UNITED STATES SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, DC 20549

FORM 10-Q

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

For The Quarterly Period Ended March 31, 2007

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: 000-51173

Targacept, Inc.

(Exact Name of Registrant as Specified in its Charter)

Delaware (State or Other Jurisdiction of Incorporation or Organization)

200 East First Street, Suite 300 Winston-Salem, North Carolina (Address of Principal Executive Offices) 56-2020050 (I.R.S. Employer Identification No.)

> 27101 (Zip Code)

Registrant's telephone number, including area code: (336) 480-2100

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 \boxtimes No \square

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

Large accelerated filer \Box Accelerated filer \Box Non-accelerated filer \boxtimes

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

As of April 30, 2007, the registrant had 19,143,979 shares of common stock, \$0.001 par value per share, outstanding.

FORM 10-Q TABLE OF CONTENTS

PART I	I – FINANCIAL INFORMATION	Page
Caution	ary Note Regarding Forward-Looking Statements	1
Item 1.	Financial Statements	
	Balance Sheets as of March 31, 2007 (Unaudited) and December 31, 2006	2
	Statements of Operations for the Three Months Ended March 31, 2007 and 2006 (Unaudited)	3
	Statements of Cash Flows for the Three Months Ended March 31, 2007 and 2006 (Unaudited)	4
	Notes to Financial Statements (Unaudited)	5
Item 2.	Management's Discussion and Analysis of Financial Condition and Results of Operations	12
Item 3.	Quantitative and Qualitative Disclosures About Market Risk	24
Item 4.	Controls and Procedures	24
PART I	II – OTHER INFORMATION	
Item 2.	Unregistered Sales of Equity Securities and Use of Proceeds	25
Item 6.	Exhibits	25
<u>SIGNA</u>	<u>TURES</u>	27
EXHIB	IT INDEX	28

PART I. Financial Information

Cautionary Note Regarding Forward-Looking Statements

This quarterly report includes forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, which we refer to as the Exchange Act. For this purpose, any statements contained in this quarterly report regarding the progress, timing and scope of the research and development of our product candidates or related regulatory filings or clinical trials, our development plans for the treatment combination that we refer to as TRIDMACTM, our future operations, financial position, revenues or costs, or our strategies, prospects, plans, expectations or objectives, other than statements of historical fact, are forward-looking statements made under the provisions of The Private Securities Litigation Reform Act of 1995. In some cases, words such as "may," "will," "could," "would," "should," "expect," "intend," "plan," "anticipate," "believe," "estimate," "predict," "project," "potential," "continue," "ongoing" or other comparable words identify forward-looking statements. Actual results, performance or experience may differ materially from those expressed or implied by forward-looking statements as a result of various important factors, including our critical accounting policies and risks and uncertainties relating to: our dependence on the success of our collaboration with AstraZeneca; the amount and timing of resources that AstraZeneca devotes to the development of AZD3480 (TC-1734); AstraZeneca's right in the future to terminate the preclinical research collaboration that we and AstraZeneca are currently conducting prior to the end of the planned four-year term; the position of applicable regulatory authorities with regard to a treatment combination that includes mecamylamine hydrochloride, which is a racemate, as compared to one of its constituent enantiomers such as TC-5214; the results of clinical trials and non-clinical studies and assessments with respect to our current and future product candidates in development; the conduct of such trials, studies and assessments, including the performance of third parties that we engage to execute them and difficulties or delays in the completion of patient enrollment or data analysis; the timing and success of submission, acceptance and approval of regulatory filings; our ability to obtain substantial additional funding; our ability to establish additional strategic collaborations; and our ability to obtain, maintain and enforce patent and other intellectual property protection for our product candidates and discoveries. These and other risks and uncertainties are described in more detail under the caption "Risk Factors" in Item 1A of Part I of our Annual Report on Form 10-K for the year ended December 31, 2006 and in other filings that we make with the Securities and Exchange Commission, or SEC. As a result of the risks and uncertainties, the results or events indicated by the forward-looking statements may not occur. We caution you not to place undue reliance on any forward-looking statement.

Any forward-looking statements in this quarterly report represent our views only as of the date of this quarterly report and should not be relied upon as representing our views as of any subsequent date. We anticipate that subsequent events and developments may cause our views to change. Although we may elect to update these forward-looking statements publicly at some point in the future, whether as a result of new information, future events or otherwise, we specifically disclaim any obligation to do so, except as required by applicable law. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make.

Item 1. Financial Statements

TARGACEPT, INC.

BALANCE SHEETS

	March 31, 2007 (unaudited)	December 31, 2006
ASSETS	(unautitu)	
Current assets:		
Cash and cash equivalents	\$ 55,179,975	\$ 41,744,363
Short-term investments	12,605,576	12,445,193
Accounts receivable	2,083,341	23,367,959
Inventories	206,395	173,693
Prepaid expenses	1,032,786	1,121,698
Total current assets	71,108,073	78,852,906
Property and equipment, net	2,336,998	2,040,355
Intangible assets, net of accumulated amortization of \$176,232 and \$166,791 at March 31, 2007 and December 31,		
2006, respectively	465,768	475,209
Total assets	\$ 73,910,839	\$ 81,368,470
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 1,653,792	\$ 1,982,180
Accrued expenses	2,043,977	3,889,114
Current portion of long-term debt	624,720	593,330
Current portion of deferred rent incentive	134,215	234,877
Current portion of deferred license fee revenue	2,250,000	2,250,000
Total current liabilities	6,706,704	8,949,501
Long-term debt, net of current portion	656,806	816,072
Deferred license fee revenue, net of current portion	6,041,667	6,604,167
Total liabilities	13,405,177	16,369,740
Commitments		
Stockholders' equity:		
Common stock, \$0.001 par value, 100,000,000 shares authorized at March 31, 2007 and December 31, 2006; 19,142,142 and 19,132,233 shares issued and outstanding at March 31, 2007 and December 31, 2006,		
respectively	19,142	19,132
Capital in excess of par value	201,441,561	201,141,257
Accumulated deficit	(140,955,041)	(136,161,659)
Total stockholders' equity	60,505,662	64,998,730
Total liabilities and stockholders' equity	\$ 73,910,839	\$ 81,368,470

See accompanying notes.

STATEMENTS OF OPERATIONS (unudited)

	Three Months Ended March 31,	
	2007	2006
Revenue:		
Collaboration research and development	\$ 1,126,585	\$ 62,224
Milestones and license fees from collaboration	562,500	208,333
Product sales	140,453	176,919
Grant revenue	221,652	158,648
Net revenue	2,051,190	606,124
Operating expenses:		
Research and development (including stock-based compensation of \$203,645 and \$88,011 for the three months ended		
March 31, 2007 and 2006, respectively)	6,190,337	4,760,804
General and administrative (including stock-based compensation of \$87,276 and \$39,159 for the three months ended		
March 31, 2007 and 2006, respectively)	1,338,190	1,167,861
Cost of product sales	165,491	190,947
Total operating expenses	7,694,018	6,119,612
Loss from operations	(5,642,828)	(5,513,488)
Other income (expense):		
Interest income	863,913	299,559
Interest expense	(14,467)	(24,171)
Total other income (expense)	849,446	275,388
Net loss	(4,793,382)	(5,238,100)
Preferred stock accretion		(2,803,210)
Net loss attributable to common stockholders	\$ (4,793,382)	\$ (8,041,310)
Basic and diluted net loss attributable to common stockholders per share	\$ (0.25)	\$ (29.42)
Weighted average common shares outstanding—basic and diluted	19,136,796	273,368
Unaudited pro forma basic and diluted net loss per share attributable to common stockholders assuming conversion of preferred		
stock and issuance of common stock in initial public offering		\$ (0.27)
Unaudited pro forma weighted average shares outstanding – basic and diluted		19,105,383

See accompanying notes.

STATEMENTS OF CASH FLOWS (unaudited)

	Three Months Ended March 31,	
	2007	2006
Operating activities		
Net loss	\$ (4,793,382)	\$ (5,238,100)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	214,517	201,932
Stock-based compensation expense	290,921	127,170
Recognition of deferred rent incentive	(100,662)	(100,662)
Changes in operating assets and liabilities, excluding the effects from acquired assets and liabilities:		
Accounts receivable	21,284,618	(698,314)
Inventories	(32,702)	3,600
Prepaid expenses and accrued interest receivable	36,187	(523,793)
Accounts payable and accrued expenses	(2,173,525)	(1,126,574)
Deferred license fee revenue	(562,500)	10,163,222
Net cash provided by operating activities	14,163,472	2,808,481
Investment activities		
Purchase of investments	(12,862,762)	—
Proceeds from sale of investments	12,755,104	—
Purchase of property and equipment	(501,719)	(191,276)
Net cash used in investing activities	(609,377)	(191,276)
Financing activities		
Principal payments on notes payable and long-term debt	(127,876)	(294,367)
Proceeds from issuance of common stock	9,393	26,003
Net cash used in financing activities	(118,483)	(268,364)
Net increase in cash and cash equivalents	13,435,612	2,348,841
Cash and cash equivalents at beginning of period	41,744,363	24,851,302
Cash and cash equivalents at end of period	\$ 55,179,975	\$27,200,143

See accompanying notes.

NOTES TO UNAUDITED FINANCIAL STATEMENTS March 31, 2007

1. The Company and Nature of Operations

Targacept, Inc., a Delaware corporation (the Company), was formed on March 7, 1997. The Company is a biopharmaceutical company engaged in the design, discovery and development of NNR Therapeutics[™], a new class of drugs for the treatment of multiple diseases and disorders of the central nervous system. The Company's NNR Therapeutics selectively target neuronal nicotinic receptors, or NNRs. Its facilities are located in Winston-Salem, North Carolina.

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying unaudited financial statements have been prepared in accordance with accounting principles generally accepted in the United States, or GAAP, for interim financial information and the instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by GAAP for complete financial statements and should be read in conjunction with the Company's audited financial statements and notes thereto included in its Annual Report on Form 10-K for the year ended December 31, 2006. In the opinion of the Company's management, all adjustments, consisting of normal recurring adjustments, necessary for a fair presentation of its financial position, operating results and cash flows for the periods presented have been included. Operating results for the three months ended March 31, 2007 and 2006 are not necessarily indicative of the results that may be expected for the full year, for any other interim period or for any future year.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts of assets, liabilities, revenue and expenses reported in the financial statements and accompanying notes. Actual results could differ from these estimates.

Revenue Recognition

The Company uses revenue recognition criteria in Staff Accounting Bulletin No. 101, *Revenue Recognition in Financial Statements*, or SAB 101, as amended by Staff Accounting Bulletin No. 104, *Revision of Topic 13*, or SAB 104.

In determining the accounting for collaboration agreements, the Company follows the provisions of Emerging Issues Task Force, or EITF, Issue 00-21, *Revenue Arrangements with Multiple Deliverables*, or EITF 00-21, for multiple element revenue arrangements. EITF 00-21 provides guidance on whether an arrangement that involves multiple revenue-generating activities or deliverables should be divided into separate units of accounting for revenue recognition purposes and, if this division is required, how the arrangement consideration should be allocated among the separate units of accounting. If the arrangement constitutes separate units of accounting for each unit. If the arrangement constitutes a single unit of accounting, the revenue-recognition policy must be determined for the entire arrangement.

Research fee revenue is earned and recognized as research is performed and related expenses are incurred. Non-refundable upfront fees are deferred and recognized as revenue on a straight-line basis over the expected development period.

NOTES TO UNAUDITED FINANCIAL STATEMENTS (continued) March 31, 2007

2. Summary of Significant Accounting Policies (continued)

Revenue for non-refundable payments based on the achievement of research and development milestones is recognized as revenue when the milestones are achieved if all of the following conditions are met: (1) achievement of the milestone event was not reasonably assured at the inception of the arrangement; (2) substantive effort is involved to achieve the milestone event; and (3) the amount of the milestone payment appears reasonable in relation to the effort expended, the other milestone payments in the arrangement and the related risk associated with achievement of the milestone event. If any of these conditions are not met, the Company would recognize the portion of the milestone payment that corresponds to work performed as revenue upon receipt and defer recognition of the remaining portion until the performance obligations are completed.

Revenue for specific research and development costs that are reimbursable under collaboration agreements is recognized in accordance with EITF Issue 99-19, *Reporting Revenue Gross as a Principal Versus Net as an Agent*, and EITF Issue 01-14, *Income Statement Characterization of Reimbursaments Received for* "*Out-of-Pocket*" *Expenses Incurred*. The revenue associated with these reimbursable amounts is reflected as a component of collaboration revenue and the costs associated with these reimbursable amounts is reflected as a component of research and development expenses.

Product sales revenue is recognized when goods are shipped, at which point title has passed, net of allowances for returns and discounts. Revenue from grants is recognized as the Company performs the work and incurs reimbursable costs in accordance with the objectives of the award.

Accrued Expenses

The Company records accruals based on estimates of the services received, efforts expended and amounts owed pursuant to contracts with numerous clinical trial centers, contract research organizations and other service providers. In the normal course of business, the Company contracts with third parties to perform various clinical trial and development activities in the ongoing development of potential products. The financial terms of these agreements are subject to negotiation and variation from contract to contract and may result in uneven payment flows. Payments under the contracts depend on factors such as the achievement of certain events, the production of drug substance or drug product, the successful recruitment of subjects, the completion of portions of the clinical trial or similar conditions. The objective of the Company's accrual policy is to match the recording of expenses in its financial statements to the actual services received and efforts expended. As such, expense accruals are recognized based on the Company's estimate of the degree of completion of the event or events specified in the specific contract.

Research and Development Expenses

Research and development costs are expensed as incurred and include related salaries of, and stock-based compensation for, personnel involved in research and development activities, contractor fees, administrative expenses and allocations of research-related overhead costs. Administrative expenses and research-related overhead costs included in research and development expenses consist of allocations of facility and equipment lease charges, depreciation and amortization of assets, and insurance, legal and supply costs that are directly related to research and development activities.

The Company directly reduces research and development expenses for amounts reimbursed pursuant to cost-sharing agreements. During the three months ended March 31, 2007 and 2006, research and development expenses were reduced by \$111,000 and \$82,000, respectively, for costs reimbursed by AstraZeneca AB under the terms of the collaboration agreement described in Note 4.

NOTES TO UNAUDITED FINANCIAL STATEMENTS (continued) March 31, 2007

2. Summary of Significant Accounting Policies (continued)

Stock-Based Compensation

Effective January 1, 2005, the Company adopted the fair value recognition provisions of Statement of Financial Accounting Standards, or SFAS, No. 123 (revised 2004), *Share-Based Payment*, or SFAS 123R, using the modified-prospective-transition method. Under SFAS 123R, the Company recognizes the grant-date fair value of stock options and other stock-based compensation issued to employees and non-employee directors over the requisite service periods, which are typically the vesting periods. The Company currently uses the Black-Scholes-Merton formula to estimate grant-date fair value and expects to continue to use this valuation model in the future. The volatility assumption used in the Black-Scholes-Merton formula is based on the calculated historical volatility of twelve benchmark biotechnology companies that have been identified as comparable public entities. The expected term of options granted is derived from the simplified method allowable under Staff Accounting Bulletin No. 107. Under this approach, the expected term would be the mid-point between the weighted average of vesting period and the contractual term. The risk-free rate for periods within the contractual life of the option is based on the U.S. Treasury yield curve in effect at the time of grant.

Income Taxes

The liability method is used in accounting for income taxes as required by SFAS No. 109, *Accounting for Income Taxes*, or SFAS 109. Under this method, deferred tax assets and liabilities are recognized for operating loss and tax credit carryforwards and for the future tax consequences attributable to the differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in the results of operations in the period that includes the enactment date. A valuation allowance is recorded to reduce the carrying amounts of deferred tax assets unless it is more likely than not that such assets will be realized.

Uncertain Tax Positions

On January 1, 2007, the Company adopted Financial Accounting Standards Interpretation No. 48, *Accounting for Uncertainty in Income Taxes*, or FIN 48. FIN 48 clarifies the accounting for uncertainty in income taxes recognized in an enterprise's financial statements in accordance with SFAS 109, *Accounting for Income Taxes*. FIN 48 prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. FIN 48 also provides guidance on de-recognition, classification, interest and penalties, accounting in interim periods, disclosures and transition. The Company's policy is to classify any interest or penalties recognized in accordance with FIN 48 as interest expense or an expense other than income tax expense, respectively.

Net Loss Per Share Attributable to Common Stockholders

The Company computes net loss per share attributable to common stockholders in accordance with SFAS No. 128, *Earnings Per Share*, or SFAS 128. Under the provisions of SFAS 128, basic net loss per share attributable to common stockholders, or Basic EPS, is computed by dividing net loss attributable to common stockholders by the weighted average number of common shares outstanding. Diluted net loss per share attributable to common share equivalents outstanding.

NOTES TO UNAUDITED FINANCIAL STATEMENTS (continued) March 31, 2007

2. Summary of Significant Accounting Policies (continued)

Common share equivalents consist of the incremental common shares issuable upon the conversion of preferred stock, the exercise of stock options and the exercise of warrants. The Company has excluded all outstanding stock options and warrants from the calculation of net loss per share attributable to common stockholders because their effect is antidilutive for the periods presented. As a result, Diluted EPS is identical to Basic EPS for the periods presented.

Had the Company been in a net income position, these securities may have been included in the calculation. These potentially dilutive securities consist of the following on a weighted-average basis for the periods presented:

		Three Months Ended March 31,	
	2007	2006	
Outstanding stock options	2,279,681	1,614,389	
Redeemable convertible preferred stock	_	13,832,015	
Outstanding warrants	—	215,054	
Total	2,279,681	15,661,458	

Initial Public Offering and Earnings Per Share Information

On April 18, 2006, the Company completed an initial public offering, or IPO, of 5,000,000 shares of its common stock at a price of \$9.00 per share. The Company's net proceeds from the IPO, after deducting underwriters' discounts and commissions and offering expenses payable by the Company, were \$40,775,000. The Company's common stock began trading on the NASDAQ Global Market (formerly known as the NASDAQ National Market) on April 12, 2006.

All outstanding shares of the Company's Series A, Series B, and Series C convertible preferred stock, or Preferred Stock, automatically converted into shares of common stock upon completion of the IPO. Series A converted at a ratio of approximately 0.133 common share per preferred share. Series B converted at a ratio of approximately 0.133 or 0.318 common share per preferred share and Series C converted at a ratio of approximately 0.144 common share per preferred share. These conversion ratios reflect a 1 for 7.5 share reverse stock split effected February 3, 2005. In addition, upon completion of the IPO, all outstanding warrants expired unexercised.

Recent Accounting Pronouncements

In February 2007, the FASB issued Statement of Financial Accounting Standard No. 159, *The Fair Value Option for Financial Assets and Financial Liabilities*, or SFAS 159. SFAS 159 allows entities to voluntarily choose, at specified election dates, to measure many financial assets and liabilities (as well as certain non-financial instruments) at fair value. The election can be made only on an instrument-by-instrument basis and is irrevocable. The provisions of SFAS 159 are effective for fiscal years beginning after November 15, 2007. The Company is currently evaluating the expected impact of the provisions of SFAS 159 on its financial results, if any.

NOTES TO UNAUDITED FINANCIAL STATEMENTS (continued) March 31, 2007

3. Inventories

Inventories consisted of the following as of the respective dates indicated:

	March 31, 	December 31, 2006
Finished goods	\$ 660	\$ 3,600
Work-in-progress	205,736	170,093
	\$206,396	\$ 173,693

4. Collaborative Research and License Agreements

AstraZeneca AB

In December 2005, the Company entered into a collaborative research and license agreement with AstraZeneca AB under which the Company granted AstraZeneca exclusive development and worldwide commercialization rights to the Company's product candidate known as AZD3480 (TC-1734) as a treatment for Alzheimer's disease, cognitive deficits in schizophrenia and potentially other conditions marked by cognitive impairment such as attention deficit hyperactivity disorder, age associated memory impairment and mild cognitive impairment. The collaboration agreement also provides for a multi-year preclinical research collaboration between the Company and AstraZeneca.

The Company is eligible to receive future research fees, license fees and milestone payments under its collaboration agreement with AstraZeneca. The amount of research fees, license fees and milestone payments will depend on the extent of the Company's research activities and the timing and achievement of development, regulatory and first commercial sale milestone events.

AstraZeneca paid the Company an initial fee of \$10,000,000 in February 2006. Based on the collaboration agreement terms, the Company allocated \$5,000,000 of the initial fee to the research collaboration, which the Company plans to recognize as revenue over the expected four-year term of the research collaboration. The Company deferred recognition of the remaining \$5,000,000 of the initial fee, which was allocated to the AZD3480 (TC-1734) license grants, until AstraZeneca made a determination whether to proceed with further development of AZD3480 (TC-1734) following the completion of additional clinical and non-clinical studies that AstraZeneca conducted during 2006. On December 27, 2006, AstraZeneca communicated its decision to proceed with further development of AZD3480 (TC-1734) to the Company. As a result of AstraZeneca's decision, in the first quarter of 2007, the Company began amortizing the \$5,000,000 of the initial fee that it had previously deferred as revenue over the expected 5-year development period for AZD3480 (TC-1734).

The Company expects to recognize any revenue based on the achievement of milestones under the collaboration agreement upon achievement of the milestone event, if the Company determines that the revenue satisfies the revenue recognition requirements of SAB 101, as amended by SAB 104. In December 2006, AstraZeneca made its determination to proceed with further development of AZD3480 (TC-1734). This milestone event triggered a \$20,000,000 payment in accordance with the agreement, and the Company recorded milestone revenue of \$20,000,000 in December 2006. The payment was received in January 2007 in accordance with the terms of the agreement.

Under the agreement, the Company is also eligible to receive other payments of up to \$249,000,000, contingent upon the achievement of development, regulatory and first commercial sale milestones for AZD3480 (TC-1734), as well as stepped double-digit royalties dependent on sales achieved following regulatory approval. Under the terms of a sponsored research agreement and a subsequent license agreement between the Company and the University of Kentucky Research Foundation, or UKRF,

NOTES TO UNAUDITED FINANCIAL STATEMENTS (continued) March 31, 2007

4. Collaborative Research and License Agreements (continued)

Targacept is required to pay UKRF a low single digit percentage of any of these payments that are received from AstraZeneca. For the three months ended March 31, 2007 and 2006, the Company had recorded \$0 and \$125,000 in license fees payable to UKRF, respectively.

In 2006, during the period that AstraZeneca conducted additional safety and product characterization studies, AstraZeneca agreed to pay the Company research fees equal to 50% of the Company's research expenses in the parties' preclinical research collaboration. The Company recorded research fees that the Company was eligible to receive from AstraZeneca while it was conducting the safety and product characterization studies of AZD3480 (TC-1734) as deferred revenue. As of March 31, 2006, the Company had recorded \$372,000 as deferred revenue, which represented 50% of its research expenses incurred in the research collaboration while AstraZeneca conducted the safety and product characterization studies. As a result of AstraZeneca's decision to proceed with further development of AZD3480 (TC-1734), in December 2006, the Company recognized as revenue all previously deferred research fees, plus the other 50% of the Company's research expenses incurred in the research collaboration that had not previously been recorded, and plans to recognize future research fee revenue as the research is performed and related expenses are incurred. For the three months ended March 31, 2007, the Company recognized \$1,127,000 of research fees as revenue.

5. Related Party Transactions

R.J. Reynolds Tobacco Holdings, Inc., or RJRT, beneficially owned more than 5% of the Company's outstanding shares of common stock prior to the completion of its initial public offering in April 2006, but the Company believes that it no longer owns more than 5% of its outstanding shares of common stock. The Company has entered into the following transactions and agreements with RJRT in the ordinary course of business.

During 2002, the Company entered into an agreement to borrow \$2,500,000 from RJRT. The note payable to RJRT was amended in January 2004 to allow for up to three additional tranches to be advanced to the Company for up to a total of \$2,000,000. The Company was advanced an additional tranche on April 1, 2004 in the amount of \$1,027,000. This additional tranche accrues interest at 5.87% and is repayable in monthly payments of \$24,000 through the maturity date of April 1, 2008. The Company was advanced another additional tranche on December 23, 2004 in the amount of \$973,000. This tranche accrues interest at 6.89% and is repayable in monthly payments of \$2,500,000 matured on May 1, 2006 and was paid and satisfied in full. In June 2006, the note payable to RJRT was further amended to permit the Company to borrow an additional \$2,000,000 on or before June 30, 2007 in up to three separate borrowings. Each borrowing would accrue interest at a per annum rate that approximates the hypothetical four-year U.S. Treasury rate, determined as of the date of the borrowing, plus 2.5% and be payable in equal monthly installments of principal and accrued interest over 48 months beginning on the first day of the month following the borrowing. As of March 31, 2007, the Company has not made any borrowing under the RJRT note as further amended. The Company paid \$142,000 and \$320,000 under the RJRT note during the three months ended March 31, 2007 and 2006, respectively.

A member of the Company's board of directors served as an officer of RJRT and its parent company, Reynolds American, Inc., until retiring from RJRT and Reynolds American effective as of August 31, 2006. Equity compensation for such director's service has previously been made, at the director's request, directly to RJRT. The number of shares subject to stock options granted to RJRT in connection with the director's services was 1,000 shares per year. In connection with the issuance of the stock options, the Company recognized compensation expense of \$0 and \$420 during the three months ended March 31, 2007 and 2006, respectively.



NOTES TO UNAUDITED FINANCIAL STATEMENTS (continued) March 31, 2007

6. Income Taxes

On January 1, 2007, the Company adopted Financial Accounting Standards Interpretation No. 48, *Accounting for Uncertainty in Income Taxes*, or FIN 48. There was no cumulative effect adjustment on adoption of FIN 48. Accordingly, the Company had no unrecognized tax benefits or associated interest or penalties at adoption or at March 31, 2007. Since the Company has incurred cumulative operating losses since inception, all years remain open for major jurisdictions.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

You should read the following discussion together with our financial statements and accompanying notes included in this quarterly report and our audited financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2006, which is on file with the SEC. In addition to historical information, the following discussion contains forward-looking statements that involve risks, uncertainties and assumptions. Our actual results, performance or experience may differ materially from those expressed or implied by forward-looking statements as a result of various important factors, including, but not limited to, those set forth under "Cautionary Note Regarding Forward-Looking Statements" in Part I of this quarterly report and under "Risk Factors" in Item 1A of Part I of our Annual Report on Form 10-K for the year ended December 31, 2006.

Overview

We are a biopharmaceutical company engaged in the design, discovery and development of NNR Therapeutics, a new class of drugs for the treatment of multiple diseases and disorders of the central nervous system. Our NNR Therapeutics selectively target a class of receptors known as neuronal nicotinic receptors, or NNRs. We have four clinical-stage product candidates and three preclinical product candidates.

Our lead product candidate is a novel small molecule that we have historically referred to as TC-1734 and that our strategic collaborator, AstraZeneca, refers to as AZD3480. In December 2005, we entered into a collaborative research and license agreement with AstraZeneca AB for the development and worldwide commercialization of AZD3480 (TC-1734) as a treatment for Alzheimer's disease, cognitive deficits in schizophrenia and potentially other conditions characterized by cognitive impairment such as attention deficit hyperactivity disorder, or ADHD, age associated memory impairment, or AAMI, and mild cognitive impairment, or MCI. We currently expect that AstraZeneca will initiate two Phase II clinical trials of AZD3480 (TC-1734) in mid-2007, one in mild to moderate Alzheimer's disease and one in cognitive deficits in schizophrenia, and that both trials will be completed by the end of 2008.

Our most advanced product candidates, in addition to AZD3480 (TC-1734), are described below.

- TC-2216. TC-2216 is a product candidate that we are developing as a monotherapy for depression and anxiety disorders. We are currently conducting
 a Phase I single rising dose clinical trial of TC-2216.
- Mecamylamine hydrochloride and TC-5214. In 2006, we completed a Phase II clinical trial of mecamylamine hydrochloride as an augmentation
 treatment to citalopram hydrobromide, a commonly prescribed treatment for depression marketed as Celexa in the United States, for major
 depression. We refer to this treatment combination as TRIDMAC. Mecamylamine hydrochloride is the active ingredient in Inversine, our only
 product approved by the U.S. Food and Drug Administration, or FDA, for marketing. TC-5214 is one of the enantiomers of mecamylamine
 hydrochloride. We have not yet conducted a clinical trial of TC-5214, but expect that we will elect to advance TC-5214 into clinical development as
 an augmentation treatment for major depression in lieu of further development of mecamylamine hydrochloride.

- *TC-2696*. TC-2696 is a product candidate that we are developing currently as a treatment for acute post-operative pain. We are currently conducting a
 Phase II clinical trial of TC-2696 in third molar extraction patients.
- *TC-5619*. TC-5619 is a preclinical product candidate selective for the a7 NNR. We believe compounds that selectively target the a7 NNR may have application in the treatment of conditions such as schizophrenia, cognitive impairment and inflammation. We are currently conducting additional preclinical studies necessary to support a regulatory filing planned for the second quarter of 2007 to initiate clinical development of TC-5619.
- *TC-6499*. TC-6499 is a preclinical product candidate that we plan to develop initially for neuropathic pain. We are currently conducting manufacturing activities necessary to support the initiation of clinical development of this product candidate.

We trace our scientific lineage to a research program initiated by R.J. Reynolds Tobacco Company in 1982 to study the activity and effects of nicotine in the body and the function of nicotinic receptors. We were incorporated in 1997 as a wholly owned subsidiary of RJR. In August 2000, we became an independent company when we issued and sold stock to venture capital investors. Since our inception, we have had limited revenue from product sales and have funded our operations principally through the sale of equity securities, revenue from collaboration agreements and equipment and building lease incentive financing. We have devoted substantially all of our resources to the discovery and development of our product candidates and technologies, including the design, conduct and management of preclinical and clinical studies and related manufacturing, regulatory and clinical affairs, as well as intellectual property prosecution.

We generated net income for the fourth quarter and year ended December 31, 2006 due primarily to the recognition of revenue derived under our agreement with AstraZeneca. Except for these periods, we have never been profitable. As of March 31, 2007, we had an accumulated deficit of \$141.0 million. We expect to incur substantial losses for the foreseeable future as we expand our clinical trial activity, as our product candidates advance through the development cycle, as product candidates that arise out of our preclinical research collaboration with AstraZeneca progress and as we invest in additional product opportunities and research programs and expand our research and development infrastructure. A substantial portion of our revenue for the next several years will depend on the conduct of research and the successful achievement of milestone events in the development of AZD3480 (TC-1734) under our agreement with AstraZeneca. Our revenue may vary substantially from quarter to quarter and year to year. We believe that period-to-period comparisons of our results of operations are not meaningful and should not be relied upon as indicative of our future performance.

Critical Accounting Policies and Estimates

Our management's discussion and analysis of our financial condition and results of operations are based on our unaudited financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets,

liabilities, revenues and expenses. On an ongoing basis, we evaluate these estimates and judgments. We base our estimates on historical experience and on various assumptions that we believe to be reasonable under the circumstances. These estimates and assumptions form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results and experiences may differ materially from these estimates. In addition, our reported financial condition and results of operations could vary if new accounting standards are enacted that are applicable to our business.

Our significant accounting policies are described in Note 2 to our audited financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2006 and in the notes to our financial statements included in this quarterly report. We believe that our accounting policies relating to revenue recognition, accrued expenses and stock-based compensation are the most critical to understanding and evaluating our reported financial results. We have identified these policies as critical because they both are important to the presentation of our financial condition and results of operations and require us to make judgments and estimates on matters that are inherently uncertain and may change in future periods. These policies are described under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations – Critical Accounting Policies and Estimates" in our Annual Report on Form 10-K for the year ended December 31, 2006.

Financial Operations Overview

Revenue

Our collaboration agreement with AstraZeneca became effective in January 2006. AstraZeneca paid us an initial fee of \$10.0 million in February 2006, and an additional \$20.0 million in January 2007 as a result of its determination in December 2006 to proceed with further development of AZD3480 (TC-1734). We are eligible to receive other payments of up to \$249.0 million, contingent upon the achievement of development, regulatory and first commercial sale milestones for AZD3480 (TC-1734) for Alzheimer's disease, cognitive deficits in schizophrenia and ADHD, and royalties on future product sales. If AZD3480 (TC-1734) is developed under the agreement for other indications characterized by cognitive impairment, we would also be eligible to receive payments contingent upon the achievement of development, regulatory and first commercial sale milestones for AZD3480 (TC-1734) for those indications. Under the terms of a sponsored research agreement and a subsequent license agreement between us and the University of Kentucky Research Foundation, or UKRF, we are required to pay to UKRF a low single digit percentage of any of these amounts that we receive from AstraZeneca. As a result, we paid UKRF \$758,000 in January 2007.

We and AstraZeneca are conducting a preclinical research collaboration that is designed to discover and develop additional compounds that, like AZD3480 (TC-1734), act on the NNR known as a4ß2. Under the terms of our agreement, AstraZeneca has agreed to pay us research fees based on an agreed reimbursement rate for research services rendered, subject to specified limits.

We acquired rights to Inversine in 2002. Inversine is approved for the management of moderately severe to severe essential hypertension, a high blood pressure disorder. However, we believe that Inversine is prescribed predominantly for the treatment of neuropsychiatric disorders, such as Tourette's syndrome, autism and bipolar disorder. Sales of Inversine generated net revenue of \$140,000 for the three months ended March 31, 2007 and \$585,000 for the year ended December 31, 2006. We do not have or use

a sales force or promote Inversine. Accordingly, we do not anticipate any significant increase in Inversine sales. If any of the very limited number of physicians that most often prescribe Inversine were to cease to do so, our revenue generated by Inversine sales would likely be substantially less. We have no other commercial products for sale and do not anticipate that we will have any other commercial products for sale for at least the next several years.

We are a named subcontractor under a grant awarded to The California Institute of Technology by the National Institute on Drug Abuse, or NIDA, part of the National Institutes of Health, to fund research on innovative NNR-based approaches to the development of therapies for smoking cessation. We currently expect to receive approximately \$1.1 million in the aggregate in connection with the grant over a five-year period that began in July 2006. In addition, we were awarded a cooperative agreement from the National Institute of Standards and Technology, or NIST, through its Advanced Technology Program in 2003. Under that agreement, we received \$1.8 million over a three-year period that concluded in the second half of 2006 to help fund the development of sophisticated new computer simulation software designed to more accurately predict biological and toxicological effects of drugs. We recognize grant revenue as we perform the work and incur reimbursable costs. Funding for awards under federal grant programs is subject to the availability of funds as determined annually in the federal appropriations process.

Research and Development Expenses

Since our inception, we have focused our activities on our drug discovery and development programs. We expense research and development expenses as they are incurred. Research and development expenses represented approximately 80% of our total operating expenses for the three months ended March 31, 2007 and 78% of our total operating expenses for the year ended December 31, 2006.

Research and development expenses include expenses associated with:

- the employment of personnel involved in our drug discovery and development activities;
- research and development facilities and equipment;
- research activities under the a4ß2 research collaboration with AstraZeneca;
- the screening, identification and optimization of product candidates;
- the development and enhancement of our proprietary databases and computer-based molecular design technologies, which we refer to collectively as Pentad;
- formulation and chemical development;
- production of clinical materials, including fees paid to contract manufacturers;
- preclinical animal studies, including the costs to engage third-party research organizations;
- quality assurance activities;

- compliance with FDA regulatory requirements;
- consulting, license and sponsored research agreements with third parties;
- depreciation of capital assets used to develop our products; and
- stock options or other stock-based compensation granted to personnel in research and development functions.

We use our employee and infrastructure resources across several programs. We currently have clinical, preclinical and early research programs ongoing, and many of our costs are not specifically attributable to a single program. Instead, these costs are directed to broadly applicable research efforts. Accordingly, we do not account for internal research and development costs on a program-by-program basis and cannot state precisely the total costs incurred on a program-by-program basis.

Under the terms of our collaboration agreement, AstraZeneca has assumed substantially all development costs for AZD3480 (TC-1734). The following table shows, for the periods presented, total payments that we made to third parties for preclinical study support, clinical supplies and clinical trial services, as applicable, for our other most advanced product candidates.

	Three months ended March 31,				
Product Candidate		2007		2006	
		(in thous	ands)		
TC-2216	\$	154	\$	737	
Mecamylamine hydrochloride and TC-5214		274		126	
TC-2696		206		62	
TC-5619		365		60	
TC-6499		20			
	\$	1,019	\$	985	

Our expenditures on current and future preclinical and clinical development programs are subject to numerous uncertainties in timing and cost to completion. We test compounds in numerous preclinical studies for safety, toxicology and efficacy. We then conduct clinical trials for those product candidates that we determine to be the most promising. If we do not establish a collaboration covering the development of a particular product candidate, we fund these trials ourselves. As we obtain results from clinical trials, we may elect to discontinue or delay trials for some product candidates in order to focus our resources on more promising product candidates. Completion of clinical trials by us or our collaborators may take several years or more, but the length of time generally varies substantially according to the type, complexity, novelty and intended use of a product candidate. The cost of clinical trials may vary significantly over the life of a program as a result of a variety of factors, including:

• the number of subjects who participate in the trials;

- the number and locations of sites included in the trials;
- the length of time required to enroll trial participants;
- the duration of patient follow-up;
- the costs of producing supplies of the product candidates needed for clinical trials and regulatory submissions;
- the efficacy and safety profile of the product candidate; and
- the costs and timing of, and the ability to secure, regulatory approvals.

We have not received FDA or foreign regulatory marketing approval for any of our product candidates that are in development. Our strategy includes entering into collaborations with third parties to participate in the development and commercialization of some of our product candidates. In situations in which third parties have decision-making authority over the preclinical development or clinical trial process for a product candidate, the estimated completion date is largely under control of that third party and not under our control. We cannot forecast with any degree of certainty which of our product candidates will be subject to future collaborations or how such arrangements would affect our development plans or capital requirements. As a result, we are unable to determine the duration and completion costs of our research and development programs or whether or when we will generate revenue from the commercialization and sale of any of our development-stage product candidates.

General and Administrative Expenses

General and administrative expenses consist principally of salaries and other related costs for personnel in executive, finance, accounting, business development and human resource functions. Other general and administrative expenses include expenses associated with stock options and other stock-based compensation granted to personnel in those functions, facility costs not otherwise included in research and development expenses, patent related costs, and professional fees for consulting, legal and accounting services.

Cost of Product Sales

Cost of product sales are those costs related directly to the sale of Inversine and are principally comprised of cost of goods sold, FDA product and establishment fees, distribution expenses, product royalty obligations and product liability insurance.

Interest Income

Interest income consists of interest earned on our cash, cash equivalents and short-term investments.

Interest Expense

Interest expense consists of interest incurred on our indebtedness, which has been primarily to finance equipment, office furniture and fixtures.

Income Taxes

We generated net income for the year ended December 31, 2006 due primarily to the recognition of revenue derived under our agreement with AstraZeneca. We have incurred net operating losses for each other year since inception and consequently have not paid federal, state or foreign income taxes in any period. As of March 31, 2007, we had net operating loss carryforwards of \$99.0 million for each of federal and state income tax purposes. We also had \$2.8 million in research and development federal income tax credits as of March 31, 2007. Utilization of the net operating loss carryforwards and credits may be subject to a substantial annual limitation due to ownership change limitations provided by Section 382 of the Internal Revenue Code of 1986, as amended, and similar state provisions. When an ownership change, as defined by Section 382, occurs, an annual limitation is imposed on a company's use of net operating loss and credit carryforwards attributable to periods before the change. As a result of a series of stock issuances, we had such an ownership change on November 30, 2002. Consequently, an annual limitation is imposed on our use of net operating loss and credit carryforwards that are attributable to periods before the change and a portion of the net operating loss carryforwards described above may potentially not be usable by us. We could experience additional ownership changes in the future. For financial reporting purposes, we have recorded a valuation allowance to fully offset the deferred tax asset related to these carryforwards because realization of the benefit is uncertain.

Results of Operations

Three Months ended March 31, 2007 and 2006

Revenue

Revenue increased by \$1.5 million to \$2.1 million for the three months ended March 31, 2007, from \$600,000 for the comparable three-month period in 2006. The increase was primarily attributable to an increase of \$1.4 million in revenue derived under our agreement with AstraZeneca for the 2007 period to \$1.7 million, as compared to \$300,000 for the first quarter of 2006. The revenue derived under our agreement with AstraZeneca for the 2007 period consists of \$1.1 million in research fee revenue for services rendered by us to AstraZeneca pursuant to an agreed research plan for the preclinical research collaboration that we and AstraZeneca are conducting and recognition of \$563,000 of the \$10.0 million initial fee that we received in February 2006. In 2006, based on the terms of our agreement with AstraZeneca, we deferred recognition of \$5.0 million of the initial fee, which we allocated to the AZD3480 (TC-1734) license grants, and any research fee revenue until AstraZeneca made its determination in December 2006 to proceed with further development of AZD3480 (TC-1734). As a result, we did not recognize any portion of the deferred \$5.0 million of the initial fee or any research fee revenue in the first quarter of 2006.

In future periods, we are eligible to receive research fees, license fees and milestone payments under our collaboration agreement with AstraZeneca. The amount of research fees, license fees and milestone fees will depend on the extent of our research activities and the timing and achievement of development, regulatory and first commercial sale milestone events.

The increase in revenue was also attributable to an increase in grant revenue by \$63,000 to \$222,000 for the three months ended

March 31, 2007, from \$159,000 for the comparable three-month period in 2006. The grant revenue for the 2007 period related to work performed in connection with our subcontract under the grant awarded to The California Institute of Technology by NIDA to fund research on innovative NNR-based approaches to the development of therapies for smoking cessation. In contrast, grant revenue for the 2006 period related only to work performed under the cooperative agreement awarded to us in 2003 by NIST through its Advanced Technology Program, or ATP, to fund the development of sophisticated molecular simulation software. The term of the ATP award expired September 30, 2006. In addition, based on the planned timing of our activities under our subcontract in connection with the NIDA grant, we do not anticipate generating further revenue under the NIDA grant during 2007. As a result, we expect that our grant revenue may decrease in future periods.

Net sales of Inversine decreased by \$37,000 to \$140,000 for the three months ended March 31, 2007, from \$177,000 for the comparable three-month period in 2006. We believe that the substantial majority of Inversine sales are derived from prescriptions written by a very limited number of physicians. If any of these physicians were to change their prescribing habits, it would likely cause sales of Inversine to decrease. We do not promote sales of Inversine.

Research and Development Expenses

Research and development expenses increased by \$1.4 million to \$6.2 million for the three months ended March 31, 2007, from \$4.8 million for the comparable three-month period in 2006. The increase in research and development expenses was principally attributable to an increase of \$1.0 million, to \$4.7 million, in occupancy, salary and benefit, recruitment, service, supply and infrastructure costs incurred in connection with increased activity in our a4&2 research collaboration with AstraZeneca and advancements in our pipeline of clinical and late preclinical product candidates. The increase in research and development expenses also reflects an increase of \$400,000, to \$1.5 million, in payments to third parties for research and development services. The increase in third-party payments was principally attributable to TC-2696, which began a Phase II clinical trial in December 2006, TC-5619, which continued to undergo preclinical testing in anticipation of its advancement into the clinic, TC-5214, for which we conducted further preclinical testing and pharmaceutical development activities, our preclinical programs in smoking cessation, obesity and addiction and our product profiling activities. These increased costs were partially offset by reduced spending on mecamylamine hydrochloride following completion of our Phase IIb TRIDMAC trial late last year and TC-2216, which entered Phase I in January. Under the terms of our collaboration agreement, AstraZeneca has assumed substantially all development costs for AZD3480 (TC-1734).

General and Administrative Expenses

General and administrative expenses increased by \$100,000 to \$1.3 million from \$1.2 million for the comparable three-month period in 2006 due principally to increased occupancy, salary and benefit expenses and costs associated with being a public company.

Cost of Product Sales

Cost of product sales decreased by \$26,000 to \$165,000 for the three months ended March 31, 2007, from \$191,000 for the comparable three-month period in 2006. The decrease primarily reflects a lower volume of Inversine sales.

The FDA assesses product and establishment fees for marketed products each year for the twelve-month period beginning October 1. Payment is required in advance, but companies can request a waiver after making payment. In assessing waiver requests, the FDA considers whether the company is pursuing innovative drug products or technology and whether the fees would present a significant barrier to the company's ability to develop, manufacture or market innovative drug products or technology. We have historically requested and received a waiver of the FDA fees with respect to Inversine.

The waiver of FDA fees that we have historically received with respect to Inversine has in the past resulted in lower cost of product sales. In March 2007, we received notice that the FDA, citing our increased revenue and cash assets, had denied our request for a waiver of the \$206,000 in product and establishment fees that were assessed by the FDA and paid by us in 2006. As a result, we expect that our cost of product sales for Inversine for future periods will increase.

Interest Income

Interest income increased by \$564,000 to \$864,000 for the three months ended March 31, 2007, from \$300,000 in the comparable three-month period in 2006. The increase was attributable to a substantially higher average cash balance during the 2007 period following completion of our initial public offering in April 2006 in which we received net proceeds of \$40.8 million, our receipt of the \$20.0 million payment from AstraZeneca in January 2007 and, to a lesser extent, higher short-term interest rates.

Interest Expense

Interest expense decreased by \$10,000 to \$14,000 for the three months ended March 31, 2007, from \$24,000 for the comparable three-month period in 2006. The decrease was attributable to reduced indebtedness for the 2007 period, as compared to the 2006 period, resulting from a lower principal balance under a loan facility used to finance laboratory and other capital equipment purchases. In June 2006, we amended our existing loan facility to provide us with an additional \$2.0 million in aggregate borrowing capacity available to us on or before June 30, 2007. As of March 31, 2007, we have not yet made draws against this additional borrowing capacity. We expect to do so during the second quarter of 2007, which would increase our interest expense for future periods.

Accretion of Dividends on Preferred Stock

Accretion of dividends on our convertible preferred stock was \$2.8 million for the three months ended March 31, 2006. Upon completion of our initial public offering in April 2006, all of our outstanding shares of convertible preferred stock converted into shares of common stock and there was no further accretion of dividends to be recorded.

Liquidity and Capital Resources

Sources of Liquidity

From August 2000 when we became an independent company until completion of our initial public offering in April 2006, we financed our operations and internal growth primarily through private placements of convertible preferred stock. We derived aggregate net proceeds of \$121.8 million from these private placements. In April 2006, we completed an initial public offering of our

common stock, consisting of 5.0 million shares of our common stock at a price of \$9.00 per share. After deducting underwriting discounts and commissions and other offering expenses, our net proceeds from the offering were \$40.8 million. We have also received additional funding from upfront license fees and payments for research and development services under collaboration agreements, equipment and building lease incentive financing, government grants and interest income. We began generating revenue from product sales of Inversine in December 2002. To date, the net contribution from Inversine sales has not been a significant source of cash and we do not expect it to be a significant source in the future.

In December 2005, we entered into a collaboration agreement with AstraZeneca relating to AZD3480 (TC-1734). In January 2006, the agreement became effective and we began conducting research for which we are eligible to receive research fees. AstraZeneca paid us an initial fee of \$10.0 million in February 2006 and an additional \$20.0 million in January 2007 as a result of its determination to proceed with further development of AZD3480 (TC-1734) following the completion of additional clinical and non-clinical studies that it conducted during 2006.

We have a loan facility with R.J. Reynolds Tobacco Holdings, Inc. that we entered into originally in May 2002 and that has been subsequently amended. As of March 31, 2007, the outstanding principal balance under the loan facility was \$782,000. Under the facility, we are permitted to borrow an additional \$2.0 million on or before June 30, 2007 in up to three separate borrowings. Each borrowing would accrue interest at a per annum rate that approximates the hypothetical four-year U.S. Treasury rate, determined as of the date of the borrowing, plus 2.5% and be payable in equal monthly installments of principal and accrued interest over 48 months beginning on the first day of the month following the borrowing. All borrowings under the facility are, and all future borrowings under the facility will be, secured by specified tangible fixed assets determined sufficient by the lender at the time of disbursement.

In April 2002, we received a \$500,000 loan from the City of Winston-Salem. Under the terms of this borrowing, there was no interest accrual or payment due until the fifth anniversary of the loan. Following expiration of the five-year grace period in April 2007, the outstanding principal balance of the loan bears interest at an annual interest rate of 5% and is payable in 60 equal monthly installments of \$9,000.

Our cash, cash equivalents and short-term investments were \$67.8 million as of March 31, 2007 and \$54.2 million as of December 31, 2006.

Cash Flows

Net cash provided by operating activities was \$14.2 million for the three months ended March 31, 2007, as compared to \$2.8 million for the comparable three-month period in 2006. The increase was primarily due to a reduction of \$21.3 million in our accounts receivable asset balance for the first quarter of 2007 and an increase of \$10.2 million in our deferred license fee revenue liability balance for the first quarter of 2006. The reduction in our accounts receivable asset balance for the 2007 period was primarily due to our receipt of the \$20.0 million payment from AstraZeneca in January 2007. The increase in our deferred license fee revenue liability balance for the \$10.0 million initial fee from AstraZeneca.

Net cash used in investing activities was \$609,000 for the three months ended March 31, 2007, as compared to \$191,000 for the comparable three-month period in 2006. The increase was primarily due to our purchase of \$502,000 of equipment and furniture in connection with the expansion of our facilities during the three months ended March 31, 2007, an increase of \$310,000 over our fixed asset purchases during the comparable three-month period in 2006.

Net cash used in financing activities was \$118,000 for the three months ended March 31, 2007, as compared to \$268,000 for the comparable three-month period in 2006. The decrease was primarily due to reduced debt service payments as a result of a lower balance outstanding on our loan facility.

Funding Requirements

As of March 31, 2007, we had an accumulated deficit of \$141.0 million. We expect to incur substantial operating losses for the foreseeable future. Our future capital requirements are difficult to forecast and will depend on many factors, including:

- whether we elect to advance TC-5214 into clinical development as an augmentation treatment for major depression or instead to conduct Phase III clinical development of TRIDMAC;
- the scope, progress, results and cost of preclinical development and laboratory testing and clinical trials;
- the timing, receipt and amount of milestone and other payments from AstraZeneca and potential future collaborators;
- the costs, timing and outcome of regulatory review;
- the number and characteristics of product candidates that we pursue;
- the costs of preparing, filing and prosecuting patent applications and maintaining, enforcing and defending intellectual property-related claims;
- the costs of establishing sales and marketing functions and of establishing arrangements for manufacturing;
- the rate of technological advancements for the indications that we target;
- our ability to establish strategic collaborations and licensing or other arrangements on terms favorable to us;
- the costs to satisfy our obligations under existing and potential future collaborations;
- · the timing, receipt and amount of sales or royalties, if any, from our potential products; and
- the extent and scope of our general and administrative expenses.

We anticipate that implementing our strategy will require substantial increases in our capital expenditures and other capital commitments as we expand our clinical trial activity, as our product candidates advance through the development cycle, as product

candidates that arise out of our preclinical research collaboration with AstraZeneca progress and as we invest in additional product opportunities and research programs and expand our infrastructure. In particular, we anticipate that we will purchase additional equipment over the next several quarters and incur additional costs resulting from the expansion and lease of our laboratory space, which became effective January 2007. We do not expect our existing capital resources to be sufficient to enable us to fund the completion of the development of any of our product candidates. We currently expect our existing capital resources to be sufficient to fund our operations at least through 2008. However, our operating plan may change as a result of many factors, including those described above. We may need additional funds sooner than planned to meet operational needs and capital requirements for product development.

We do not expect to generate sufficient cash from our operations to sustain our business for the foreseeable future. We expect our continuing operating losses to result in increases in our cash required to fund operations over the next several quarters and years. To the extent our capital resources are insufficient to meet future capital requirements, we will need to finance future cash needs through public or private equity offerings, debt financings or corporate collaboration and licensing arrangements. Additional equity or debt financing, or corporate collaboration and licensing arrangements, may not be available on acceptable terms, if at all. 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 may dilute the ownership of our stockholders.

Contractual Obligations

On January 22, 2007, we amended our lease with Wake Forest University Health Sciences for our facilities in Winston-Salem, North Carolina to cover additional space, effective in part January 1, 2007 and in part August 1, 2007. In connection with the lease amendment, we exercised our option to extend the term of the lease, as applied to all of the leased premises, through July 31, 2012. The following table illustrates expected future lease payments under the lease:

2007	\$ 2,184,782
2008	2,159,390
2009	2,159,390
2010	2,159,390
2011	2,159,390
2012	1,259,643
	\$12,081,985

Recent Accounting Pronouncements

In February 2007, the Financial Accounting Standards Board issued Statement of Financial Accounting Standard No. 159, *The Fair Value Option for Financial Assets and Financial Liabilities*, or SFAS 159. SFAS 159 allows entities to voluntarily choose, at specified election dates, to measure many financial assets and liabilities (as well as certain non-financial instruments) at fair value. The election can be made only on an instrument-by-instrument basis and is irrevocable. The provisions of SFAS 159 are effective for fiscal years beginning after November 15, 2007. We are currently evaluating the expected impact of the provisions of SFAS 159 on our financial results, if any.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

The primary objective of our investment activities is to preserve our capital to fund operations. We also seek to maximize income from our investments without assuming significant risk. To achieve our objectives, we maintain a portfolio of cash equivalents and short-term investments in a variety of securities of high credit quality. As of March 31, 2007, we had cash, cash equivalents and short-term investments of \$67.8 million. A portion of our investments may be subject to interest rate risk and could fall in value if market interest rates increase. However, because our investments are short term in duration, we believe that our exposure to interest rate risk is not significant and estimate that an immediate and uniform 10% increase in market interest rates from levels as of March 31, 2007 would not have a material impact on the total fair value of our portfolio.

We contract for the conduct of some of our clinical trials and other research and development and manufacturing activities with contract research organizations, investigational sites and manufacturers in Europe and, with respect to one completed clinical trial, in India. We may be subject to exposure to fluctuations in foreign currency exchange rates in connection with these agreements. If the average Euro/U.S. dollar exchange rate were to strengthen or weaken by 10% against the exchange rate as of March 31, 2007, we estimate that the impact on our financial position, results of operations and cash flows would not be material. We do not hedge our foreign currency exposures.

We have not used derivative financial instruments for speculation or trading purposes.

Item 4. Controls and Procedures

(a) *Evaluation of Disclosure Controls and Procedures*. Our management, with the participation of our chief executive officer and chief financial officer, evaluated the effectiveness of our disclosure controls and procedures in accordance with Rule 13a-15 under the Exchange Act as of the end of the period covered by this quarterly report. In designing and evaluating our disclosure controls and procedures, our management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives, and our management necessarily applied its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of the end of the period covered by this quarterly report, our chief executive officer and chief financial officer concluded that, as of such date, our disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is (a) accumulated and communicated to our management, including our chief executive officer and chief financial officer, as appropriate to allow timely decisions regarding required disclosure and (b) recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms.

(b) *Changes in Internal Controls*. No change in our internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) occurred during the quarter ended March 31, 2007 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

Initial Public Offering and Use of Proceeds from Sales of Registered Securities

On April 18, 2006, we sold 5,000,000 shares of our common stock in our initial public offering at a price to the public of \$9.00 per share. As part of the offering, we granted the underwriters an over-allotment option to purchase up to an additional 750,000 shares of our common stock from us, which was not exercised. The offer and sale of all of the shares in the offering were registered under the Securities Act of 1933, as amended, pursuant to a registration statement on Form S-1 (File No. 333-131050), which was declared effective by the SEC on April 11, 2006.

After deducting underwriting discounts and commissions of \$3.2 million and other offering expenses of \$1.1 million payable by us in connection with the offering, our net proceeds from the offering were \$40.8 million. Between April 11, 2006 and March 31, 2007, we used approximately \$18.5 million of the net proceeds to fund our operating activities, including activities relating to the development of our clinical and preclinical product candidates, and other general corporate purposes. During this period, our research and development expenses comprised approximately 79% of our operating expenses. The remaining approximately \$22.3 million in net proceeds have been deposited in highly rated financial institutions in the United States. We have not used any of the net proceeds of the offering to make payments, directly or indirectly, to any of our directors or officers, to any of their associates, to any person owning ten percent or more of any class of our equity securities, or to any of our affiliates.

There has been no material change in our planned use of proceeds from our initial public offering as described in our final prospectus filed with the SEC pursuant to Rule 424(b).

Unregistered Sales of Securities; Issuer Purchases of Equity Securities

On February 6, 2007, February 23, 2007, March 5, 2007 and March 13, 2007, we issued an aggregate of 4,000 shares of our common stock to five entities upon the exercise of stock options. These options represent grants that were made under our non-employee director compensation program as existed prior to completion of our initial public offering. Each entity exercising an option was affiliated with a member of our Board of Directors at the time of grant and was designated by the director to receive the option, in lieu of the director. The exercise price for each option was \$0.075 per share, representing an aggregate purchase price for all shares purchased of \$300. The shares of common stock issued upon exercise were offered and sold in reliance on an exemption from registration under Section 4(2) of the Securities Act of 1933, as amended, based on the recipient's sophistication in financial matters and access to material information and our understanding that the recipient qualified as an "accredited investor," as that term is defined by the rules and regulations of the SEC.

Item 6. Exhibits

The exhibits listed in the accompanying exhibit index are filed as part of this quarterly report.

Our trademarks include Targacept[®], Inversine[®], PentadTM, NNR TherapeuticsTM, TRIDMACTM and AMPLIXATM. Other service marks, trademarks and trade names appearing in this quarterly report are the property of their respective owners.

SIGNATURES

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

Date: May 11, 2007

Date: May 11, 2007

TARGACEPT, INC.

/s/ J. Donald deBethizy

J. Donald deBethizy President and Chief Executive Officer (Principal Executive Officer)

/s/ Alan A. Musso

Alan A. Musso Vice President, Chief Financial Officer, Secretary and Treasurer (Principal Financial and Accounting Officer)

Exhibit

EXHIBIT INDEX

Number	Description
10.1#	Third Lease Amendment, dated January 22, 2007 effective as of January 1, 2007, to Lease Agreement, effective August 1, 2002, by and between the
	Company and Wake Forest University Health Sciences (incorporated by reference to Exhibit 10.2(d) to the Company's Annual Report on Form 10-K for the Year Ended December 31, 2006)
10.2#	Exclusive License Agreement, dated January 22, 2007, by and between the Company and Yale University (incorporated by reference to Exhibit 10.20 to the Company's Annual Report on Form 10-K for the Year Ended December 31, 2006)

- 10.3 Modified AIA Document B141 Standard Form of Agreement Between Owner and Architect, dated January 22, 2007, by and between the Company and O'Brien Atkins Associates, PA (incorporated by reference to Exhibit 10.21 to the Company's Annual Report on Form 10-K for the Year Ended December 31, 2006)
- 10.4 Modified AIA Document A111 Standard Form of Agreement Between Owner and Contractor where the basis of payment is Cost of the Work Plus a Fee and modified AIA Document A201 General Conditions of the Contract for Construction, dated January 22, 2007, by and between the Company and Shelco, Inc. (incorporated by reference to Exhibit 10.22 to the Company's Annual Report on Form 10-K for the Year Ended December 31, 2006)
- 31.1 Certification of the Chief Executive Officer pursuant to Rule 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 31.2 Certification of the Chief Financial Officer pursuant to Rule 13a-14(a) and 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 32.1 Certification of the Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- 32.2 Certification of the Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- # Portions of this Exhibit have been omitted and filed separately with the SEC as part of an application for confidential treatment.

CERTIFICATION

I, J. Donald deBethizy, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Targacept, 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)) 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) 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

c) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 11, 2007

By: /s/ J. Donald deBethizy

J. Donald deBethizy President and Chief Executive Officer

CERTIFICATION

I, Alan A. Musso, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Targacept, 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)) 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) 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

c) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 11, 2007

By: /s/ Alan A. Musso

Alan A. Musso Vice President, Chief Financial Officer, Secretary and Treasurer

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

In connection with the Quarterly Report on Form 10-Q of Targacept, Inc. (the "Company") for the period ended March 31, 2007 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, J. Donald deBethizy, President and Chief Executive Officer of the Company, hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 11, 2007

By: /s/ J. Donald deBethizy

J. Donald deBethizy President and Chief Executive 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 Targacept, Inc. (the "Company") for the period ended March 31, 2007 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Alan A. Musso, Vice President, Chief Financial Officer, Secretary and Treasurer of the Company, hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 11, 2007

By: /s/ Alan A. Musso

Alan A. Musso Vice President, Chief Financial Officer, Secretary and Treasurer