, you deliver by hand or send by mail (certified, return receipt and postmarked within such 7 day period) a notice of rescission to William Heiden at the above-referenced address.

**8. Company’s Release of Claims.** The Company hereby agrees and acknowledges that by signing this Agreement and accepting the good and valuable consideration provided for in this Agreement, it is waiving and releasing its right to assert any form of legal claim against you whatsoever for any alleged action, inaction or circumstance existing or arising from the beginning of time through the Separation Date. The Company’s waiver and release herein is intended to bar any Claims against you seeking any form of relief including, without limitation, equitable relief (whether declaratory, injunctive or otherwise), the recovery of any damages, or any other form of monetary recovery whatsoever (including, without limitation, back pay, front pay, compensatory damages, emotional distress damages, punitive damages, attorneys’ fees and any other costs) for any alleged action, inaction or circumstance existing or arising through the Separation Date. Without limiting the generality of the foregoing, the Company specifically waives and releases you from all waivable Claims related to your employment relationship with the Company or the termination thereof, and all agreements executed by you pursuant thereto (other than those described as surviving herein), including, without limitation: **(i)** claims under any Massachusetts (or any other state) or federal common law theory; and **(ii)** any other claim arising under state or federal law. Notwithstanding the foregoing, neither this section nor this Agreement: **(i)** releases you from any obligation expressly set forth in this Agreement; **(ii)** waives or releases any legal claims which the Company may not waive or release by law; **(iii)** limits or otherwise impacts the Company’s rights pursuant to the Company’s articles of organization and bylaws in effect as of the Separation Date, which shall be governed solely by the terms and conditions of the applicable governing document; **(iv)** limits or otherwise impacts the Company’s rights pursuant to the Company’s Director and Officer Liability Insurance policies in effect as of the Separation Date, which shall be governed solely by the terms and conditions of the applicable policies.

**9. Director and Officer Liability Insurance.** The Company agrees to maintain Director and Officer Liability Insurance coverage for you in the same form providing the same or materially similar coverage terms or conditions (provided that the Company may substitute therefor policies with at least the same coverage containing terms and conditions that are not materially less favorable) for a period of six (6) years following the Effective Date, *provided* that in no event shall the Company be required to expend pursuant to this section more than an amount equal to 200% of the current annual premiums paid by the Company for such insurance.

**10. Statements to Third Parties.** In the event that any third party inquires of the circumstances of your separation from employment, you (on the one hand) and the Company's officers and directors (on the other hand) agree to provide a statement that is materially consistent with the press release issued by the Company on June 16, 2010 regarding its financing, restructuring and management changes.

**11. Guarantee of Separation Pay Obligations.** The Company's obligation to provide you with the Separation Pay described in Section 2 is guaranteed by its parent company, LFB Biotechnologies S.A.S. (the "Parent"). In the event that the Company is unable to provide such Separation Pay, the Parent agrees to undertake the obligation to provide such Separation Pay, on the terms and conditions described herein. The Parent does not guarantee any other obligation set forth herein, including but not limited to any obligation of the Company in any section of this Agreement other than Section 2. The Parent consents to the jurisdiction of Massachusetts courts described in Section 17 below in connection with any legal action arising out of the guarantee described in this section.

**12. Waiver of Employment.** You hereby waive and release forever any right or rights you may have to employment with the Company and any affiliate thereof at any time in the future and agree not to seek or make application for employment with the Company or any affiliate thereof.

**13. Unemployment Benefits.** The Company agrees that it will not contest any claim for unemployment benefits by you with the Massachusetts Division of Unemployment Assistance. The Company, of course, shall not be required to falsify any information.

**14. Successors and Assigns.** This Agreement shall be binding on the Company's successors and assigns, and the Company agrees to cause this Agreement to be assumed by any such successor or assign. In the event of your death, this Agreement shall remain in effect and inure to the benefit of your heirs and/or estate.

**15. Taxes.** You acknowledge and agree that the Company does not guarantee the tax treatment or tax consequences associated with any payment or benefit arising under this Agreement, including but not limited to consequences related to Section 409A and Section 280G of the Internal Revenue Code of 1986, as amended, and that you shall be solely responsible for any such tax consequences.

**16. Attorneys' Fees.** Except as otherwise required by applicable law, in the event that a party to this Agreement files a complaint against the other party alleging a breach of such party's obligations herein, the prevailing party shall be entitled to recover from the non-prevailing party all reasonable fees, costs, and expenses of counsel (at pre-trial, trial and appellate levels), up to a maximum amount of twenty five thousand dollars (\$25,000).

**17. Entire Agreement; Modification; Waiver; Choice of Law; Enforceability.** You acknowledge and agree that, other than the agreements expressly incorporated herein and stated as surviving this Agreement, this Agreement supersedes any and all prior or contemporaneous oral and/or written agreements between you and the Company (including but not limited to your July 23, 2008 Second Amended and Restated Executive Employment Agreement with the Company), and sets forth the entire agreement between you and the Company. No variations or modifications hereof shall be deemed valid unless reduced to writing and signed by the parties hereto. The failure of the Company to seek enforcement of any provision of this Agreement in any instance or for any period of time shall not be construed as a waiver of such provision or of the Company's right to seek enforcement of such provision in the future. This Agreement shall be deemed to have been made in Massachusetts, shall take effect as an instrument under seal within Massachusetts, and shall be governed by and construed in accordance with the laws of Massachusetts, without giving effect to conflict of law principles. You agree that any action, demand, claim or counterclaim relating to the terms and provisions of this Agreement, or to its breach, shall be commenced in Massachusetts in a court of competent jurisdiction, and you further acknowledge that venue for such actions shall lie exclusively in Massachusetts and that material witnesses and documents would be located in Massachusetts. Both parties hereby waive and renounce in advance any right to a trial by jury in connection with such legal action. The provisions of this Agreement are severable, and if for any reason any part hereof shall be found to be unenforceable, the remaining provisions shall be enforced in full.

**18. Knowing and Voluntary Agreement.** By executing this Agreement, you are acknowledging that you have been afforded sufficient time to understand the terms and effects of this Agreement, that your agreements and obligations hereunder are made voluntarily, knowingly and without duress, and that neither the Company nor its agents or representatives have made any representations inconsistent with the provisions of this Agreement.

This Agreement may be signed on one or more copies, each of which when signed will be deemed to be an original, and all of which together will constitute one and the same Agreement. If the foregoing correctly sets forth our understanding, please sign, date and return the enclosed copy of this Agreement to William Heiden within **twenty one (21) days**. If we do not receive your acceptance on or before this date, the Agreement will terminate and be of no further force or effect.

**[Signature Page to Follow]**

Sincerely,

GTC Biotherapeutics, Inc.:

By: \_\_\_\_\_

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

SOLELY AS GUARANTOR OF GTC  
BIOTHERAPEUTICS, INC.'S OBLIGATIONS  
UNDER SECTION 2 HEREIN:

LFB Biotechnologies S.A.S.

By: \_\_\_\_\_

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

Agreed and Acknowledged:

/s/ John B. Green  
John B. Green

Date: 6/16/10

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

I, William K. Heiden, 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: July 28, 2010

/s/ William K. Heiden

William K. Heiden

Chairman, Chief Executive Officer and President

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

I, Kristie A. Bolieau, 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: July 28, 2010

/s/ Kristie A. Bolieau  
Kristie A. Bolieau  
Principal Accounting Officer

**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 July 4, 2010, 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: July 28, 2010

/s/ William K. Heiden

William K. Heiden  
Chairman, Chief Executive Officer and President

Date: July 28, 2010

/s/ Kristie A. Bolieau

Kristie A. Bolieau  
Principal Accounting Officer