
**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, 2008

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 No

Indicate by check mark whether the 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. (Check one):

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

(do not check if a
smaller reporting company)

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, 2008, the registrant had 24,902,131 shares of common stock, \$0.001 par value per share, outstanding.

TARGACEPT, INC.
FORM 10-Q
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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 or scope of the research and development of our product candidates or related regulatory filings or clinical trials, any future payments that AstraZeneca or GlaxoSmithKline may make to us, our future operations, financial position, revenues, costs or expenses, 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,” “scheduled” 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 and our alliance with GlaxoSmithKline; the amount and timing of resources that AstraZeneca devotes to the development of AZD3480 (TC-1734); our ability to perform the research planned and budgeted for our preclinical research collaboration with AstraZeneca; AstraZeneca’s right to terminate the preclinical research collaboration prior to the end of the planned four-year term; our ability to discover and develop product candidates under our alliance with GlaxoSmithKline; 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 subject enrollment or data analysis; the timing and success of submission, acceptance and approval of regulatory filings, including in particular regulatory filings with respect to TC-5619 and TC-5214; our ability to obtain substantial additional funding; our ability to establish additional strategic alliances and 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, 2007 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**

	<u>March 31,</u> <u>2008</u>	<u>December 31,</u> <u>2007</u>
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 65,466,608	\$ 53,403,092
Short-term investments	28,784,432	33,636,687
Collaboration revenue and accounts receivable	1,801,836	4,197,479
Inventories	129,750	140,413
Prepaid expenses	1,344,443	1,035,324
Total current assets	97,527,069	92,412,995
Investments in auction rate securities	16,453,346	—
Property and equipment, net	7,278,617	6,114,555
Intangible assets, net of accumulated amortization of \$213,996 and \$204,555 at March 31, 2008 and December 31, 2007, respectively	428,004	437,445
Total assets	<u>\$ 121,687,036</u>	<u>\$ 98,964,995</u>
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 1,619,894	\$ 2,295,912
Accrued expenses	3,988,696	5,460,643
Current portion of long-term debt	1,463,483	918,596
Current portion of deferred rent incentive	42,068	42,068
Current portion of deferred license fee revenue	6,478,772	6,478,772
Total current liabilities	13,592,913	15,195,991
Long-term debt, net of current portion	4,004,025	1,685,874
Deferred rent incentive, net of current portion	140,225	150,742
Deferred license fee revenue, net of current portion	28,728,400	30,348,093
Total liabilities	46,465,563	47,380,700
Commitments and contingencies		
Stockholders' equity (deficit):		
Common stock, \$0.001 par value, 100,000,000 shares authorized; 24,899,780 and 20,503,419 shares issued and outstanding at March 31, 2008 and December 31, 2007, respectively	24,900	20,504
Capital in excess of par value	245,509,028	215,798,337
Accumulated other comprehensive loss	(296,654)	—
Accumulated deficit	(170,015,801)	(164,234,546)
Total stockholders' equity (deficit)	75,221,473	51,584,295
Total liabilities and stockholders' equity (deficit)	<u>\$ 121,687,036</u>	<u>\$ 98,964,995</u>

See accompanying notes.

TARGACEPT, INC.
STATEMENTS OF OPERATIONS
(unaudited)

	Three Months Ended March 31,	
	2008	2007
Operating revenues:		
Collaboration research and development	\$ 2,257,827	\$ 1,126,585
Milestones and license fees from collaborations	1,619,693	562,500
Product sales, net	187,882	140,453
Grant revenue	210,593	221,652
Net operating revenues	4,275,995	2,051,190
Operating expenses:		
Research and development (including stock-based compensation of \$262,625 and \$203,645 for the three months ended March 31, 2008 and 2007, respectively)	9,081,582	6,190,337
General and administrative (including stock-based compensation of \$240,264 and \$87,276 for the three months ended March 31, 2008 and 2007, respectively)	1,691,098	1,338,190
Cost of product sales	203,477	165,491
Total operating expenses	10,976,157	7,694,018
Loss from operations	(6,700,162)	(5,642,828)
Other income (expense):		
Interest income	969,505	863,913
Interest expense	(50,598)	(14,467)
Total other income (expense)	918,907	849,446
Net loss	(5,781,255)	(4,793,382)
Basic and diluted net loss per share	\$ (0.24)	\$ (0.25)
Weighted average common shares outstanding—basic and diluted	23,834,425	19,136,796

See accompanying notes.

TARGACEPT, INC.
STATEMENTS OF CASH FLOWS
(unaudited)

	Three Months Ended March 31,	
	2008	2007
Operating activities		
Net loss	\$ (5,781,255)	\$ (4,793,382)
Adjustments to reconcile net loss to net cash (used in) provided by operating activities:		
Depreciation and amortization	377,428	214,517
Stock-based compensation expense	502,889	290,921
Recognition of deferred rent incentive	(10,517)	(100,662)
Changes in operating assets and liabilities, excluding the effects from acquired assets and liabilities:		
Collaboration revenue and accounts receivable	2,395,643	21,284,618
Inventories	10,663	(32,702)
Prepaid expenses and accrued interest receivable	(444,282)	36,187
Accounts payable and accrued expenses	(2,147,965)	(2,173,525)
Deferred license fee revenue	(1,619,693)	(562,500)
Net cash (used in) provided by operating activities	(6,717,089)	14,163,472
Investing activities		
Purchase of investments	(54,762,582)	(12,862,762)
Proceeds from sale of investments	43,000,000	12,755,104
Purchase of property and equipment	(1,532,049)	(501,719)
Net cash used in investing activities	(13,294,631)	(609,377)
Financing activities		
Proceeds from issuance of long-term debt	4,810,702	—
Principal payments on long-term debt	(1,947,664)	(127,876)
Proceeds from issuance of common stock	29,212,198	9,393
Net cash provided by (used in) financing activities	32,075,236	(118,483)
Net increase in cash and cash equivalents	12,063,516	13,435,612
Cash and cash equivalents at beginning of period	53,403,092	41,744,363
Cash and cash equivalents at end of period	<u>\$ 65,466,608</u>	<u>\$ 55,179,975</u>

See accompanying notes

TARGACEPT, INC.

NOTES TO UNAUDITED FINANCIAL STATEMENTS

March 31, 2008

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, 2007. 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, 2008 and 2007 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.

Fair Value Accounting

Effective January 1, 2008, the Company adopted Statement of Financial Accounting Standard, or SFAS, No. 157, *Fair Value Measurements*, or SFAS 157. SFAS 157 defines fair value, provides a consistent framework for measuring fair value under GAAP and expands fair value financial statement disclosure requirements. SFAS 157 does not require any new fair value measurements. SFAS 157 applies only to accounting pronouncements that already require or permit fair value measures, except for standards that relate to share-based payments such as SFAS No. 123 (revised 2004), *Share-Based Payment*, and related interpretations.

The valuation techniques of SFAS 157 are based on both observable and unobservable inputs. Observable inputs reflect readily obtainable data from independent sources, and unobservable inputs reflect the Company's market assumptions. SFAS 157 classifies these inputs into the following hierarchy:

Level 1 Inputs— Quoted prices for identical instruments in active markets.

TARGACEPT, INC.

NOTES TO UNAUDITED FINANCIAL STATEMENTS (continued)

March 31, 2008

2. Summary of Significant Accounting Policies (continued)

Level 2 Inputs— Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and valuations whose inputs are observable or whose significant value drivers are observable.

Level 3 Inputs— Instruments with primarily unobservable value drivers.

As of March 31, 2008, the Company had \$45,000,000 invested in available-for-sale marketable securities, comprised of \$28,547,000 invested in certificates of deposit and \$16,453,000 invested in student loan auction rate securities, or ARS. The Company determines fair value for certificates of deposit through quoted market prices, or Level 1 inputs. The Company determines fair value for student loan ARS based on inputs and value drivers that are primarily unobservable, or Level 3 inputs, which are discussed under “Investments” below. The adoption of SFAS No. 157 had no effect on the valuation of the Company’s available-for-sale marketable securities as of March 31, 2008.

Investments

In accordance with the Company’s investment policy, surplus cash is invested with high credit quality financial institutions in money market accounts, certificates of deposit, mutual funds and student loan ARS. The Company determines the appropriate classification of marketable securities at the time of purchase and reevaluates such designation as of each balance sheet date. All marketable securities owned during the three-month periods ended March 31, 2008 and 2007 were classified as available-for-sale. Interest and dividend income on investments are included in “Interest income.” The cost of securities sold is based on the specific identification method.

Student loan ARS are variable rate debt instruments that have a contractual maturity of approximately 20 to 40 years. These investments are intended to provide liquidity via an auction process that resets the applicable interest rate at predetermined calendar intervals, enabling investors to either roll over their holdings or gain immediate liquidity by selling them at par value. Auctions for the student loan ARS owned by the Company are scheduled at 28-day intervals. Prior to the first quarter of 2008, the Company’s history with the student loan ARS market had been that these investments could be redeemed at any of the regularly scheduled 28-day auctions and the Company believed that the risk that these investments could not be redeemed within a year was minimal. Accordingly, the Company has historically viewed its student loan ARS as available for use in its current operations and classified them as short-term investments in accordance with Accounting Research Bulletin No. 43, Chapter 31, *Working Capital – Current Assets and Current Liabilities*, even though their stated maturity dates may be more than one year beyond the balance sheet date.

During the first quarter of 2008, the Company continued to own student loan ARS in its investment portfolio. The uncertainties experienced in the credit markets during the period affected the student loan ARS market, and, beginning in February 2008, auctions for the Company’s student loan ARS failed to settle on their respective settlement dates. The Company earns interest on the investments that failed to settle at auction at the maximum contractual rate, and the interest is paid at each scheduled auction date. The student loan ARS owned by the Company as of March 31, 2008 were as of that date rated AAA by a major credit rating agency, and

TARGACEPT, INC.

NOTES TO UNAUDITED FINANCIAL STATEMENTS (continued)

March 31, 2008

2. Summary of Significant Accounting Policies (continued)

the underlying collateral is guaranteed by the Federal Family Education Loan Program (FFELP). Although there is uncertainty with regard to the short-term liquidity of the student loan ARS owned by the Company as of March 31, 2008, the Company does not anticipate that a lack of liquidity associated with its student loan ARS will adversely affect its ability to conduct business as planned at least through 2009 and believes it has the ability to continue to hold the securities throughout the currently estimated recovery period.

Based on the uncertainty of the short-term liquidity of the student loan ARS as of March 31, 2008, the Company did not classify its investments in student loan ARS at that date as short-term investments. The Company estimated the fair values of its student loan ARS using discounted cash flow models. These models consider, among other things, the expected timing for successful auctions or refinancings in the future, the composition and quality of the underlying collateral and the creditworthiness of the issuer. Because these inputs are not observable, they are classified as Level 3 inputs under SFAS 157. Based on these models, the Company estimated the fair value of its ARS owned as of March 31, 2008 to be \$16,453,000, which reflects a fair value adjustment of \$297,000 that is considered a temporary adjustment, and recorded a corresponding unrealized loss in an amount equal to the fair value adjustment in accumulated other comprehensive income, a component of stockholders' equity. These student loan ARS were recorded at par using Level 1 inputs at January 1, 2008, as there were observable quoted prices from an active market at that date. The Company plans to continue to monitor the ARS markets in future periods for potential further fair value adjustments or other-than-temporary impairments based on changes in facts and circumstances, such as the success or failure of future auctions, unsuccessful outcomes or termination of efforts by the issuers of the underlying securities to redeem them, deterioration of the credit ratings of the investments, changes in market risk or changes in the estimated recovery period. If in future periods the Company determines that the fair value of its student loan ARS is other-than-temporarily impaired, the impairment would be recorded as a loss in the statement of operations, which could materially affect the Company's results of operations and financial condition.

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 according to the EITF's separation criteria, a revenue-recognition policy must be determined for each unit. If the arrangement constitutes a single unit of accounting, the revenue-recognition policy must be determined for the entire arrangement.

TARGACEPT, INC.

NOTES TO UNAUDITED FINANCIAL STATEMENTS (continued)

March 31, 2008

2. Summary of Significant Accounting Policies (continued)

Collaboration research and development revenue is earned and recognized as research is performed and related expenses are incurred. Non-refundable upfront fees, which may include initial payments upon commencement of the contractual relationship, payment representing a common stock purchase premium or payment to secure a right for a future license, are recorded as deferred license fee revenue and recognized into revenue as milestone and license fees from collaborations on a straight-line basis over the expected development period, to the extent such fees are attributable to a specific licensed product candidate, or otherwise over the expected period of the Company's performance obligations.

Revenue for non-refundable payments based on the achievement of collaboration milestones is recognized 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 is not met, the milestone payment is deferred and recognized on a straight-line basis over the expected period of the Company's performance obligations.

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 Reimbursements 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 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

TARGACEPT, INC.

NOTES TO UNAUDITED FINANCIAL STATEMENTS (continued)

March 31, 2008

2. Summary of Significant Accounting Policies (continued)

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 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 the cost-sharing arrangement with AstraZeneca AB described in Note 4.

Stock-Based Compensation

The Company follows the fair value recognition provisions of 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 several benchmark companies in the Company's industry that have been identified as comparable public entities. The expected term of options granted represents the period of time that options are expected to be outstanding, using historical data to estimate option exercises and forfeitures. 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.

During the three-month period ended March 31, 2008, the Company issued 26,361 shares of common stock upon the exercise of options.

Income Taxes

The Company uses the liability method in accounting for income taxes as required by SFAS No. 109, *Accounting for Income Taxes*, or SFAS 109. The Company follows Financial Accounting Standards Interpretation No. 48, *Accounting for Uncertainty in Income Taxes*, or FIN 48, which clarifies the accounting for uncertainty in income taxes recognized in an enterprise's financial statements in accordance with SFAS 109. Under SFAS No. 109, 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

TARGACEPT, INC.

NOTES TO UNAUDITED FINANCIAL STATEMENTS (continued)

March 31, 2008

2. Summary of Significant Accounting Policies (continued)

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. 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 recognized in accordance with FIN 48 as interest expense and to classify any penalties recognized in accordance with FIN 48 as an expense other than income tax expense.

The Company had no unrecognized tax benefits or associated interest or penalties either at adoption of FIN 48 on January 1, 2007 or at March 31, 2008. Since the Company has incurred cumulative operating losses since inception, all tax years remain open to examination by major jurisdictions.

Net Loss Per Share

The Company computes net loss per share 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 the net loss by the weighted average number of common shares outstanding. Diluted net loss per share, or Diluted EPS, is computed by dividing the net loss by the weighted average number of common shares and dilutive common share equivalents outstanding.

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 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, potentially dilutive outstanding stock options of 3,103,553 and 2,279,581 for the three months ended March 31, 2008 and 2007, respectively, calculated on a weighted-average basis, may have been included in the calculation.

Public Offerings of Common Stock

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 common stock began trading on the NASDAQ Global Market (formerly known as the NASDAQ National Market) on April 12, 2006. On January 23, 2008, the Company issued 4,370,000 shares of common stock in a public offering at \$7.07 per share. The offering resulted in proceeds to the Company of \$29,109,000 after underwriters' discounts and commissions and offering expenses payable by the Company.

TARGACEPT, INC.**NOTES TO UNAUDITED FINANCIAL STATEMENTS (continued)****March 31, 2008****2. Summary of Significant Accounting Policies (continued)****Nonrefundable Advance Payments**

The Company adopted EITF Issue 07-3, *Accounting for Nonrefundable Advance Payments for Goods or Services to be Used in Future Research and Development Activities*, or EITF 07-3, on January 1, 2008. EITF 07-3 concluded that nonrefundable advance payments for goods or services to be received in the future for use in research and development activities should be deferred and capitalized and that the capitalized amounts should be expensed as the goods are delivered or the services are rendered. If an entity's expectations change such that it does not expect it will need the goods to be delivered or the services to be rendered, capitalized nonrefundable advance payments should be charged to expense. Application of the provisions of EITF 07-3 resulted in increased total assets and decreased net loss of \$292,000, or \$0.01 per share, for the three months ended March 31, 2008.

Comprehensive Loss

For the three months ended March 31, 2008, the Company's total comprehensive loss was \$6,078,000, which included a net loss of \$5,781,000 and a fair value adjustment to student loan ARS of \$297,000, as discussed in "Investments." The Company's comprehensive loss for the three months ended March 31, 2007 equaled its reported net loss.

3. Inventories

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

	March 31, 2008	December 31, 2007
Raw materials	\$ 51,877	\$ 51,877
Finished goods	77,873	88,536
	<u>\$129,750</u>	<u>\$ 140,413</u>

4. Strategic Alliance and Collaboration 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 dysfunction 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.

TARGACEPT, INC.

NOTES TO UNAUDITED FINANCIAL STATEMENTS (continued)

March 31, 2008

4. Strategic Alliance and Collaboration Agreements (continued)

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 is recognizing as revenue on a straight-line basis over the planned 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 December 2006, when AstraZeneca made a determination 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, in the first quarter of 2007, the Company began recognizing the \$5,000,000 of the initial fee that it had previously deferred as revenue on a straight-line basis over the estimated five-year development period for AZD3480 (TC-1734). The company recognized \$563,000 of the initial fee as revenue for the three months ended March 31, 2008.

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.

AstraZeneca's determination to proceed with further development of AZD3480 (TC-1734) triggered a \$20,000,000 payment in accordance with the agreement, and the Company recognized the full amount as revenue 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 additional payments of up to \$249,000,000, contingent upon the achievement of development, regulatory and first commercial sale milestones for AZD3480 (TC-1734) for three indications, as well as tiered 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, Targacept is required to pay UKRF a low single digit percentage of any payments that are received from AstraZeneca related to AZD3480 (TC-1734).

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 these fees as deferred revenue pending AstraZeneca's decision whether to proceed with further development of AZD3480 (TC-1734). As a result of AstraZeneca's decision to proceed with further development of AZD3480 (TC-1734), in December 2006, the Company recognized as collaboration research and development 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, which totaled \$4,672,000. Subsequently, the Company has recognized collaboration research and development revenue as the

TARGACEPT, INC.

NOTES TO UNAUDITED FINANCIAL STATEMENTS (continued)

March 31, 2008

4. Strategic Alliance and Collaboration Agreements (continued)

research is performed and related expenses are incurred. The Company recognized collaboration research and development revenue of \$2,258,000 and \$1,127,000 for the three month-periods ended March 31, 2008 and 2007, respectively.

In October 2007, the Company provided notice under its agreement with AstraZeneca offering AstraZeneca the right to license its product candidate TC-5619 for specified conditions characterized by cognitive impairment. Based on a subsequent election by AstraZeneca made under the terms of the agreement, AstraZeneca paid the Company \$2,000,000 and the Company agreed to develop TC-5619 independently through completion of Phase 1 clinical development and a Phase 2 proof of concept clinical trial in accordance with a mutually acceptable development plan, following which AZ has the right to license TC-5619. The Company is recognizing the \$2,000,000 payment as revenue on a straight-line basis over the expected development period for TC-5619 to reach proof of concept. Accordingly, the Company recognized \$231,000 of the payment as revenue for the three months ended March 31, 2008.

GlaxoSmithKline

On July 27, 2007, the Company entered into a product development and commercialization agreement with SmithKline Beecham Corporation, doing business as GlaxoSmithKline, and Glaxo Group Limited, which are referred to together as GlaxoSmithKline, that sets forth the terms of an alliance designed to discover, develop and market product candidates that selectively target specified NNR subtypes in five therapeutic focus areas: pain, smoking cessation, addiction, obesity and Parkinson's disease.

Under the product development and commercialization agreement, the Company has agreed, for specified periods of time, to use diligent efforts to conduct research activities designed to discover product candidates that target specified NNR subtypes, to develop the product candidate identified as the lead for each therapeutic focus area of the alliance through a Phase 2 proof of concept trial and to develop up to two other product candidates for each therapeutic focus area to a specified stage of preclinical development. With respect to each therapeutic focus area in the alliance, if the Company achieves clinical proof of concept with respect to a lead product candidate, GlaxoSmithKline would have an exclusive option for an exclusive license to that lead product candidate and up to two other product candidates in development in the alliance for the same therapeutic focus area on a worldwide basis. If GlaxoSmithKline exercises its option and pays the applicable exercise fee, GlaxoSmithKline would become responsible for using diligent efforts to conduct later-stage development and commercialization of the lead product candidate at its sole expense. GlaxoSmithKline's exclusive license would include all fields of use other than those indications for which the Company has granted development and commercialization rights for product candidates under its collaboration agreement with AstraZeneca AB.

The terms of the alliance provide for the Company to conduct its research and development activities under the product development and commercialization agreement at its sole expense. The Company is, however, eligible to receive milestone payments from GlaxoSmithKline if it successfully advances product candidates subject to the alliance through preclinical and clinical development.

TARGACEPT, INC.

NOTES TO UNAUDITED FINANCIAL STATEMENTS (continued)

March 31, 2008

4. Strategic Alliance and Collaboration Agreements (continued)

Under the product development and commercialization agreement and a related stock purchase agreement, GlaxoSmithKline made an initial payment to the Company of \$20,000,000 and purchased 1,275,502 shares of the Company's common stock for an aggregate purchase price of \$15,000,000. The purchase price paid by GlaxoSmithKline reflected an aggregate deemed premium of \$3,520,000, based on the closing price of the Company's common stock on the trading day immediately preceding the date that the agreements were signed and announced. The Company deferred both the initial payment made by GlaxoSmithKline and the deemed premium paid for the shares of the Company's common stock purchased by GlaxoSmithKline and is recognizing them as revenue on a straight-line basis over the estimated term of the Company's research and early development obligations under the agreement. Currently, the Company estimates the term of such obligations to be nine years. The Company recognized \$653,000 of the initial payment and deemed premium as revenue for the three months ended March 31, 2008.

The Company is also eligible to receive up to \$1,500,000,000 in additional payments from GlaxoSmithKline, contingent upon the achievement of specified discovery, development, regulatory and commercial milestones across the five therapeutic focus areas of the alliance, as well as tiered double-digit royalties dependent on sales achieved following regulatory approval for any product licensed by GlaxoSmithKline. The Company expects to recognize any revenue based on the achievement of milestones under the 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. The amounts that the Company may receive will depend on the success of the Company's research and development activities, the timing and achievement of the discovery, development, regulatory and commercial milestone events and whether GlaxoSmithKline exercises any options that are triggered under the agreement.

In December 2007, the Company received a \$6,000,000 payment from GlaxoSmithKline upon the Company's initiation of a Phase 1 clinical trial of TC-6499, a milestone event under the agreement. The Company determined the payment did not meet each of the conditions of its revenue recognition policy (see Note 2) required for recognition of the full amount into revenue upon achievement of the milestone. Specifically, based on the progress of this product candidate as of inception of the agreement, achievement of this milestone was reasonably assured. Therefore, the Company has deferred recognition of the payment and is recognizing the payment as revenue on a straight-line basis over the estimated term of the Company's research and early development obligations under the agreement. Accordingly, the Company recognized \$173,000 of the payment as revenue for the three months ended March 31, 2008.

5. Long-term Debt

The Company entered into a loan agreement with a bank in March 2008 pursuant to which the Company initially borrowed \$4,811,000 and has up to an aggregate of \$489,000 in additional borrowing capacity available to fund the purchase of equipment, furnishings, software and other fixed assets and enable the refinancing of its existing loan facility with R.J. Reynolds Tobacco Holdings, Inc., or RJRT. Under the terms of the agreement, borrowings under the loan facility may be made in up to four term loans and each loan bears interest, at the Company's election, at either (1) the One Month LIBOR Rate plus 2.15% per annum, as adjusted monthly on the first day of each month, or (2) a fixed rate to be calculated by the bank at the closing of the loan equal to the bank's

TARGACEPT, INC.

NOTES TO UNAUDITED FINANCIAL STATEMENTS (continued)

March 31, 2008

5. Long-term Debt (continued)

fixed rate cost of funds index corresponding to the term of the loan plus 2.15% per annum. The agreement provides for repayment of each loan over a period determined by the Company, not to exceed four years, in equal monthly installments of principal and interest and for a first priority security interest in favor of the bank in the assets acquired with the proceeds of the loan facility. The Company's March 2008 loan under the loan facility bears interest at a rate of 5.231% per annum and is repayable in equal monthly installments of \$112,000 beginning April 1, 2008 and through the maturity date of March 1, 2012. The Company used \$1,679,000 of the proceeds from the loan to pay and satisfy in full the principal and interest outstanding on two of the tranches under its loan facility with RJRT and granted a first priority security interest in favor of the bank in assets previously acquired with the proceeds of those tranches.

There was \$249,000 and \$2,174,000 outstanding under the Company's loan facility with RJRT as of March 31, 2008 and December 31, 2007, respectively. The Company paid \$1,966,000 and \$142,000 under the RJRT loan facility for the three months ended March 31, 2008 and 2007, respectively.

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

You should read the following discussion and analysis of our financial condition and results of operations 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, 2007, 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 could differ materially from those indicated by the forward-looking statements due to various important factors, risks and uncertainties, including, but not limited to, those set forth under “Cautionary Note Regarding Forward-Looking Statements” in 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, 2007.

Overview

Background

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 currently have clinical-stage product candidates for target indications generally in three therapeutic areas: cognitive impairment, depression and anxiety, and pain. We also have preclinical programs focused in smoking cessation, addiction, obesity, pain, Parkinson’s disease and inflammation. We have a collaboration with AstraZeneca and a strategic alliance with GlaxoSmithKline. We have received \$73.0 million in the aggregate from AstraZeneca and GlaxoSmithKline, representing upfront fees, a common stock purchase and milestone payments, and have earned an additional \$14.6 million in collaboration research and development revenue from our collaboration with AstraZeneca.

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. AZD3480 (TC-1734) modulates the activity of the $\alpha 4\beta 2$ NNR. 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 dysfunction 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. AstraZeneca is currently conducting two Phase 2b clinical trials of AZD3480 (TC-1734), one in mild to moderate Alzheimer’s disease, which is referred to as the “Sirocco” trial, and one in cognitive dysfunction in schizophrenia, which is referred to as the “HALO” trial. Based on information provided to us by AstraZeneca, we expect that both trials will be completed by the end of 2008.

In addition to the Sirocco and HALO trials, we and AstraZeneca plan to initiate a single site Phase 2 clinical trial of AZD3480 (TC-1734) in adults with ADHD in the second quarter of 2008. AstraZeneca has agreed to provide clinical trial material and we have agreed to provide funding for the trial.

We and AstraZeneca are also conducting a preclinical research collaboration under the agreement that is designed to discover

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and develop additional compounds that, like AZD3480 (TC-1734), act on the $\alpha 4\beta 2$ NNR as treatments for conditions characterized by cognitive impairment. AstraZeneca pays us research fees, based on a reimbursement rate specified under the agreement, for research services rendered in the preclinical research collaboration, subject to specified limits. The research term began in January 2006 and has a planned term of four years.

In July 2007, we entered into a product development and commercialization agreement with SmithKline Beecham Corporation, doing business as GlaxoSmithKline, and Glaxo Group Limited. SmithKline Beecham Corporation and Glaxo Group Limited are referred to together in this quarterly report as GlaxoSmithKline. The agreement sets forth the terms of an alliance designed to discover, develop and market product candidates that selectively target specified NNR subtypes in five therapeutic focus areas: pain, smoking cessation, addiction, obesity and Parkinson's disease.

Our other clinical-stage product candidates, in addition to AZD3480 (TC-1734), are described below.

- *TC-5619*. TC-5619 is a novel small molecule that we plan to develop for cognitive dysfunction in schizophrenia and potentially one or more other conditions characterized by cognitive impairment. TC-5619 modulates the activity of the $\alpha 7$ NNR. We have completed a Phase 1 single rising dose clinical trial of TC-5619 and plan to initiate a Phase 1 multiple rising dose clinical trial of TC-5619 in the third quarter of 2008. Following our completion of Phase 1 clinical development and a Phase 2 clinical proof of concept trial of TC-5619, AstraZeneca has the right to license TC-5619 for schizophrenia and various conditions characterized by cognitive impairment on terms specified in our agreement.
- *TC-5214*. TC-5214 is a product candidate that we are developing as an augmentation treatment for major depression. TC-5214, which is one of the two enantiomers of mecamylamine hydrochloride, inhibits the activity of various NNR subtypes, including the $\alpha 4\beta 2$ NNR. We initiated a Phase 1 single rising dose clinical trial of TC-5214 in healthy volunteers in the first quarter of 2008 and plan to initiate a Phase 2 clinical proof of concept trial later in 2008.
- *TC-6499*. TC-6499 is novel small molecule that we plan to develop as a treatment for neuropathic pain. TC-6499 modulates the activity of the $\alpha 4\beta 2$ NNR. We have completed a Phase 1 single rising dose clinical trial of TC-6499 and plan to initiate a Phase 1 multiple rising dose clinical trial of TC-6499 in mid 2008. TC-6499 is subject to a contingent future option of GlaxoSmithKline under the terms of our alliance.
- *TC-2216*. Our depression and anxiety program also includes the novel small molecule TC-2216. TC-2216 inhibits the activity of the $\alpha 4\beta 2$ NNR. We completed a Phase 1 single rising dose clinical trial of this product candidate in the first quarter of 2008. We may in the future elect to develop one of the enantiomers of TC-2216 in lieu of further development of TC-2216. However, based on our anticipated development of TC-5214 and our current budget management plans, we do not expect that we will conduct further clinical development of TC-2216 or either of its enantiomers in 2008.

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

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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 grants 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, 2008, we had an accumulated deficit of \$170.0 million. We expect to incur substantial losses for the foreseeable future as we expand our clinical trial activity, as our clinical-stage and preclinical product candidates advance through the development cycle, as we progress our programs in the therapeutic focus areas of our alliance with GlaxoSmithKline and our preclinical research collaboration with AstraZeneca and as we invest in additional product opportunities and research programs and expand our research and development infrastructure. Clinical trials and preclinical studies are time-consuming, expensive and may never yield a product that will generate revenue.

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.

Revenue

As of March 31, 2008, we had received \$32.0 million in aggregate upfront fees and milestone payments from AstraZeneca under our collaboration agreement, which include a \$10.0 million initial fee, a \$20.0 million payment upon achievement of a milestone event related to AZD3480 (TC-1734) and a \$2.0 million payment to secure the future right to license TC-5619. In addition, as of March 31, 2008, we had recognized \$14.6 million in collaboration research and development revenue for research services that we provided in our preclinical research collaboration. 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 dysfunction in schizophrenia and ADHD, and stepped double-digit royalties on any 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 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.

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In addition, if TC-5619 achieves clinical proof of concept and AstraZeneca elects to license TC-5619, the agreement provides for AstraZeneca to make a \$40.0 million payment to us and to assume responsibility for and fund all future development and commercialization. In that event, we would be eligible to receive additional payments of up to \$226.0 million, contingent upon the achievement of development, regulatory and first commercial sale milestones, as well as stepped double-digit royalties on any future product sales.

As of March 31, 2008, we had received \$41.0 million in aggregate payments from GlaxoSmithKline under our alliance agreement. These payments include a \$20.0 million initial payment, the purchase of 1,275,502 shares of our common stock for an aggregate purchase price of \$15.0 million and a \$6.0 million payment upon our initiation of a Phase 1 clinical trial of TC-6499. We are also eligible to receive other payments of up to \$1.5 billion, contingent on the achievement of specified discovery, development, regulatory and commercial milestones in the five therapeutic focus areas of the alliance, as well as stepped double-digit royalties on any future sales of products licensed by GlaxoSmithKline.

Our collaboration agreement with AstraZeneca can be terminated by AstraZeneca if we breach the agreement and do not cure the breach or without cause upon 90 days notice given any time after the earlier of the end of the term of the preclinical research collaboration or four years after the research term began. Our alliance agreement with GlaxoSmithKline can be terminated by GlaxoSmithKline if we breach the agreement in certain respects and do not cure the breach or without cause upon 90 days notice.

We acquired rights to Inversine, which is our only product approved by the U.S. Food and Drug Administration, or FDA, for marketing, in August 2002. Inversine is approved for the management of moderately severe to severe essential hypertension and uncomplicated cases of malignant hypertension, which are high blood pressure disorders. 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 \$188,000 for the three-month period ended March 31, 2008 and \$140,000 for the three-month period ended March 31, 2007. We do not have or use a sales force or promote Inversine.

From time to time we seek and are awarded grants or work to be performed under grants awarded to third-party collaborators from which we derive revenue. As of March 31, 2008, 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 expect to receive approximately \$1.1 million in the aggregate over a five-year period that began in July 2006 in connection with the NIDA grant. Funding for awards under federal grant programs is subject to the availability of funds as determined annually in the federal appropriations process.

A substantial portion of our revenue depends on the conduct of research and the successful achievement of milestone events in the development of AZD3480 (TC-1734) under our agreement with AstraZeneca and on the successful achievement of research and development-related milestone events under our agreement with GlaxoSmithKline. Our revenue may vary substantially from quarter to quarter and year to year.

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Research and Development Expenses

Since our inception, we have focused our activities on our drug discovery and development programs. We record research and development expenses as they are incurred. Research and development expenses represented approximately 83% of our total operating expenses for the three-month period ended March 31, 2008 and 80% of our total operating expenses for the three-month period ended March 31, 2007.

Under the terms of our collaboration agreement, beginning in January 2006, AstraZeneca assumed substantially all development costs for AZD3480 (TC-1734), except for costs that we incurred to complete the Phase 2 clinical trial of AZD3480 (TC-1734) in AAMI that we completed in March 2006 and costs associated with the conduct of the planned Phase 2 trial in adults with ADHD. The following table shows, for the periods presented, total amounts that we incurred for third-party services in connection with preclinical studies, pharmaceutical development, clinical supplies and clinical trials, as applicable for our other most advanced product candidates:

<u>Product Candidate</u>	<u>Three months ended</u>	
	<u>2008</u>	<u>2007</u>
	<u>March 31,</u>	
	<u>(in thousands)</u>	
TC-5619	\$1,022	\$365
TC-5214	764	274
TC-6499	379	20
TC-2216	321	154
Total	<u>\$2,486</u>	<u>\$813</u>

In December 2007, we announced that TC-2696, a product candidate for acute post-operative pain, did not meet the primary endpoints in a Phase 2 clinical trial in third molar extraction patients. We have no current plans to conduct further development of TC-2696. We incurred total amounts for third party-services in connection with TC-2696 of \$206,000 for the three-month period ended March 31, 2007.

We use our research and development personnel and other 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.

We have not received FDA or foreign regulatory marketing approval for any of our product candidates that are in development. Our current and future expenditures on preclinical and clinical development programs are subject to numerous uncertainties in timing and cost to completion. In particular, our strategy includes entering into alliances and collaborations with third parties to participate in the development and commercialization of some of our product candidates. Where a third party has responsibility for or authority over preclinical or clinical development of a particular 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 alliances or collaborations or how such arrangements would affect our development plans or capital requirements.

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Because of these uncertainties, and because of the numerous uncertainties related to clinical trials and related activities, 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 product candidates in development.

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, insurance costs and professional fees for consulting, legal, accounting and public and investor relations services.

Income Taxes

We generated net income for the three-month period and year ended December 31, 2006 due primarily to the recognition of milestone-based revenue derived under our agreement with AstraZeneca. We incurred net operating losses for each other period since inception and consequently have not paid federal, state or foreign income taxes in any period. As of March 31, 2008, we had net operating loss carryforwards of \$112.3 million for each of federal and state income tax purposes. We also had \$3.9 million in research and development federal income tax credits as of March 31, 2008. The federal net operating loss carryforwards begin to expire in 2020. The state net operating loss carryforwards begin to expire in 2015. The research and development tax credits begin to expire in 2021. 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 in November 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.

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.

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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, 2007 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, fair value accounting 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 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. The policies relating to revenue recognition, accrued expenses and stock-based compensation 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, 2007. The policy for fair value accounting is described below.

Fair Value Accounting

Effective January 1, 2008, we adopted Statement of Financial Accounting Standard, or SFAS, No. 157, *Fair Value Measurements*, or SFAS 157. SFAS 157 defines fair value, provides a consistent framework for measuring fair value under GAAP and expands fair value financial statement disclosure requirements. The valuation techniques of SFAS 157 are based on both observable and unobservable inputs. Observable inputs reflect readily obtainable data from independent sources, and unobservable inputs reflect our market assumptions. SFAS 157 classifies these inputs into the following hierarchy:

Level 1 Inputs– Quoted prices for identical instruments in active markets.

Level 2 Inputs– Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and valuations whose inputs are observable or whose significant value drivers are observable.

Level 3 Inputs– Instruments with primarily unobservable value drivers.

As of March 31, 2008, we had \$16.8 million invested in student loan auction rate securities, or ARS. Student loan ARS are variable rate debt instruments that have a contractual maturity of approximately 20 to 40 years. These investments are intended to provide liquidity via an auction process that resets the applicable interest rate at predetermined calendar intervals, enabling investors to either roll over their holdings or gain immediate liquidity by selling them at par value. Auctions for the student loan ARS owned by us are scheduled at 28-day intervals.

We determine fair value for student loan ARS based on primarily unobservable value drivers, or Level 3 inputs. The uncertainties experienced in the credit markets during the first quarter of 2008 affected the student loan ARS market, and, beginning in February 2008, auctions for our student loan ARS failed to settle on the respective settlement dates. Although there is uncertainty with regard to the short-term liquidity of the student loan ARS owned by us as of March 31, 2008, we do not anticipate that a lack of liquidity associated with student loan ARS will adversely affect our ability to conduct business as planned at least through 2009 and believe we have the ability to continue to hold the securities throughout the currently estimated recovery period.

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Based on the uncertainty of the short-term liquidity of the student loan ARS as of March 31, 2008, we did not classify our investments in student loan ARS at that date as short-term investments. We estimated the fair values of our student loan ARS using discounted cash flow models. These models consider, among other things, the expected timing for successful auctions or refinancings in the future, the composition and quality of the underlying collateral and the creditworthiness of the issuer. Because these inputs are not observable, they are classified as Level 3 inputs under SFAS 157. Based on these models, we estimated the fair value of our ARS owned as of March 31, 2008 to be \$16.5 million, which reflects a fair value adjustment of \$297,000 that is considered a temporary adjustment, and recorded a corresponding unrealized loss in an amount equal to the temporary fair value adjustment in accumulated other comprehensive income, a component of stockholders' equity. We plan to continue to monitor the ARS markets in future periods for potential further fair value adjustments or other-than-temporary impairments based on changes in facts and circumstances, such as the success or failure of future auctions, unsuccessful outcomes or termination of efforts by the issuers of the underlying securities to redeem them, deterioration of the credit ratings of the investments, failure of the underlying student loans, changes in market risk or changes in the estimated recovery period. If in future periods we determine that the fair value of our student loan ARS is other-than-temporarily impaired, the impairment would be recorded as a loss in the statement of operations, which could materially affect our results of operations and financial condition.

Results of Operations

Three Months ended March 31, 2008 and 2007

Net Operating Revenues

Net operating revenues increased by \$2.2 million to \$4.3 million for the three months ended March 31, 2008, from \$2.1 million for the comparable three-month period in 2007. The increase was principally attributable to an increase of \$1.2 million in collaboration research and development revenue for the 2008 period to \$2.3 million, from \$1.1 million for the 2007 period, and to an increase of \$1.1 million in deferred license fee revenue recognized from payments previously received from AstraZeneca and GlaxoSmithKline for the 2008 period to \$1.6 million, from \$563,000 for the 2007 period. The increase in collaboration research and development revenue for the 2008 period was due to additional services rendered by us in the preclinical research collaboration that we and AstraZeneca are conducting as product candidates in the collaboration progressed into more advanced stages of research.

Net sales of Inversine increased by \$48,000 to \$188,000 for the three months ended March 31, 2008, from \$140,000 for the comparable three-month period in 2007. The increase was primarily attributable to a 62% price increase that we instituted effective at the beginning of 2008, partially offset by reduced volume. 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 anticipate any significant increase in the volume of Inversine sales. We do not promote sales of Inversine.

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Grant revenue decreased by \$11,000 to \$211,000 for the three months ended March 31, 2008, from \$222,000 for the comparable three-month period in 2007. Our grant revenue for each period related solely to activities in connection with our work as a subcontractor under the NIDA grant awarded to The California Institute of Technology to fund research on innovative NNR-based approaches to the development of therapies for smoking cessation.

Research and Development Expenses

Research and development expenses increased by \$2.9 million to \$9.1 million for the three months ended March 31, 2008, from \$6.2 million for the comparable three-month period in 2007. The higher research and development expenses were attributable to increased contracted research and development services of \$657,000 for TC-5619, \$490,000 for TC-5214, \$359,000 for TC-6499 and \$167,000 for TC-2216, or an aggregate increase of \$1.7 million to \$2.5 million for the 2008 period, from \$813,000 for the 2007 period, which were partially offset by reduced spending on TC-2696 following our completion of a Phase 2 clinical trial in 2007. The contracted research and development services for both periods included clinical trial activities, formulation and clinical trial material production activities and pharmacology and toxicology studies. The contracted research and development services for TC-2216 for the 2008 period included costs with respect to our completed Phase 1 single rising dose clinical trial of TC-2216, as well as non-clinical studies conducted to characterize TC-2216 and its constituent enantiomers further.

The higher research and development expenses were also attributable to an increase of \$1.4 million to \$6.6 million for the 2008 period, from \$5.2 million for the 2007 period, in salary and benefits, occupancy costs and third-party service, supply and infrastructure costs incurred in connection with activities under the AstraZeneca collaboration and our other preclinical programs, including those in the therapeutic focus areas of our alliance with GlaxoSmithKline.

General and Administrative Expenses

General and administrative expenses increased by \$353,000 to \$1.7 million for the three months ended March 31, 2008, from \$1.3 million for the comparable three-month period in 2007. The increase was principally attributable to an increase in stock-based compensation, a non-cash item, of \$153,000 resulting from compensatory stock option grants and greater occupancy costs, salary and benefit expenses and recruitment costs associated with an increase in our number of employees for the 2008 period as compared to the 2007 period.

Cost of Product Sales

Our cost of product sales are those costs related directly to the sale of Inversine. Cost of product sales increased by \$38,000 to \$203,000 for the three months ended March 31, 2008, from \$165,000 for the comparable three-month period in 2007. The increase primarily reflects increased distribution costs.

The FDA assesses product and establishment fees for marketed products each year. Prior to 2007, we had historically requested and received a waiver of the FDA fees. In March 2007, we received notice that the FDA, citing our increased revenue and cash assets, had denied our request for a fee waiver, which led to a \$52,000 charge in our cost of product sales for the three months ended March 31, 2007 that had not been incurred in previous periods. The increase in our cost of product sales resulted in a negative gross margin for Inversine for 2007. Effective at the beginning of 2008, we instituted a 62% price increase for Inversine, with the objective of offsetting the impact of the FDA fees for 2008 and subsequent periods.

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Interest Income

Interest income increased by \$106,000 to \$970,000 for the three months ended March 31, 2008, from \$864,000 for the comparable three-month period in 2007. The increase was attributable to a higher average cash balance during the 2008 period due to the issuance of shares of our common stock for net proceeds of \$29.1 million in January 2008 and \$8.0 million in additional payments from AstraZeneca and GlaxoSmithKline in the fourth quarter of 2007, partially offset by lower short-term interest rates.

Interest Expense

Interest expense increased by \$37,000 to \$51,000 for the three months ended March 31, 2008, from \$14,000 for the comparable three-month period in 2007. The higher interest expense was attributable to increased indebtedness under our two loan facilities used to finance laboratory equipment, furniture and other capital equipment purchases, as well as the expiration in April 2007 of the grace period for interest under a loan received from the City of Winston-Salem in 2002. In particular, we borrowed an additional \$2.0 million in June 2007 under our loan facility with R.J. Reynolds Tobacco Holdings, Inc. and \$4.8 million in March 2008 pursuant to a loan agreement that we entered into with a bank. We used \$1.7 million of the proceeds of our March 2008 borrowings to repay a portion of our existing loan facility, resulting in a net increase in indebtedness under our two loan facilities of \$3.1 million. As a result of the increased indebtedness and the expiration of the grace period for interest under the City of Winston-Salem loan, we anticipate that our interest expense for future 2008 periods will exceed our interest expense for the comparable 2007 periods.

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 at a price of \$9.00 per share. After deducting underwriting discounts and commissions and offering expenses payable by us, our net proceeds from the offering were \$40.8 million. In January 2008, we completed a second public offering of our common stock, consisting of 4.4 million shares at a price of \$7.07 per share, the closing bid price of our common stock on the date that the offering was priced. After deducting underwriting discounts and commissions and offering expenses payable by us, our net proceeds from the offering were \$29.1 million. We have also received funding from: upfront fees; payments for research and development services and payments upon achievement of milestone events under collaboration and alliance 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.

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In July 2007, we entered into a product development and commercialization agreement and a related stock purchase agreement with GlaxoSmithKline. Pursuant to these agreements, GlaxoSmithKline made an initial payment to us of \$20.0 million and purchased 1,275,502 shares of our common stock for an aggregate purchase price of \$15.0 million. GlaxoSmithKline also made a payment to us of \$6.0 million in December 2007 upon our initiation of a Phase 1 clinical trial of TC-6499.

In December 2005, we entered into a collaboration agreement with AstraZeneca. 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, \$20.0 million in January 2007 upon achievement of a milestone event related to AZD3480 (TC-1734), \$2.0 million in November 2007 to secure the future right to license TC-5619 and \$12.9 million in aggregate research fees in the period from February 2006 through March 31, 2008.

We entered into a loan agreement with a bank in March 2008, the proceeds of which are available to fund the purchase of equipment, furnishings, software and other fixed assets. Pursuant to the agreement, the bank has first priority security interest in the assets acquired with the proceeds of the loan facility. As of March 31, 2008, the outstanding principal balance under the loan facility was \$4.8 million and there was \$489,000 of additional borrowing capacity available to us.

We have a loan facility with R.J. Reynolds Tobacco Holdings, Inc., or RJRT, that we entered into originally in May 2002 and that has been subsequently amended. All borrowings under the facility are secured by specified tangible fixed assets determined sufficient by the lender at the time of disbursement. As of March 31, 2008, the outstanding principal balance was \$249,000. There is no additional borrowing capacity available to us under our loan facility with RJRT.

In April 2002, we received a \$500,000 loan from the City of Winston-Salem. Under the terms of the loan, there was no interest accrual or payment due until the fifth anniversary. 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. As of March 31, 2008, the outstanding principal balance under the loan was \$408,000.

Our cash, cash equivalents and investments were \$110.7 million as of March 31, 2008, which included \$16.5 million in investments not classified as short term. Our cash, cash equivalents and short-term investments were \$87.0 million as of December 31, 2007.

Cash Flows

Net cash used in operating activities was \$6.7 million for the three months ended March 31, 2008, as compared to net cash provided by operating activities of \$14.2 million for the comparable three-month period in 2007, a difference of \$20.9 million. The difference was primarily due to a reduction of \$21.3 million in our collaboration revenue and accounts receivable balance for the 2007 period due to our receipt of the \$20.0 million milestone payment from AstraZeneca in January 2007. Our collaboration revenue and accounts receivable balance for the 2008 period decreased by \$2.4 million. The difference in net cash used in operating activities also reflects an increase in net loss of \$988,000 to \$5.8 million for the 2008 period, from \$4.8 million for the 2007 period, and increased recognition of deferred license fee revenue of \$1.1 million to \$1.6 million for the 2008 period, from \$563,000 for the 2007 period. The increased recognition of deferred license fee revenue is attributable to the \$20.0 million initial payment and aggregate deemed premium of \$3.5 million resulting from GlaxoSmithKline's purchase of 1,275,502 shares of our common stock in connection

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with the formation of our alliance in July 2007, the \$6.0 million payment from GlaxoSmithKline upon our initiation of a Phase 1 clinical trial of TC-6499 in December 2007 and the \$2.0 million payment in November 2007 from AstraZeneca to secure the future right to license TC-5619.

Net cash used in investing activities increased by \$12.7 million to \$13.3 million for the three months ended March 31, 2008, from \$609,000 for the comparable three-month period in 2007. Cash used in investing activities primarily reflects the portion of our cash that we allocate to, and the timing of purchases and maturities of, our investments. Additionally, our property and equipment purchases increased by \$1.0 million to \$1.5 million for the 2008 period, from \$502,000 for the 2007 period. The increased purchases were primarily for equipment to support our research and development operations and additional furniture and equipment in connection with the expansion of our leased facilities in January 2007.

Net cash provided by financing activities was \$32.1 million for the three months ended March 31, 2008, as compared to net cash used in financing activities of \$118,000 for the comparable three-month period in 2007, a difference of \$32.2 million. The difference for the 2008 period was principally attributable to our receipt of \$29.1 million in net proceeds from a public stock offering that we completed in January 2008 and incremental net borrowings of \$3.0 million under our loan facilities.

Funding Requirements

As of March 31, 2008, we had an accumulated deficit of \$170.0 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:

- the scope, progress, duration, results and cost of clinical trials, as well as non-clinical studies and assessments, of our product candidates;
- the timing, receipt and amount of milestone and other payments from AstraZeneca, GlaxoSmithKline and potential future collaborators;
- the extent to which our research and development activities in the programs that are the therapeutic focus areas of our alliance with GlaxoSmithKline result in the achievement of milestone events under our alliance agreement;
- the duration of our preclinical research collaboration with AstraZeneca;
- 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;

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- the rate of technological advancements for the indications that we target;
- our ability to establish strategic alliances, collaborations and licensing or other arrangements on terms favorable to us;
- the costs to satisfy our obligations under existing and potential future alliances and 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 clinical-stage and preclinical product candidates advance through the development cycle, as we progress our programs in the therapeutic focus areas of our alliance with GlaxoSmithKline and our preclinical research collaboration with AstraZeneca and as we invest in additional product opportunities and research programs and expand our research and development infrastructure. 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 the first half of 2010. 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, alliances, collaborations, or licensing arrangements. Additional equity or debt financing, alliances, collaborations, or 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 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.

We cannot estimate the completion dates and costs of our current internal research and development programs due to inherent uncertainties in outcomes of clinical trials and regulatory approvals of our product candidates. We cannot be certain that we will be able to successfully complete our research and development projects or successfully find alliance or distribution partners for our product candidates. Our failure to complete our research and development projects could have a material adverse effect on our financial position or results of operations.

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We have historically held a portion of our investment portfolio in AAA rated and government-guaranteed student loan ARS. Student loan ARS are designed to provide liquidity via an auction process that resets the applicable interest rate at predetermined calendar intervals, enabling investors to either roll over their holdings or gain immediate liquidity at each reset date by selling them at par value. Auctions for the student loan ARS that we own are scheduled at 28-day intervals. The uncertainties experienced in the capital markets led to failed auctions in beginning in February 2008. As of March 31, 2008, we owned \$16.8 million of student loan ARS for which auctions failed. We estimated the fair values of our student loan ARS using discounted cash flow models. Based on these models, we estimated the fair value of our ARS owned as of March 31, 2008 to be \$16.5 million, which reflects a fair value adjustment of \$297,000. These securities may not be readily redeemable to cash unless and until a future auction is successful. Based on our ability to access our cash and other short-term investments, we do not anticipate that a lack of liquidity of student loan ARS that we owned as of March 31, 2008 will affect our ability to operate our business as planned at least through 2009.

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 investments in a variety of securities of high credit quality. Our investments are typically short term. As of March 31, 2008, we had cash, cash equivalents and investments of \$94.3 million. As of March 31, 2008, we also held \$16.5 million in investments that were not considered short-term. 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, 2008 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 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 or the average Indian Rupee/U.S. dollar exchange rate were to strengthen or weaken by 10% against the exchange rate as of March 31, 2008, 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) occurring during the quarter ended March 31, 2008 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, 2008, we used all of the net proceeds to fund our operating activities, including activities relating to the development of our clinical-stage and preclinical product candidates, and for other general corporate purposes. During this period, our research and development expenses comprised approximately 80% of our operating expenses. 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.

Item 6. Exhibits

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

Our trademarks include Targacept[®], Inversine[®], Pentad[™], NNR Therapeutics[™], TRIDMAC[™] and AMPLIXA[™]. 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 8, 2008

TARGACEPT, INC.

/s/ J. Donald deBethizy

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

Date: May 8, 2008

/s/ Alan A. Musso

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

EXHIBIT INDEX

Exhibit Number	Description
1.1	Equity Underwriting Agreement, dated as of January 16, 2008, between the Company and Deutsche Bank Securities Inc. as representative of the several underwriters named therein (incorporated by reference to Exhibit 1.1 to the Company's Current Report on Form 8-K filed January 18, 2008).
10.1	Loan Agreement, dated March 7, 2008, by and between the Company and Branch Banking and Trust Company (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed March 12, 2008).
10.2*	Amendment No. 1, dated March 13, 2008, to Employment Agreement, dated as of August 22, 2000, by and between the Company and J. Donald deBethizy.
10.3*	Amendment No. 1, dated March 13, 2008, to Employment Agreement, dated as of August 22, 2000, by and between the Company and Merouane Bencherif.
10.4*	Amendment No. 2, dated March 13, 2008, to Employment Agreement, dated as of September 1, 2003, by and between the Company and Jeffrey P. Brennan, as amended.
10.5*	Amendment No. 1, dated March 13, 2008, to Employment Agreement, dated as of August 22, 2000, by and between the Company and William S. Caldwell.
10.6*	Amendment No. 1, dated March 13, 2008, to Employment Agreement, dated as of April 24, 2001, by and between the Company and Geoffrey C. Dunbar.
10.7*	Amendment No. 1, dated March 13, 2008, to Employment Agreement, dated as of February 8, 2002, by and between the Company and Alan A. Musso.
10.8*	Employment Agreement, dated as of March 13, 2008, by and between the Company and Peter A. Zorn.
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.

* Denotes management plan or contract

AMENDMENT NO. 1 TO EMPLOYMENT AGREEMENT

THIS AMENDMENT NO. 1 TO EMPLOYMENT AGREEMENT dated March 13, 2008 (this "**Amendment**") amends the Employment Agreement dated August 22, 2000 (the "**Agreement**") by and between Targacept, Inc., a Delaware corporation (the "**Company**"), and J. Donald deBethizy ("**Employee**").

RECITALS:

WHEREAS the Agreement includes certain provisions pursuant to which Employee may be entitled to severance and other benefits upon termination of his employment with the Company (collectively, the "**Potential Severance Benefits**"); and

WHEREAS the Company and Employee propose to amend the Agreement to avoid adverse tax treatment of the Potential Severance Benefits under Internal Revenue Code Section 409A, related regulations and other guidance and to modify or incorporate certain additional terms.

NOW, THEREFORE, in furtherance of the purposes described herein and for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Company and Employee hereby agree as follows:

1. Section 3(b) of the Agreement is hereby amended by deleting the second sentence thereof in its entirety and replacing it with the following:

"The eligibility for the target bonus shall be based upon the achievement of performance objectives established by the Board of Directors (or a compensation committee thereof) and shall be payable within thirty (30) days of the end of each fiscal year.";

2. Section 3(f) of the Agreement is hereby amended by deleting the first sentence thereof in its entirety and replacing it with the following:

"Employee shall also be entitled to holidays, sick leave and other time off and to participate in those life, health or other insurance plans and other employee pension and welfare benefit programs, plans, practices and benefits generally made available from time to time to similarly situated executives of Employer; provided that nothing herein shall obligate Employer to continue any of such benefits for Employee if discontinued for all other similarly situated executives of Employer."

3. Sections 5(a) and 8 of the Agreement are hereby amended by deleting the words "or The Nasdaq National Market" therefrom and replacing them with "(including, without limitation, the Nasdaq Stock Market)";

4. In consideration of the benefits to Employee resulting from this Amendment, Section 5(c) of the Agreement is hereby amended by adding the following after the end of the first sentence thereof.

“The foregoing restrictions of this Section 5(c) shall apply only to those customers, clients or patrons whom Employee solicited, called upon, or contacted on Employer’s behalf during the two (2) year period immediately preceding the termination of Employee’s employment under this Agreement.”;

5. Section 6 of the Agreement is hereby amended by deleting the text thereof in its entirety and replacing it with the following:

“Upon the “disability” of Employee, this Agreement may be terminated by action of the Board upon 30 days prior written notice (the “Disability Notice”), such termination to become effective only if such disability continues. If, prior to the effective time of the Disability Notice, Employee shall recover from such disability and return to the full-time active discharge of his duties, then the Disability Notice shall be of no further force and effect and Employee’s employment shall continue as if the same had been uninterrupted. If Employee shall not so recover from his disability and return to his duties, then his services shall terminate at the effective time of the Disability Notice with the same force and effect as if that date had been the end of the Term originally provided for hereunder. Such termination shall not prejudice any benefits payable to Employee that are fully vested as of the date of such termination. Prior to the effective time of the Disability Notice, Employee shall continue to earn all compensation to which Employee would have been entitled as if he had not been disabled, such compensation to be paid at the time, in the amounts, and in the manner provided in Section 3(a). A “disability” of Employee shall be deemed to exist at all times that Employee is considered by the insurer which has issued any policy of disability insurance owned by Employer or for which premiums are paid by Employer (the “Employer Policy”) to be totally disabled under the terms of such policy. In the event there is no Employer Policy, “disability” shall mean the inability, by reason of physical or mental incapacity, impairment or infirmity, of Employee to perform, upon request, his regular duties required herein for six consecutive months, and the determination of the existence or nonexistence of disability shall be made by a medical doctor who is licensed to practice medicine in the State of North Carolina mutually acceptable to the Board and to Employee (or, if Employee is incapacitated, his spouse).”;

6. Section 7(d) of the Agreement is hereby amended by deleting clause (ii) thereof in its entirety and replacing it with the following:

“(ii) Employee within one (1) year following the first occurrence of Good Reason, Employee shall be entitled to the following.”;

7. Section 7(d)(A) of the Agreement is hereby amended by deleting the text thereof in its entirety and replacing it with the following:

“severance, payable monthly, equal to Employee’s then current base salary for twelve (12) months following such termination or, if shorter, until such time as Employee secures other employment (the “**Severance Period**”); provided that, in the event the aggregate amount payable in the Severance Period based on the foregoing would exceed the greater of:

(1) two times the lesser of:

(x) the sum of Employee’s annualized compensation based upon his annual base salary for his taxable year preceding his taxable year in which his employment hereunder terminates (adjusted for any increase during that year that was expected to continue indefinitely if Employee’s employment had not terminated); or

(y) the maximum amount that may be taken into account under a qualified plan pursuant to Section 401(a)(17) of the Internal Revenue Code of 1986, as amended (the “Code”), for the year in which Employee’s employment hereunder is terminated; or

(2) the maximum amount that would be exempt under Section 409A of the Code;

then, Employer (or its successor) shall pay the amount of such excess to Employee in a lump sum on the date that is two and one-half months following the end of Employer’s (or its successor’s) taxable year during which the termination of Employee’s employment occurs;”;

8. Section 7(d)(D) of the Agreement is hereby amended by deleting the text thereof in its entirety and replacing it with the following:

“outplacement counseling services selected by Employee, up to a maximum of \$10,000 and provided that (1) such expense is incurred by Employee on or before the second anniversary of December 31 of the year during which the termination of Employee’s employment occurs and (2) such amount is paid by Employer on or before the third anniversary of December 31 of the year during which the termination of Employee’s employment occurs.”;

9. Section 7(e) of the Agreement is hereby by amended by deleting the text thereof in its entirety and replacing it with the following:

“If Employer (or its successor) terminates Employee’s employment for Just Cause, Employee shall forfeit any unexercised vested stock options at the date of termination. If Employee terminates his employment or if Employer (or its successor) terminates Employee’s employment without Just Cause, Employee shall have, with respect to each vested stock option, until the earlier of (i) three (3) months or ninety (90) days (whichever is applicable to the plan pursuant to which the stock option was granted) from the date of termination or (ii) the last day of the applicable option period or option term, to exercise such vested stock option.”;

10. Section 7(f) of the Agreement is hereby amended by (i) deleting the period at the end of clause (B) thereof and replacing it with the word “or” and (ii) deleting the period at the end of clause (C) thereof and replacing it with the following:

“; provided that “Good Reason” pursuant to any of clauses (A), (B) or (C) above shall be conditional on (i) Employee having provided written notice to Employer (or its successor) of the initial existence of any or all of the foregoing events within ninety (90) days of the initial existence of such event and (ii) such event continuing to exist thirty (30) days after the date of such written notice from Employee.”;

11. Section 7(g) of the Agreement is hereby amended by deleting the second sentence thereof in its entirety and replacing it with the following:

“Employee agrees that (i) the payment of any severance or other benefits pursuant to this Section 7 shall be contingent on the delivery by Employee to Employer of a release and waiver of legal claims related to the employment relationship between Employee and Employer in a form reasonably acceptable to Employer and (ii) the payments and benefits provided hereunder, subject to the terms and conditions hereof, shall be in full satisfaction of any rights which he might otherwise have or claim by operation of law, by implied contract or otherwise, except for rights which he may have under any employee benefit plan of Employer.”;

12. The Agreement is hereby amended by adding the following as Section 7(h) thereof:

“(h) To the extent applicable, Employer and Employee intend that this Agreement comply with Section 409A of the Code. The parties hereby agree that this Agreement shall at all times be construed in a manner to comply with Section 409A and that should any provision be found not in compliance with Section 409A, the parties are hereby contractually obligated to execute any and all amendments to this Agreement deemed necessary and required by legal counsel to achieve compliance with Section 409A. In the event amendments are required to be made to this Agreement to comply with Section 409A, Employer shall use its best efforts to provide Employee with substantially the same payments he would have been entitled to pursuant to this Agreement had Section 409A not applied, but in a manner that is compliant with Section 409A. The manner in which the immediately preceding sentence shall be implemented shall be the subject of good faith negotiations of the parties. The parties also agree that in no event shall any payment required to be made pursuant to this Agreement that is considered deferred compensation within the meaning of Section 409A be accelerated in violation of Code Section 409A.”;

13. Section 9(b) of the Agreement is hereby amended by inserting the following after the first sentence thereof:

“To the extent necessary, the terms of Section 7(d)(B) shall be deemed incorporated into any option or similar agreement evidencing an award made to Employee prior to or after the date hereof.”;

14. Section 9(j) of the Agreement is hereby amended by deleting the text thereof in its entirety and replacing it with the following:

“Except as otherwise provided in this Section 9(j), any controversy or claim arising out of or relating to this Agreement shall be settled by arbitration in accordance with Commercial Arbitration Rules of the American Arbitration Association then in effect, and judgment upon the award rendered by the arbitration panel, which shall consist of three members, may be entered in any court having jurisdiction. Any arbitration shall be held in Winston-Salem, North Carolina, unless otherwise agreed in writing by the parties. One arbitrator shall be selected by Employee, one arbitrator shall be selected by Employer, and the third arbitrator shall be selected by the two arbitrators selected by Employee and Employer. Notwithstanding the foregoing, any claim or dispute with respect to or arising out of any of the covenants in Section 5 or the covenant in Section 8 related to Employee’s interest in other businesses, or any statutory or common law claim of patent infringement, misappropriation of trade secrets, unfair competition, unfair or deceptive trade practices, interference with contract, or interference with actual or prospective economic or business relations, shall be excluded from this Section 9(j).”;

15. As amended by this Amendment, the Agreement shall continue in full force and effect; and

16. This Amendment shall be construed and enforced according to the laws of the State of North Carolina, without regard to the principles of conflicts of laws.

[signature page follows]

IN WITNESS WHEREOF, this Amendment has been executed in behalf of the Company and Employee on the day and year first above written.

TARGACEPT, INC.

By: Alan A. Musso
Name: Alan A. Musso
Title: Vice President and Chief Financial Officer

EMPLOYEE

/s/ J. Donald deBethizy
J. Donald deBethizy

AMENDMENT NO. 1 TO EMPLOYMENT AGREEMENT

THIS AMENDMENT NO. 1 TO EMPLOYMENT AGREEMENT dated March 13, 2008 (this "**Amendment**") amends the Employment Agreement dated August 22, 2000 (the "**Agreement**") by and between Targacept, Inc., a Delaware corporation (the "**Company**"), and Merouane Bencherif ("**Employee**").

RECITALS:

WHEREAS the Agreement includes certain provisions pursuant to which Employee may be entitled to severance and other benefits upon termination of his employment with the Company (collectively, the "**Potential Severance Benefits**"); and

WHEREAS the Company and Employee propose to amend the Agreement to avoid adverse tax treatment of the Potential Severance Benefits under Internal Revenue Code Section 409A, related regulations and other guidance and to modify or incorporate certain additional terms.

NOW, THEREFORE, in furtherance of the purposes described herein and for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Company and Employee hereby agree as follows:

1. Section 3(b) of the Agreement is hereby amended by deleting the second sentence thereof in its entirety and replacing it with the following:

"The eligibility for the target bonus shall be based upon the achievement of performance objectives established by the Board of Directors (or a compensation committee thereof) in consultation with Employer's chief executive officer and shall be payable within thirty (30) days of the end of each fiscal year.";

2. Section 3(f) of the Agreement is hereby amended by deleting the first sentence thereof in its entirety and replacing it with the following:

"Employee shall also be entitled to holidays, sick leave and other time off and to participate in those life, health or other insurance plans and other employee pension and welfare benefit programs, plans, practices and benefits generally made available from time to time to similarly situated executives of Employer; provided that nothing herein shall obligate Employer to continue any of such benefits for Employee if discontinued for all other similarly situated executives of Employer."

3 Sections 5(a) and 8 of the Agreement are hereby amended by deleting the words "or The Nasdaq National Market" therefrom and replacing them with "(including, without limitation, the Nasdaq Stock Market)";

4. In consideration of the benefits to Employee resulting from this Amendment, Section 5(c) of the Agreement is hereby amended by adding the following after the end of the first sentence thereof.

“The foregoing restrictions of this Section 5(c) shall apply only to those customers, clients or patrons whom Employee solicited, called upon, or contacted on Employer’s behalf during the two (2) year period immediately preceding the termination of Employee’s employment under this Agreement.”;

5. Section 6 of the Agreement is hereby amended by deleting the text thereof in its entirety and replacing it with the following:

“Upon the “disability” of Employee, this Agreement may be terminated by action of the Board upon 30 days prior written notice (the “Disability Notice”), such termination to become effective only if such disability continues. If, prior to the effective time of the Disability Notice, Employee shall recover from such disability and return to the full-time active discharge of his duties, then the Disability Notice shall be of no further force and effect and Employee’s employment shall continue as if the same had been uninterrupted. If Employee shall not so recover from his disability and return to his duties, then his services shall terminate at the effective time of the Disability Notice with the same force and effect as if that date had been the end of the Term originally provided for hereunder. Such termination shall not prejudice any benefits payable to Employee that are fully vested as of the date of such termination. Prior to the effective time of the Disability Notice, Employee shall continue to earn all compensation to which Employee would have been entitled as if he had not been disabled, such compensation to be paid at the time, in the amounts, and in the manner provided in Section 3(a). A “disability” of Employee shall be deemed to exist at all times that Employee is considered by the insurer which has issued any policy of disability insurance owned by Employer or for which premiums are paid by Employer (the “Employer Policy”) to be totally disabled under the terms of such policy. In the event there is no Employer Policy, “disability” shall mean the inability, by reason of physical or mental incapacity, impairment or infirmity, of Employee to perform, upon request, his regular duties required herein for six consecutive months, and the determination of the existence or nonexistence of disability shall be made by a medical doctor who is licensed to practice medicine in the State of North Carolina mutually acceptable to the Board and to Employee (or, if Employee is incapacitated, his spouse).”;

6. Section 7(d) of the Agreement is hereby amended by deleting clause (ii) thereof in its entirety and replacing it with the following:

“(ii) Employee within one (1) year following the first occurrence of Good Reason, Employee shall be entitled to the following:”;

7. Section 7(d)(A) of the Agreement is hereby amended by deleting the text thereof in its entirety and replacing it with the following:

“severance, payable monthly, equal to Employee’s then current base salary for nine (9) months following such termination or, if shorter, until such time as Employee secures other employment (the “**Severance Period**”); provided that, in the event the aggregate amount payable in the Severance Period based on the foregoing would exceed the greater of:

(1) two times the lesser of:

(x) the sum of Employee's annualized compensation based upon his annual base salary for his taxable year preceding his taxable year in which his employment hereunder terminates (adjusted for any increase during that year that was expected to continue indefinitely if Employee's employment had not terminated); or

(y) the maximum amount that may be taken into account under a qualified plan pursuant to Section 401(a)(17) of the Internal Revenue Code of 1986, as amended (the "Code"), for the year in which Employee's employment hereunder is terminated; or

(2) the maximum amount that would be exempt under Section 409A of the Code;

then, Employer (or its successor) shall pay the amount of such excess to Employee in a lump sum on the date that is two and one-half months following the end of Employer's (or its successor's) taxable year during which the termination of Employee's employment occurs;"

8. Section 7(d)(D) of the Agreement is hereby amended by deleting the text thereof in its entirety and replacing it with the following:

"outplacement counseling services selected by Employee, up to a maximum of \$10,000 and provided that (1) such expense is incurred by Employee on or before the second anniversary of December 31 of the year during which the termination of Employee's employment occurs and (2) such amount is paid by Employer on or before the third anniversary of December 31 of the year during which the termination of Employee's employment occurs.";

9. Section 7(e) of the Agreement is hereby by amended by deleting the text thereof in its entirety and replacing it with the following:

"If Employer (or its successor) terminates Employee's employment for Just Cause, Employee shall forfeit any unexercised vested stock options at the date of termination. If Employee terminates his employment or if Employer (or its successor) terminates Employee's employment without Just Cause, Employee shall have, with respect to each vested stock option, until the earlier of (i) three (3) months or ninety (90) days (whichever is applicable to the plan pursuant to which the stock option was granted) from the date of termination or (ii) the last day of the applicable option period or option term, to exercise such vested stock option.";

10. Section 7(f) of the Agreement is hereby amended by (i) deleting the period at the end of clause (B) thereof and replacing it with the word "or" and (ii) deleting the period at the end of clause (C) thereof and replacing it with the following:

"; provided that "Good Reason" pursuant to any of clauses (A), (B) or (C) above shall be conditional on (i) Employee having provided written notice to Employer (or its successor) of the initial existence of any or all of the foregoing events within ninety (90) days of the initial existence of such event and (ii) such event continuing to exist thirty (30) days after the date of such written notice from Employee.";

11. Section 7(g) of the Agreement is hereby amended by deleting the second sentence thereof in its entirety and replacing it with the following:

“Employee agrees that (i) the payment of any severance or other benefits pursuant to this Section 7 shall be contingent on the delivery by Employee to Employer of a release and waiver of legal claims related to the employment relationship between Employee and Employer in a form reasonably acceptable to Employer and (ii) the payments and benefits provided hereunder, subject to the terms and conditions hereof, shall be in full satisfaction of any rights which he might otherwise have or claim by operation of law, by implied contract or otherwise, except for rights which he may have under any employee benefit plan of Employer.”;

12. The Agreement is hereby amended by adding the following as Section 7(h) thereof:

“(h) To the extent applicable, Employer and Employee intend that this Agreement comply with Section 409A of the Code. The parties hereby agree that this Agreement shall at all times be construed in a manner to comply with Section 409A and that should any provision be found not in compliance with Section 409A, the parties are hereby contractually obligated to execute any and all amendments to this Agreement deemed necessary and required by legal counsel to achieve compliance with Section 409A. In the event amendments are required to be made to this Agreement to comply with Section 409A, Employer shall use its best efforts to provide Employee with substantially the same payments he would have been entitled to pursuant to this Agreement had Section 409A not applied, but in a manner that is compliant with Section 409A. The manner in which the immediately preceding sentence shall be implemented shall be the subject of good faith negotiations of the parties. The parties also agree that in no event shall any payment required to be made pursuant to this Agreement that is considered deferred compensation within the meaning of Section 409A be accelerated in violation of Code Section 409A.”;

13. Section 9(b) of the Agreement is hereby amended by inserting the following after the first sentence thereof:

“To the extent necessary, the terms of Section 7(d)(B) shall be deemed incorporated into any option or similar agreement evidencing an award made to Employee prior to or after the date hereof.”;

14. Section 9(j) of the Agreement is hereby amended by deleting the text thereof in its entirety and replacing it with the following:

“Except as otherwise provided in this Section 9(j), any controversy or claim arising out of or relating to this Agreement shall be settled by arbitration in accordance with Commercial Arbitration Rules of the American Arbitration Association then in effect, and judgment upon the award rendered by the arbitration panel, which shall consist of three members, may be entered in any court having jurisdiction. Any arbitration shall be held in Winston-Salem, North Carolina, unless otherwise agreed in writing by the parties. One arbitrator shall be selected by Employee, one arbitrator shall be selected by Employer, and the third arbitrator shall be selected by the two arbitrators selected by Employee and Employer. Notwithstanding the foregoing, any claim or dispute with respect to or arising out of any of the covenants in Section 5 or the last sentence of Section 8, or any statutory or common law claim of patent infringement, misappropriation of trade secrets, unfair competition, unfair or deceptive trade practices, interference with contract, or interference with actual or prospective economic or business relations, shall be excluded from this Section 9(j).”;

15. As amended by this Amendment, the Agreement shall continue in full force and effect; and

16. This Amendment shall be construed and enforced according to the laws of the State of North Carolina, without regard to the principles of conflicts of laws.

[signature page follows]

IN WITNESS WHEREOF, this Amendment has been executed in behalf of the Company and Employee on the day and year first above written.

TARGACEPT, INC.

By: /s/ J. Donald deBethizy

Name: J. Donald deBethizy

Title: President and Chief Executive Officer

EMPLOYEE

/s/ Merouane Bencherif

Merouane Bencherif

AMENDMENT NO. 2 TO EMPLOYMENT AGREEMENT

THIS AMENDMENT NO 2 TO EMPLOYMENT AGREEMENT dated March 13, 2008 (this "**Amendment**") amends the Employment Agreement dated September 1, 2003, as amended (the "**Agreement**"), by and between Targacept, Inc., a Delaware corporation (the "**Company**"), and Jeffrey P. Brennan ("**Employee**").

RECITALS:

WHEREAS the Agreement includes certain provisions pursuant to which Employee may be entitled to severance and other benefits upon termination of his employment with the Company (collectively, the "**Potential Severance Benefits**"); and

WHEREAS the Company and Employee propose to amend the Agreement to avoid adverse tax treatment of the Potential Severance Benefits under Internal Revenue Code Section 409A, related regulations and other guidance and to modify or incorporate certain additional terms.

NOW, THEREFORE, in furtherance of the purposes described herein and for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Company and Employee hereby agree as follows:

1. Section 3(b) of the Agreement is hereby amended by deleting the second sentence thereof in its entirety and replacing it with the following:

"The eligibility for the target bonus shall be based upon the achievement of performance objectives established by the Board of Directors (or a compensation committee thereof) in consultation with Employer's chief executive officer and shall be payable within thirty (30) days of the end of each fiscal year.";

2. Section 3(f) of the Agreement is hereby amended by deleting the first sentence thereof in its entirety and replacing it with the following:

"Employee shall also be entitled to holidays, sick leave and other time off and to participate in those life, health or other insurance plans and other employee pension and welfare benefit programs, plans, practices and benefits generally made available from time to time to all similarly situated executives of Employer; provided that nothing herein shall obligate Employer to continue any of such benefits for Employee if discontinued for all other similarly situated executives of Employer."

3. Sections 5(a) and 5(e) of the Agreement are hereby amended by deleting the words "or The Nasdaq National Market" therefrom and replacing them with "(including, without limitation, the Nasdaq Stock Market)";

4. Section 5(b) of the Agreement is hereby amended by deleting the second sentence thereof in its entirety and replacing it with the following:

"Employee acknowledges that his relationship with Employer is a confidential relationship, and agrees that he shall not, either directly or indirectly, use any Proprietary Information for his own benefit, or divulge, disclose or communicate any Proprietary

Information in any manner whatsoever to any person or Entity other than to employees or agents of Employer having a need to know such Proprietary Information to perform their responsibilities on behalf of Employer, and to other persons or Entities in the normal course of Employer's business.”;

5. Section 5(c) of the Agreement is hereby amended by (i) deleting each reference to “this Employment” therein and replacing it with a reference to “his Employment” and, in consideration of the benefits to Employee resulting from this Amendment, (ii) adding the following after the end of the first sentence thereof.

“The foregoing restrictions of this Section 5(c) shall apply only to those customers, clients or patrons whom Employee solicited, called upon, or contacted on Employer's behalf during the two (2) year period immediately preceding the termination of Employee's employment under this Agreement.”;

6. Section 5(j) of the Agreement is hereby amended by deleting the word “nicotine” and replacing it with the word “nicotinic”;

7. Section 6 of the Agreement is hereby amended by deleting the text thereof in its entirety and replacing it with the following:

“Upon the “disability” of Employee, this Agreement may be terminated by action of the Board upon 30 days prior written notice (the “Disability Notice”), such termination to become effective only if such disability continues. If, prior to the effective time of the Disability Notice, Employee shall recover from such disability and return to the full-time active discharge of his duties, then the Disability Notice shall be of no further force and effect and Employee's employment shall continue as if the same had been uninterrupted. If Employee shall not so recover from his disability and return to his duties, then his services shall terminate at the effective time of the Disability Notice with the same force and effect as if that date had been the end of the Term originally provided for hereunder. Such termination shall not prejudice any benefits payable to Employee that are fully vested as of the date of such termination. Prior to the effective time of the Disability Notice, Employee shall continue to earn all compensation to which Employee would have been entitled as if he had not been disabled, such compensation to be paid at the time, in the amounts, and in the manner provided in Section 3(a). A “disability” of Employee shall be deemed to exist at all times that Employee is considered by the insurer which has issued any policy of disability insurance owned by Employer or for which premiums are paid by Employer (the “Employer Policy”) to be totally disabled under the terms of such policy. In the event there is no Employer Policy, “disability” shall mean the inability, by reason of physical or mental incapacity, impairment or infirmity, of Employee to perform, upon request, his regular duties required herein for six consecutive months, and the determination of the existence or nonexistence of disability shall be made by a medical doctor who is licensed to practice medicine in the State of North Carolina mutually acceptable to the Board and to Employee (or, if Employee is incapacitated, his spouse).”;

8. Section 7(d) of the Agreement is hereby amended by deleting clause (ii) thereof in its entirety and replacing it with the following:

“(ii) Employee within one (1) year following the first occurrence of Good Reason, Employee shall be entitled to the following:”;

9. Section 7(d)(A) of the Agreement is hereby amended by deleting the text thereof in its entirety and replacing it with the following:

“severance, payable monthly, equal to Employee’s then current base salary for nine (9) months following such termination or, if shorter, until such time as Employee secures other employment (the “**Severance Period**”); provided that, in the event the aggregate amount payable in the Severance Period based on the foregoing would exceed the greater of:

(1) two times the lesser of:

(x) the sum of Employee’s annualized compensation based upon his annual base salary for his taxable year preceding his taxable year in which his employment hereunder terminates (adjusted for any increase during that year that was expected to continue indefinitely if Employee’s employment had not terminated); or

(y) the maximum amount that may be taken into account under a qualified plan pursuant to Section 401(a)(17) of the Internal Revenue Code of 1986, as amended (the “**Code**”), for the year in which Employee’s employment hereunder is terminated; or

(2) the maximum amount that would be exempt under Section 409A of the Code;

then, Employer (or its successor) shall pay the amount of such excess to Employee in a lump sum on the date that is two and one-half months following the end of Employer’s (or its successor’s) taxable year during which the termination of Employee’s employment occurs;”;

10. Section 7(d)(D) of the Agreement is hereby amended by deleting the text thereof in its entirety and replacing it with the following:

“outplacement counseling services selected by Employer, up to a maximum of \$10,000 and provided that (1) such expense is incurred by Employee on or before the second anniversary of December 31 of the year during which the termination of Employee’s employment occurs and (2) such amount is paid by Employer on or before the third anniversary of December 31 of the year during which the termination of Employee’s employment occurs.”;

11. Section 7(e) of the Agreement is hereby amended by deleting the text thereof in its entirety and replacing it with the following:

“If Employer (or its successor) terminates Employee’s employment for Just Cause, Employee shall forfeit any unexercised vested stock options at the date of termination. If Employee terminates his employment or if Employer (or its successor) terminates Employee’s employment without Just Cause, Employee shall have, with respect to each vested stock option, until the earlier of (i) three (3) months or ninety (90) days (whichever is applicable to the plan pursuant to which the stock option was granted) from the date of termination or (ii) the last day of the applicable option period or option term, to exercise such vested stock option.”;

12. Section 7(f) of the Agreement is hereby amended by (i) deleting the word “and” at the end of clause (A) thereof and replacing it with the word “or” and (ii) deleting the period at the end of clause (B) thereof and replacing it with the following:

“; provided that “Good Reason” pursuant to either of clauses (A) or (B) above shall be conditional on (i) Employee having provided written notice to Employer (or its successor) of the initial existence of any or all of the foregoing events within ninety (90) days of the initial existence of such event and (ii) such event continuing to exist thirty (30) days after the date of such written notice from Employee”;

13. Section 7(g) of the Agreement is hereby amended by deleting the text thereof in its entirety and replacing it with the following:

“Except as otherwise provided in this Section 7, upon termination of this Agreement for any reason, Employee shall not be entitled to any form of severance benefits, including benefits otherwise payable under any of Employer’s regular severance plans or policies, or any other payment whatsoever. Employee agrees that (i) the payment of any severance or other benefits pursuant to this Section 7 shall be contingent on the delivery by Employee to Employer of a release and waiver of legal claims related to the employment relationship between Employee and Employer in a form reasonably acceptable to Employer and (ii) the payments and benefits provided hereunder, subject to the terms and conditions hereof, shall be in full satisfaction of any rights which he might otherwise have or claim by operation of law, by implied contract or otherwise, except for rights which he may have under any employee benefit plan of Employer.”;

14. The Agreement is hereby amended by adding the following as Section 7(h) thereof:

“(h) To the extent applicable, Employer and Employee intend that this Agreement comply with Section 409A of the Code. The parties hereby agree that this Agreement shall at all times be construed in a manner to comply with Section 409A and that should any provision be found not in compliance with Section 409A, the parties are hereby contractually obligated to execute any and all amendments to this Agreement deemed necessary and required by legal counsel to achieve compliance with Section 409A. In the event amendments are required to be made to this Agreement to comply with Section 409A, Employer shall use its best efforts to provide Employee with substantially the same payments he would have been entitled to pursuant to this Agreement had Section 409A not applied, but in a manner that is compliant with Section 409A. The manner in which the immediately preceding sentence shall be implemented shall be the subject of good faith negotiations of the parties. The parties also agree that in no event shall any payment required to be made pursuant to this Agreement that is considered deferred compensation within the meaning of Section 409A be accelerated in violation of Code Section 409A.”;

15. Section 8(b) of the Agreement is hereby amended by deleting the first sentence thereof in its entirety and replacing it with the following:

“With the exception of the aforementioned Option Agreement, this Agreement constitutes the entire Agreement between Employee and Employer with respect to the subject matter hereof, and supersedes in their entirety any and all prior oral or written agreements, understandings or arrangements between Employee and Employer or any of its affiliates relating to the terms of

Employee's employment by Employer, and all such agreements, understandings and arrangements are hereby terminated and are of no force and effect. To the extent necessary, the terms of Section 7(d)(B) shall be deemed incorporated into any option or similar agreement evidencing an award made to Employee prior to or after the date hereof.”;

16. Section 8(j) of the Agreement is hereby amended by deleting the text thereof in its entirety and replacing it with the following:

“Except as otherwise provided in this Section 8(j), any controversy or claim arising out of or relating to this Agreement shall be settled by arbitration in accordance with Commercial Arbitration Rules of the American Arbitration Association then in effect, and judgment upon the award rendered by the arbitration panel, which shall consist of three members, may be entered in any court having jurisdiction. Any arbitration shall be held in Winston-Salem, North Carolina, unless otherwise agreed in writing by the parties. One arbitrator shall be selected by Employee, one arbitrator shall be selected by Employer, and the third arbitrator shall be selected by the two arbitrators selected by Employee and Employer. Notwithstanding the foregoing, any claim or dispute with respect to or arising out of any of the covenants in Section 5, or any statutory or common law claim of patent infringement, misappropriation of trade secrets, unfair competition, unfair or deceptive trade practices, interference with contract, or interference with actual or prospective economic or business relations, shall be excluded from this Section 8(j).”

17. As amended by this Amendment, the Agreement shall continue in full force and effect; and

18. This Amendment shall be construed and enforced according to the laws of the State of North Carolina, without regard to the principles of conflicts of laws.

[signature page follows]

IN WITNESS WHEREOF, this Amendment has been executed in behalf of the Company and Employee on the day and year first above written.

TARGACEPT, INC.

By: /s/ J. Donald deBethizy

Name: J. Donald deBethizy

Title: President and Chief Executive Officer

EMPLOYEE

/s/ Jeffrey P. Brennan

Jeffrey P. Brennan

AMENDMENT NO. 1 TO EMPLOYMENT AGREEMENT

THIS AMENDMENT NO. 1 TO EMPLOYMENT AGREEMENT dated March 13, 2008 (this "**Amendment**") amends the Employment Agreement dated August 22, 2000 (the "**Agreement**") by and between Targacept, Inc., a Delaware corporation (the "**Company**"), and William S. Caldwell ("**Employee**").

RECITALS:

WHEREAS the Agreement includes certain provisions pursuant to which Employee may be entitled to severance and other benefits upon termination of his employment with the Company (collectively, the "**Potential Severance Benefits**"); and

WHEREAS the Company and Employee propose to amend the Agreement to avoid adverse tax treatment of the Potential Severance Benefits under Internal Revenue Code Section 409A, related regulations and other guidance and to modify or incorporate certain additional terms.

NOW, THEREFORE, in furtherance of the purposes described herein and for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Company and Employee hereby agree as follows:

1. Section 3(b) of the Agreement is hereby amended by deleting the second sentence thereof in its entirety and replacing it with the following:

"The eligibility for the target bonus shall be based upon the achievement of performance objectives established by the Board of Directors (or a compensation committee thereof) in consultation with Employer's chief executive officer and shall be payable within thirty (30) days of the end of each fiscal year.";

2. Section 3(f) of the Agreement is hereby amended by deleting the first sentence thereof in its entirety and replacing it with the following:

"Employee shall also be entitled to holidays, sick leave and other time off and to participate in those life, health or other insurance plans and other employee pension and welfare benefit programs, plans, practices and benefits generally made available from time to time to similarly situated executives of Employer; provided that nothing herein shall obligate Employer to continue any of such benefits for Employee if discontinued for all other similarly situated executives of Employer."

3 Sections 5(a) and 8 of the Agreement are hereby amended by deleting the words "or The Nasdaq National Market" therefrom and replacing them with "(including, without limitation, the Nasdaq Stock Market)";

4. In consideration of the benefits to Employee resulting from this Amendment, Section 5(c) of the Agreement is hereby amended by adding the following after the end of the first sentence thereof.

“The foregoing restrictions of this Section 5(c) shall apply only to those customers, clients or patrons whom Employee solicited, called upon, or contacted on Employer’s behalf during the two (2) year period immediately preceding the termination of Employee’s employment under this Agreement.”;

5. Section 6 of the Agreement is hereby amended by deleting the text thereof in its entirety and replacing it with the following:

“Upon the “disability” of Employee, this Agreement may be terminated by action of the Board upon 30 days prior written notice (the “Disability Notice”), such termination to become effective only if such disability continues. If, prior to the effective time of the Disability Notice, Employee shall recover from such disability and return to the full-time active discharge of his duties, then the Disability Notice shall be of no further force and effect and Employee’s employment shall continue as if the same had been uninterrupted. If Employee shall not so recover from his disability and return to his duties, then his services shall terminate at the effective time of the Disability Notice with the same force and effect as if that date had been the end of the Term originally provided for hereunder. Such termination shall not prejudice any benefits payable to Employee that are fully vested as of the date of such termination. Prior to the effective time of the Disability Notice, Employee shall continue to earn all compensation to which Employee would have been entitled as if he had not been disabled, such compensation to be paid at the time, in the amounts, and in the manner provided in Section 3(a). A “disability” of Employee shall be deemed to exist at all times that Employee is considered by the insurer which has issued any policy of disability insurance owned by Employer or for which premiums are paid by Employer (the “Employer Policy”) to be totally disabled under the terms of such policy. In the event there is no Employer Policy, “disability” shall mean the inability, by reason of physical or mental incapacity, impairment or infirmity, of Employee to perform, upon request, his regular duties required herein for six consecutive months, and the determination of the existence or nonexistence of disability shall be made by a medical doctor who is licensed to practice medicine in the State of North Carolina mutually acceptable to the Board and to Employee (or, if Employee is incapacitated, his spouse).”;

6. Section 7(d) of the Agreement is hereby amended by deleting clause (ii) thereof in its entirety and replacing it with the following:

“(ii) Employee within one (1) year following the first occurrence of Good Reason, Employee shall be entitled to the following:”;

7. Section 7(d)(A) of the Agreement is hereby amended by deleting the text thereof in its entirety and replacing it with the following:

“severance, payable monthly, equal to Employee’s then current base salary for nine (9) months following such termination or, if shorter, until such time as Employee secures other employment (the “**Severance Period**”); provided that, in the event the aggregate amount payable in the Severance Period based on the foregoing would exceed the greater of:

(1) two times the lesser of:

(x) the sum of Employee's annualized compensation based upon his annual base salary for his taxable year preceding his taxable year in which his employment hereunder terminates (adjusted for any increase during that year that was expected to continue indefinitely if Employee's employment had not terminated); or

(y) the maximum amount that may be taken into account under a qualified plan pursuant to Section 401(a)(17) of the Internal Revenue Code of 1986, as amended (the "Code"), for the year in which Employee's employment hereunder is terminated; or

(2) the maximum amount that would be exempt under Section 409A of the Code;

then, Employer (or its successor) shall pay the amount of such excess to Employee in a lump sum on the date that is two and one-half months following the end of Employer's (or its successor's) taxable year during which the termination of Employee's employment occurs;"

8. Section 7(d)(D) of the Agreement is hereby amended by deleting the text thereof in its entirety and replacing it with the following:

"outplacement counseling services selected by Employee, up to a maximum of \$10,000 and provided that (1) such expense is incurred by Employee on or before the second anniversary of December 31 of the year during which the termination of Employee's employment occurs and (2) such amount is paid by Employer on or before the third anniversary of December 31 of the year during which the termination of Employee's employment occurs.";

9. Section 7(e) of the Agreement is hereby by amended by deleting the text thereof in its entirety and replacing it with the following:

"If Employer (or its successor) terminates Employee's employment for Just Cause, Employee shall forfeit any unexercised vested stock options at the date of termination. If Employee terminates his employment or if Employer (or its successor) terminates Employee's employment without Just Cause, Employee shall have, with respect to each vested stock option, until the earlier of (i) three (3) months or ninety (90) days (whichever is applicable to the plan pursuant to which the stock option was granted) from the date of termination or (ii) the last day of the applicable option period or option term, to exercise such vested stock option.";

10. Section 7(f) of the Agreement is hereby amended by (i) deleting the period at the end of clause (B) thereof and replacing it with the word "or" and (ii) deleting the period at the end of clause (C) thereof and replacing it with the following:

"; provided that "Good Reason" pursuant to any of clauses (A), (B) or (C) above shall be conditional on (i) Employee having provided written notice to Employer (or its successor) of the initial existence of any or all of the foregoing events within ninety (90) days of the initial existence of such event and (ii) such event continuing to exist thirty (30) days after the date of such written notice from Employee.";

11. Section 7(g) of the Agreement is hereby amended by deleting the second sentence thereof in its entirety and replacing it with the following:

“Employee agrees that (i) the payment of any severance or other benefits pursuant to this Section 7 shall be contingent on the delivery by Employee to Employer of a release and waiver of legal claims related to the employment relationship between Employee and Employer in a form reasonably acceptable to Employer and (ii) the payments and benefits provided hereunder, subject to the terms and conditions hereof, shall be in full satisfaction of any rights which he might otherwise have or claim by operation of law, by implied contract or otherwise, except for rights which he may have under any employee benefit plan of Employer.”;

12. The Agreement is hereby amended by adding the following as Section 7(h) thereof:

“(h) To the extent applicable, Employer and Employee intend that this Agreement comply with Section 409A of the Code. The parties hereby agree that this Agreement shall at all times be construed in a manner to comply with Section 409A and that should any provision be found not in compliance with Section 409A, the parties are hereby contractually obligated to execute any and all amendments to this Agreement deemed necessary and required by legal counsel to achieve compliance with Section 409A. In the event amendments are required to be made to this Agreement to comply with Section 409A, Employer shall use its best efforts to provide Employee with substantially the same payments he would have been entitled to pursuant to this Agreement had Section 409A not applied, but in a manner that is compliant with Section 409A. The manner in which the immediately preceding sentence shall be implemented shall be the subject of good faith negotiations of the parties. The parties also agree that in no event shall any payment required to be made pursuant to this Agreement that is considered deferred compensation within the meaning of Section 409A be accelerated in violation of Code Section 409A.”;

13. Section 9(b) of the Agreement is hereby amended by inserting the following after the first sentence thereof:

“To the extent necessary, the terms of Section 7(d)(B) shall be deemed incorporated into any option or similar agreement evidencing an award made to Employee prior to or after the date hereof.”;

14. Section 9(j) of the Agreement is hereby amended by deleting the text thereof in its entirety and replacing it with the following:

“Except as otherwise provided in this Section 9(j), any controversy or claim arising out of or relating to this Agreement shall be settled by arbitration in accordance with Commercial Arbitration Rules of the American Arbitration Association then in effect, and judgment upon the award rendered by the arbitration panel, which shall consist of three members, may be entered in any court having jurisdiction. Any arbitration shall be held in Winston-Salem, North Carolina, unless otherwise agreed in writing by the parties. One arbitrator shall be selected by Employee, one arbitrator shall be selected by Employer, and the third arbitrator shall be selected by the two arbitrators selected by Employee and Employer. Notwithstanding the foregoing, any claim or dispute with respect to or arising out of any of the covenants in Section 5 or the last sentence of Section 8, or any statutory or common law claim of patent infringement, misappropriation of trade secrets, unfair competition, unfair or deceptive trade practices, interference with contract, or interference with actual or prospective economic or business relations, shall be excluded from this Section 9(j).”;

15. As amended by this Amendment, the Agreement shall continue in full force and effect; and

16. This Amendment shall be construed and enforced according to the laws of the State of North Carolina, without regard to the principles of conflicts of laws.

[signature page follows]

IN WITNESS WHEREOF, this Amendment has been executed in behalf of the Company and Employee on the day and year first above written.

TARGACEPT, INC.

By: /s/ J. Donald deBethizy

Name: J. Donald deBethizy

Title: President and Chief Executive Officer

EMPLOYEE

/s/ William S. Caldwell

William S. Caldwell

AMENDMENT NO. 1 TO EMPLOYMENT AGREEMENT

THIS AMENDMENT NO. 1 TO EMPLOYMENT AGREEMENT dated March 13, 2008 (this "**Amendment**") amends the Employment Agreement dated April 24, 2001 (the "**Agreement**") by and between Targacept, Inc., a Delaware corporation (the "**Company**"), and Geoffrey C. Dunbar ("**Employee**").

RECITALS:

WHEREAS the Agreement includes certain provisions pursuant to which Employee may be entitled to severance and other benefits upon termination of his employment with the Company (collectively, the "**Potential Severance Benefits**"); and

WHEREAS the Company and Employee propose to amend the Agreement to avoid adverse tax treatment of the Potential Severance Benefits under Internal Revenue Code Section 409A, related regulations and other guidance and to modify or incorporate certain additional terms.

NOW, THEREFORE, in furtherance of the purposes described herein and for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Company and Employee hereby agree as follows:

1. Section 3(b) of the Agreement is hereby amended by deleting the second sentence thereof in its entirety and replacing it with the following:

"The eligibility for the target bonus shall be based upon the achievement of performance objectives established by the Board of Directors (or a compensation committee thereof) in consultation with Employer's chief executive officer and shall be payable within thirty (30) days of the end of each fiscal year.";

2. Section 3(f) of the Agreement is hereby amended by deleting the first sentence thereof in its entirety and replacing it with the following:

"Employee shall also be entitled to holidays, sick leave and other time off and to participate in those life, health or other insurance plans and other employee pension and welfare benefit programs, plans, practices and benefits generally made available from time to time to similarly situated executives of Employer; provided that nothing herein shall obligate Employer to continue any of such benefits for Employee if discontinued for all other similarly situated executives of Employer."

3. Sections 5(a) and 8 of the Agreement are hereby amended by deleting the words "or The Nasdaq National Market" therefrom and replacing them with "(including, without limitation, the Nasdaq Stock Market)";

4. In consideration of the benefits to Employee resulting from this Amendment, Section 5(c) of the Agreement is hereby amended by adding the following after the end of the first sentence thereof.

“The foregoing restrictions of this Section 5(c) shall apply only to those customers, clients or patrons whom Employee solicited, called upon, or contacted on Employer’s behalf during the two (2) year period immediately preceding the termination of Employee’s employment under this Agreement.”;

5. Section 6 of the Agreement is hereby amended by deleting the text thereof in its entirety and replacing it with the following:

“Upon the “disability” of Employee, this Agreement may be terminated by action of the Board upon 30 days prior written notice (the “Disability Notice”), such termination to become effective only if such disability continues. If, prior to the effective time of the Disability Notice, Employee shall recover from such disability and return to the full-time active discharge of his duties, then the Disability Notice shall be of no further force and effect and Employee’s employment shall continue as if the same had been uninterrupted. If Employee shall not so recover from his disability and return to his duties, then his services shall terminate at the effective time of the Disability Notice with the same force and effect as if that date had been the end of the Term originally provided for hereunder. Such termination shall not prejudice any benefits payable to Employee that are fully vested as of the date of such termination. Prior to the effective time of the Disability Notice, Employee shall continue to earn all compensation to which Employee would have been entitled as if he had not been disabled, such compensation to be paid at the time, in the amounts, and in the manner provided in Section 3(a). A “disability” of Employee shall be deemed to exist at all times that Employee is considered by the insurer which has issued any policy of disability insurance owned by Employer or for which premiums are paid by Employer (the “Employer Policy”) to be totally disabled under the terms of such policy. In the event there is no Employer Policy, “disability” shall mean the inability, by reason of physical or mental incapacity, impairment or infirmity, of Employee to perform, upon request, his regular duties required herein for six consecutive months, and the determination of the existence or nonexistence of disability shall be made by a medical doctor who is licensed to practice medicine in the State of North Carolina mutually acceptable to the Board and to Employee (or, if Employee is incapacitated, his spouse).”;

6. Section 7(d) of the Agreement is hereby amended by deleting clause (ii) thereof in its entirety and replacing it with the following:

“(ii) Employee within one (1) year following the first occurrence of Good Reason, Employee shall be entitled to the following:”;

7. Section 7(d)(A) of the Agreement is hereby amended by deleting the text thereof in its entirety and replacing it with the following:

“severance, payable monthly, equal to Employee’s then current base salary for nine (9) months following such termination or, if shorter, until such time as Employee secures other employment (the “**Severance Period**”); provided that, in the event the aggregate amount payable in the Severance Period based on the foregoing would exceed the greater of:

(1) two times the lesser of:

(x) the sum of Employee's annualized compensation based upon his annual base salary for his taxable year preceding his taxable year in which his employment hereunder terminates (adjusted for any increase during that year that was expected to continue indefinitely if Employee's employment had not terminated); or

(y) the maximum amount that may be taken into account under a qualified plan pursuant to Section 401(a)(17) of the Internal Revenue Code of 1986, as amended (the "Code"), for the year in which Employee's employment hereunder is terminated; or

(2) the maximum amount that would be exempt under Section 409A of the Code;

then, Employer (or its successor) shall pay the amount of such excess to Employee in a lump sum on the date that is two and one-half months following the end of Employer's (or its successor's) taxable year during which the termination of Employee's employment occurs;"

8. Section 7(d)(D) of the Agreement is hereby amended by deleting the text thereof in its entirety and replacing it with the following:

"outplacement counseling services selected by Employee, up to a maximum of \$10,000 and provided that (1) such expense is incurred by Employee on or before the second anniversary of December 31 of the year during which the termination of Employee's employment occurs and (2) such amount is paid by Employer on or before the third anniversary of December 31 of the year during which the termination of Employee's employment occurs.";

9. Section 7(e) of the Agreement is hereby by amended by deleting the text thereof in its entirety and replacing it with the following:

"If Employer (or its successor) terminates Employee's employment for Just Cause, Employee shall forfeit any unexercised vested stock options at the date of termination. If Employee terminates his employment or if Employer (or its successor) terminates Employee's employment without Just Cause, Employee shall have, with respect to each vested stock option, until the earlier of (i) three (3) months or ninety (90) days (whichever is applicable to the plan pursuant to which the stock option was granted) from the date of termination or (ii) the last day of the applicable option period or option term, to exercise such vested stock option.";

10. Section 7(f) of the Agreement is hereby amended by (i) deleting the period at the end of clause (B) thereof and replacing it with the word "or" and (ii) deleting the period at the end of clause (C) thereof and replacing it with the following:

"; provided that "Good Reason" pursuant to any of clauses (A), (B) or (C) above shall be conditional on (i) Employee having provided written notice to Employer (or its successor) of the initial existence of any or all of the foregoing events within ninety (90) days of the initial existence of such event and (ii) such event continuing to exist thirty (30) days after the date of such written notice from Employee.";

11. Section 7(g) of the Agreement is hereby amended by deleting the second sentence thereof in its entirety and replacing it with the following:

“Employee agrees that (i) the payment of any severance or other benefits pursuant to this Section 7 shall be contingent on the delivery by Employee to Employer of a release and waiver of legal claims related to the employment relationship between Employee and Employer in a form reasonably acceptable to Employer and (ii) the payments and benefits provided hereunder, subject to the terms and conditions hereof, shall be in full satisfaction of any rights which he might otherwise have or claim by operation of law, by implied contract or otherwise, except for rights which he may have under any employee benefit plan of Employer.”;

12. The Agreement is hereby amended by adding the following as Section 7(h) thereof:

“(h) To the extent applicable, Employer and Employee intend that this Agreement comply with Section 409A of the Code. The parties hereby agree that this Agreement shall at all times be construed in a manner to comply with Section 409A and that should any provision be found not in compliance with Section 409A, the parties are hereby contractually obligated to execute any and all amendments to this Agreement deemed necessary and required by legal counsel to achieve compliance with Section 409A. In the event amendments are required to be made to this Agreement to comply with Section 409A, Employer shall use its best efforts to provide Employee with substantially the same payments he would have been entitled to pursuant to this Agreement had Section 409A not applied, but in a manner that is compliant with Section 409A. The manner in which the immediately preceding sentence shall be implemented shall be the subject of good faith negotiations of the parties. The parties also agree that in no event shall any payment required to be made pursuant to this Agreement that is considered deferred compensation within the meaning of Section 409A be accelerated in violation of Code Section 409A.”;

13. Section 9(b) of the Agreement is hereby amended by inserting the following after the first sentence thereof:

“To the extent necessary, the terms of Section 7(d)(B) shall be deemed incorporated into any option or similar agreement evidencing an award made to Employee prior to or after the date hereof.”;

14. Section 9(j) of the Agreement is hereby amended by deleting the text thereof in its entirety and replacing it with the following:

“Except as otherwise provided in this Section 9(j), any controversy or claim arising out of or relating to this Agreement shall be settled by arbitration in accordance with Commercial Arbitration Rules of the American Arbitration Association then in effect, and judgment upon the award rendered by the arbitration panel, which shall consist of three members, may be entered in any court having jurisdiction. Any arbitration shall be held in Winston-Salem, North Carolina, unless otherwise agreed in writing by the parties. One arbitrator shall be selected by Employee, one arbitrator shall be selected by Employer, and the third arbitrator shall be selected by the two arbitrators selected by Employee and Employer. Notwithstanding the foregoing, any claim or dispute with respect to or arising out of any of the covenants in Section 5 or the last sentence of Section 8, or any statutory or common law claim of patent infringement, misappropriation of trade secrets, unfair competition, unfair or deceptive trade practices, interference with contract, or interference with actual or prospective economic or business relations, shall be excluded from this Section 9(j).”;

15. As amended by this Amendment, the Agreement shall continue in full force and effect; and

16. This Amendment shall be construed and enforced according to the laws of the State of North Carolina, without regard to the principles of conflicts of laws.

[signature page follows]

IN WITNESS WHEREOF, this Amendment has been executed in behalf of the Company and Employee on the day and year first above written.

TARGACEPT, INC.

By: /s/ J. Donald deBethizy

Name: J. Donald deBethizy

Title: President and Chief Executive Officer

EMPLOYEE

/s/ Geoffrey C. Dunbar

Geoffrey C. Dunbar

AMENDMENT NO. 1 TO EMPLOYMENT AGREEMENT

THIS AMENDMENT NO. 1 TO EMPLOYMENT AGREEMENT dated March 13, 2008 (this "**Amendment**") amends the Employment Agreement dated February 8, 2002 (the "**Agreement**") by and between Targacept, Inc., a Delaware corporation (the "**Company**"), and Alan A. Musso ("**Employee**").

RECITALS:

WHEREAS the Agreement includes certain provisions pursuant to which Employee may be entitled to severance and other benefits upon termination of his employment with the Company (collectively, the "**Potential Severance Benefits**"); and

WHEREAS the Company and Employee propose to amend the Agreement to avoid adverse tax treatment of the Potential Severance Benefits under Internal Revenue Code Section 409A, related regulations and other guidance and to modify or incorporate certain additional terms.

NOW, THEREFORE, in furtherance of the purposes described herein and for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Company and Employee hereby agree as follows:

1. Section 3(b) of the Agreement is hereby amended by deleting the second sentence thereof in its entirety and replacing it with the following:

"The eligibility for the target bonus shall be based upon the achievement of performance objectives established by the Board of Directors (or a compensation committee thereof) in consultation with Employer's chief executive officer and shall be payable within thirty (30) days of the end of each fiscal year.";

2. Section 3(f) of the Agreement is hereby amended by deleting the first sentence thereof in its entirety and replacing it with the following:

"Employee shall also be entitled to holidays, sick leave and other time off and to participate in those life, health or other insurance plans and other employee pension and welfare benefit programs, plans, practices and benefits generally made available from time to time to similarly situated executives of Employer; provided that nothing herein shall obligate Employer to continue any of such benefits for Employee if discontinued for all other similarly situated executives of Employer."

3. Sections 5(a) and 8 of the Agreement are hereby amended by deleting the words "or The Nasdaq National Market" therefrom and replacing them with "(including, without limitation, the Nasdaq Stock Market)";

4. In consideration of the benefits to Employee resulting from this Amendment, Section 5(c) of the Agreement is hereby amended by adding the following after the end of the first sentence thereof.

“The foregoing restrictions of this Section 5(c) shall apply only to those customers, clients or patrons whom Employee solicited, called upon, or contacted on Employer’s behalf during the two (2) year period immediately preceding the termination of Employee’s employment under this Agreement.”;

5. Section 6 of the Agreement is hereby amended by deleting the text thereof in its entirety and replacing it with the following:

“Upon the “disability” of Employee, this Agreement may be terminated by action of the Board upon 30 days prior written notice (the “Disability Notice”), such termination to become effective only if such disability continues. If, prior to the effective time of the Disability Notice, Employee shall recover from such disability and return to the full-time active discharge of his duties, then the Disability Notice shall be of no further force and effect and Employee’s employment shall continue as if the same had been uninterrupted. If Employee shall not so recover from his disability and return to his duties, then his services shall terminate at the effective time of the Disability Notice with the same force and effect as if that date had been the end of the Term originally provided for hereunder. Such termination shall not prejudice any benefits payable to Employee that are fully vested as of the date of such termination. Prior to the effective time of the Disability Notice, Employee shall continue to earn all compensation to which Employee would have been entitled as if he had not been disabled, such compensation to be paid at the time, in the amounts, and in the manner provided in Section 3(a). A “disability” of Employee shall be deemed to exist at all times that Employee is considered by the insurer which has issued any policy of disability insurance owned by Employer or for which premiums are paid by Employer (the “Employer Policy”) to be totally disabled under the terms of such policy. In the event there is no Employer Policy, “disability” shall mean the inability, by reason of physical or mental incapacity, impairment or infirmity, of Employee to perform, upon request, his regular duties required herein for six consecutive months, and the determination of the existence or nonexistence of disability shall be made by a medical doctor who is licensed to practice medicine in the State of North Carolina mutually acceptable to the Board and to Employee (or, if Employee is incapacitated, his spouse).”;

6. Section 7(d) of the Agreement is hereby amended by deleting clause (ii) thereof in its entirety and replacing it with the following:

“(ii) Employee within one (1) year following the first occurrence of Good Reason, Employee shall be entitled to the following:”;

7. Section 7(d)(A) of the Agreement is hereby amended by deleting the text thereof in its entirety and replacing it with the following:

“severance, payable monthly, equal to Employee’s then current base salary for nine (9) months following such termination or, if shorter, until such time as Employee secures other employment (the “**Severance Period**”); provided that, in the event the aggregate amount payable in the Severance Period based on the foregoing would exceed the greater of:

(1) two times the lesser of:

(x) the sum of Employee's annualized compensation based upon his annual base salary for his taxable year preceding his taxable year in which his employment hereunder terminates (adjusted for any increase during that year that was expected to continue indefinitely if Employee's employment had not terminated); or

(y) the maximum amount that may be taken into account under a qualified plan pursuant to Section 401(a)(17) of the Internal Revenue Code of 1986, as amended (the "Code"), for the year in which Employee's employment hereunder is terminated; or

(2) the maximum amount that would be exempt under Section 409A of the Code;

then, Employer (or its successor) shall pay the amount of such excess to Employee in a lump sum on the date that is two and one-half months following the end of Employer's (or its successor's) taxable year during which the termination of Employee's employment occurs;"

8. Section 7(d)(D) of the Agreement is hereby amended by deleting the text thereof in its entirety and replacing it with the following:

"outplacement counseling services selected by Employee, up to a maximum of \$10,000 and provided that (1) such expense is incurred by Employee on or before the second anniversary of December 31 of the year during which the termination of Employee's employment occurs and (2) such amount is paid by Employer on or before the third anniversary of December 31 of the year during which the termination of Employee's employment occurs.";

9. Section 7(e) of the Agreement is hereby by amended by deleting the text thereof in its entirety and replacing it with the following:

"If Employer (or its successor) terminates Employee's employment for Just Cause, Employee shall forfeit any unexercised vested stock options at the date of termination. If Employee terminates his employment or if Employer (or its successor) terminates Employee's employment without Just Cause, Employee shall have, with respect to each vested stock option, until the earlier of (i) three (3) months or ninety (90) days (whichever is applicable to the plan pursuant to which the stock option was granted) from the date of termination or (ii) the last day of the applicable option period or option term, to exercise such vested stock option.";

10. Section 7(f) of the Agreement is hereby amended by (i) deleting the period at the end of clause (B) thereof and replacing it with the word "or" and (ii) deleting the period at the end of clause (C) thereof and replacing it with the following:

"; provided that "Good Reason" pursuant to any of clauses (A), (B) or (C) above shall be conditional on (i) Employee having provided written notice to Employer (or its successor) of the initial existence of any or all of the foregoing events within ninety (90) days of the initial existence of such event and (ii) such event continuing to exist thirty (30) days after the date of such written notice from Employee.";

11. Section 7(g) of the Agreement is hereby amended by deleting the second sentence thereof in its entirety and replacing it with the following:

“Employee agrees that (i) the payment of any severance or other benefits pursuant to this Section 7 shall be contingent on the delivery by Employee to Employer of a release and waiver of legal claims related to the employment relationship between Employee and Employer in a form reasonably acceptable to Employer and (ii) the payments and benefits provided hereunder, subject to the terms and conditions hereof, shall be in full satisfaction of any rights which he might otherwise have or claim by operation of law, by implied contract or otherwise, except for rights which he may have under any employee benefit plan of Employer.”;

12. The Agreement is hereby amended by adding the following as Section 7(h) thereof:

“(h) To the extent applicable, Employer and Employee intend that this Agreement comply with Section 409A of the Code. The parties hereby agree that this Agreement shall at all times be construed in a manner to comply with Section 409A and that should any provision be found not in compliance with Section 409A, the parties are hereby contractually obligated to execute any and all amendments to this Agreement deemed necessary and required by legal counsel to achieve compliance with Section 409A. In the event amendments are required to be made to this Agreement to comply with Section 409A, Employer shall use its best efforts to provide Employee with substantially the same payments he would have been entitled to pursuant to this Agreement had Section 409A not applied, but in a manner that is compliant with Section 409A. The manner in which the immediately preceding sentence shall be implemented shall be the subject of good faith negotiations of the parties. The parties also agree that in no event shall any payment required to be made pursuant to this Agreement that is considered deferred compensation within the meaning of Section 409A be accelerated in violation of Code Section 409A.”;

13. Section 9(b) of the Agreement is hereby amended by inserting the following after the first sentence thereof:

“To the extent necessary, the terms of Section 7(d)(B) shall be deemed incorporated into any option or similar agreement evidencing an award made to Employee prior to or after the date hereof.”;

14. Section 9(j) of the Agreement is hereby amended by deleting the text thereof in its entirety and replacing it with the following:

“Except as otherwise provided in this Section 9(j), any controversy or claim arising out of or relating to this Agreement shall be settled by arbitration in accordance with Commercial Arbitration Rules of the American Arbitration Association then in effect, and judgment upon the award rendered by the arbitration panel, which shall consist of three members, may be entered in any court having jurisdiction. Any arbitration shall be held in Winston-Salem, North Carolina, unless otherwise agreed in writing by the parties. One arbitrator shall be selected by Employee, one arbitrator shall be selected by Employer, and the third arbitrator shall be selected by the two arbitrators selected by Employee and Employer. Notwithstanding the foregoing, any claim or dispute with respect to or arising out of any of the covenants in Section 5 or the last sentence of Section 8, or any statutory or common law claim of patent infringement, misappropriation of trade secrets, unfair competition, unfair or deceptive trade practices, interference with contract, or interference with actual or prospective economic or business relations, shall be excluded from this Section 9(j).”;

15. As amended by this Amendment, the Agreement shall continue in full force and effect; and

16. This Amendment shall be construed and enforced according to the laws of the State of North Carolina, without regard to the principles of conflicts of laws.

[signature page follows]

IN WITNESS WHEREOF, this Amendment has been executed in behalf of the Company and Employee on the day and year first above written.

TARGACEPT, INC.

By: /s/ J. Donald deBethizy

Name: J. Donald deBethizy

Title: President and Chief Executive Officer

EMPLOYEE

/s/ Alan A. Musso

Alan A. Musso

EMPLOYMENT AGREEMENT

THIS EMPLOYMENT AGREEMENT (“**Agreement**”) is made as of March 13, 2008 by and between TARGACEPT, INC., a Delaware corporation (“**Employer**”), and Peter A. Zorn, an individual resident of Massachusetts (“**Employee**”);

RECITALS:

WHEREAS, Employer considers the availability of Employee’s services to be important to the management and conduct of Employer’s business and desires to secure the continued availability of Employee’s services; and

WHEREAS, Employee is willing to make his services available to Employer on the terms and subject to the conditions set forth herein;

NOW, THEREFORE, in consideration of the mutual covenants contained herein, the parties hereto agree as follows:

1. **Employment.** For the Term (as defined in Section 2), Employee shall be employed as Vice President, Legal Affairs and General Counsel. Employee hereby accepts and agrees to such employment, subject to the general supervision of the Board of Directors of Employer (the “**Board**”), the Chief Executive Officer and President. Employee shall perform such duties and shall have such powers, authority and responsibilities as are customary for one holding the position of Vice President, Legal Affairs and General Counsel of a business similar to Employer and shall additionally render such other services and duties as may be reasonably assigned to him from time to time by the Board, the Chief Executive Officer or the President.

2. **Term of Employment.** This Agreement shall commence as of the date first written above (the “**Effective Date**”) and continue until terminated as provided in Section 6 or Section 7 (such period, the “**Term**”). Any termination of this Agreement shall not affect the parties’ continuing obligations under Section 5, which shall survive any such termination.

3. **Compensation.**

(a) For all services rendered by Employee to Employer under this Agreement, Employer shall pay to Employee, during the Term, a base annual salary of not less than \$246,010, payable in arrears in accordance with the customary payroll practices of Employer. During the Term, Employee’s annual base salary shall be reviewed and subject to increase in accordance with Employer’s standard policies and procedures. Without limiting the generality of the foregoing, Employee’s base annual salary shall be increased annually to the extent necessary to stay in line with the median base salary of employees of a similar level in comparable companies as described in the then current Radford Biotechnology Compensation Report.

(b) Employee shall be eligible to earn an annual bonus during the Term of up to 30% of Employee’s annual base salary, or such higher amount as determined by the Board of Directors (or a compensation committee thereof). The eligibility for the target

bonus shall be based upon the achievement of performance objectives established by the Board of Directors (or a compensation committee thereof) in consultation with Employer's chief executive officer and shall be payable within thirty (30) days of the end of each fiscal year.

(c) All amounts payable hereunder shall be subject to such deductions and withholdings as shall be required by law, if any.

(d) Employee shall also be entitled to holidays, sick leave and other time off and to participate in those life, health or other insurance plans and other employee pension and welfare benefit programs, plans, practices and benefits generally made available from time to time to similarly situated executives of Employer; provided that nothing herein shall obligate Employer to continue any of such benefits for Employee if discontinued for all other similarly situated executives of Employer. Without limiting the foregoing, Employee shall be entitled to paid vacation during each fiscal year of the Term of twenty (20) days.

4. Reimbursement of Expenses. Employer shall pay or reimburse Employee for all reasonable travel and other expenses incurred by Employee in performing his obligations under this Agreement and also, to the extent consistent with Employer's policy, for any dues and costs of appropriate professional organization and continuing professional education, in each case subject to such reasonable documentation and substantiation as Employer shall require.

5. Covenants of Employee.

(a) Covenant Not to Compete. Employee covenants that during the "**Noncompetition Period**" (as defined in Section 5(g)) and within the "Noncompetition Area" (as defined in Section 5(h)), he shall not, directly or indirectly, as principal, agent, officer, director, shareholder, member, employee, consultant or trustee, or through the agency of any person, firm, corporation, partnership, limited liability company, association or other entity (collectively, "**Entity**"), engage in the "Business" (as defined in Section 5(i)). Without limiting the generality of the foregoing, Employee agrees that during the Noncompetition Period and within the Noncompetition Area, he shall not be (i) the owner of the outstanding capital stock or other equity interests of any Entity (other than Employer or its affiliates) that, directly or indirectly, engages in the Business; or (ii) an officer, director, partner, manager, member, consultant or employee of any Entity that, directly or indirectly, engages in the Business; provided, that this Section 5(a) shall not prevent Employee from (A) being an employee of any area or division of any Entity to the extent that such area or division does not, directly or indirectly, engage in the Business or (B) beneficially owning less than 1% of the stock of a corporation traded on a national securities exchange (including, without limitation, The Nasdaq Stock Market).

(b) Nondisclosure Covenant. The parties acknowledge that Employer and its affiliates are enterprises whose success is attributable largely to the ownership, use and development of certain valuable confidential and proprietary information (the "**Proprietary Information**"), and that Employee's employment with Employer will involve access to and work with such information. Employee acknowledges that his relationship with Employer is a confidential relationship, and agrees that (i) he shall keep and maintain the Proprietary Information in strictest confidence, and (ii) he shall not, either directly or indirectly, use any

Proprietary Information for his own benefit, or divulge, disclose or communicate any Proprietary Information in any manner whatsoever to any person or Entity other than to employees or agents of Employer having a need to know such Proprietary Information to perform their responsibilities on behalf of Employer, and to other persons or Entities in the normal course of Employer's business. This nondisclosure obligation shall apply to all Proprietary Information, whether or not Employee participated in the development thereof. Upon termination of his employment with Employer for any reason, Employee will return to Employer all Proprietary Information in any medium and all other documents, data, materials or property of Employer (including any copies thereof) in his possession. For purposes of this Agreement, the term "**Proprietary Information**" shall include any and all proprietary information related to the business of Employer and its affiliates and stockholders, or to any of their products, services, sales or operations, which is not generally known to the public, specifically including (but without limitation): trade secrets, processes, formulae, compounds and properties thereof, data, files, research results, computer programs and related source codes and object codes, improvements, inventions, techniques, marketing plans, strategies, forecasts, copyrightable material, suppliers, methods and manner of operations; information relating to the identity, needs and location of all past, present and prospective customers; and information with respect to the internal affairs of Employer and its affiliates. Such Proprietary Information may or may not contain legends or other written notice that it is of a confidential or proprietary nature. The parties stipulate that, as between them, the above-described matters are important and confidential and gravely affect the successful conduct of the business of Employer and its affiliates and that any breach of the terms of this Section 5(b) shall be a material breach of this Agreement.

(c) Nonsolicitation Covenant. Employee covenants that during the Noncompetition Period he shall not, directly or indirectly, on behalf of himself or any Entity, call upon any of the customers or clients of Employer (or potential customers or clients whose business Employee solicited on behalf of Employer or about whose needs Employee gained information during his employment with Employer) for the purpose of soliciting or providing any product or service similar to that provided by Employer, nor will he, in any way, directly or indirectly, on behalf of himself or any Entity solicit, divert or take away, or attempt to solicit, divert, or take away any of the customers, clients, business or patrons of Employer (or potential customers or clients whose business Employee solicited on behalf of Employer or about whose needs Employee gained information during his employment with Employer). The foregoing restrictions of this Section 5(c) shall apply only to those customers, clients, or patrons whom Employee solicited, called upon, or contacted on Employer's behalf during the two (2) year period immediately preceding the termination of Employee's employment under this Agreement. Employee further covenants that during the Noncompetition Period he shall not, directly or indirectly, on behalf of himself or any Entity, solicit, induce or encourage any person to leave the employ of Employer.

(d) Inventions. All inventions, designs, formulae, processes, discoveries, drawings, improvements and developments made by Employee, either solely or in collaboration with others, during his employment with Employer, whether or not during working hours, and relating to any methods, apparatus, products, compounds, services or deliverables which are made, furnished, sold, leased, used or developed by Employer or its affiliates or which pertain to the Business (the "**Developments**") shall become and remain the sole property of Employer. Employee shall disclose promptly in writing to Employer all such Developments.

Employee acknowledges and agrees that all Developments shall be deemed “works made for hire” within the meaning of the United States Copyright Act, as amended. If, for any reason, such Developments are not deemed works made for hire, Employee hereby assigns to Employer all of his right, title and interest (including, but not limited to, copyright and all rights of inventorship) in and to such Developments. At the request and expense of Employer, whether during or after employment with Employer, Employee shall make, execute and deliver all application papers, assignments or instruments, and perform or cause to be performed such other lawful acts as Employer may deem necessary or desirable in making or prosecuting applications, domestic or foreign, for patents (including reissues, continuations and extensions thereof) and copyrights related to such Developments or in vesting in Employer full legal title to such Developments. Employee shall assist and cooperate with Employer or its representatives in any controversy or legal proceeding relating to such Developments, or to any patents, copyrights or trade secrets with respect thereto. If for any reason Employee refuses or is unable to assist Employer in obtaining or enforcing its rights with respect to such Developments, he hereby irrevocably designates and appoints Employer and its duly authorized agents as his agents and attorneys-in-fact to execute and file any documents and to do all other lawful acts necessary to protect Employer’s rights in the Developments. Employee expressly acknowledges that the special foregoing power of attorney is coupled with an interest and is therefore irrevocable and shall survive (i) his death or incompetency, (ii) the termination of his employment with Employer and (iii) the termination of this Agreement.

(e) Independent Covenants. Each of the covenants on the part of Employee contained in Sections 5(a), (b), (c) and (d) of this Agreement shall be construed as an agreement independent of each other such covenant. The existence of any claim or cause of action of Employee against Employer, whether predicated on this Agreement or otherwise, shall not constitute a defense to the enforcement by Employer of any such covenant.

(f) Reasonableness; Injunction. Employee acknowledges that his covenants contained in Section 5 of this Agreement are reasonably necessary for the protection of Employer and its affiliates and their businesses, and that such covenants are reasonably limited with respect to the activities prohibited, the duration thereof, the geographic area thereof, the scope thereof and the effect thereof on Employee and the general public. Employee further acknowledges that violation of the covenants would immeasurably and irreparably damage Employer and its affiliates, and by reason thereof Employee agrees that for violation or threatened violation of any of the provisions of this Agreement, Employer shall, in addition to any other rights and remedies available to it, at law or otherwise, be entitled to an injunction to be issued by any court of competent jurisdiction enjoining and restraining Employee from committing any violation or threatened violation of this Agreement. Employee consents to the issuance of such injunction. Furthermore, Employer shall, in addition to any other rights or remedies available to it, at law or otherwise, be entitled to reimbursement of court costs, attorneys’ fees and other expenses incurred as a result of a breach of this Agreement. Employee agrees to reimburse Employer for such expenses promptly following a final determination that he has breached this Agreement.

(g) Noncompetition Period. “**Noncompetition Period**” shall mean the period commencing on the Effective Date and continuing until nine (9) months following termination of this Agreement.

(h) Noncompetition Area. The “**Noncompetition Area**” shall consist of the entire world.

(i) Business. For the purposes of this Agreement, the “**Business**” shall mean the business of developing, manufacturing, marketing or selling therapeutic products that use synthetic nicotinic cholinergic compounds.

6. Disability. Upon the “disability” of Employee, this Agreement may be terminated by action of the Board upon 30 days prior written notice (the “**Disability Notice**”), such termination to become effective only if such disability continues. If, prior to the effective time of the Disability Notice, Employee shall recover from such disability and return to the full-time active discharge of his duties, then the Disability Notice shall be of no further force and effect and Employee’s employment shall continue as if the same had been uninterrupted. If Employee shall not so recover from his disability and return to his duties, then his services shall terminate at the effective time of the Disability Notice with the same force and effect as if that date had been the end of the Term originally provided for hereunder. Such termination shall not prejudice any benefits payable to Employee that are fully vested as of the date of such termination. Prior to the effective time of the Disability Notice, Employee shall continue to earn all compensation to which Employee would have been entitled as if he had not been disabled, such compensation to be paid at the time, in the amounts, and in the manner provided in Section 3(a). A “**disability**” of Employee shall be deemed to exist at all times that Employee is considered by the insurer which has issued any policy of disability insurance owned by Employer or for which premiums are paid by Employer (the “**Employer Policy**”) to be totally disabled under the terms of such policy. In the event there is no Employer Policy, “disability” shall mean the inability, by reason of physical or mental incapacity, impairment or infirmity, of Employee to perform, upon request, his regular duties required herein for six (6) consecutive months, and the determination of the existence or nonexistence of disability shall be made by a medical doctor who is licensed to practice medicine in the State of North Carolina mutually acceptable to the Board and to Employee (or, if Employee is incapacitated, his spouse).

7. Termination.

(a) If Employee shall die during the Term, this Agreement and the employment relationship hereunder will automatically terminate on the date of death, which date shall be the last day of the Term; provided that such termination shall not prejudice any benefits payable to Employee or Employee’s beneficiaries that are fully vested as of the date of death.

(b) Employer may terminate Employee’s employment under this Agreement at any time with or without Just Cause. Any termination without Just Cause shall be effective only on thirty (30) days prior written notice to Employee. Any termination with Just Cause shall be effective immediately or at such other time set by the Board. “**Just Cause**” shall mean: (i) Employee’s willful and material breach of this Agreement and his continued failure to cure such breach to the reasonable satisfaction of the Board within thirty (30) days following written notice of such breach to Employee from the Board; (ii) Employee’s conviction of, or entry of a plea of guilty or nolo contendere to a felony or a misdemeanor involving moral turpitude, (iii) Employee’s willful commission of an act of fraud, breach of trust, or dishonesty including, without limitation, embezzlement, that results in material damage or harm to the

business, financial condition or assets of Employer; (iv) Employee's intentional damage or destruction of substantial property of Employer; (v) Employee's violation of Employer's policies prohibiting employment discrimination or workplace harassment; or (vi) Employee's commission of any act (or omission) contrary to the ethical or professional standards generally expected of Employer or of Employee's profession. Just Cause shall be determined by the Board in its reasonable discretion and the particulars of any determination shall be provided to Employee in writing. At any time within ninety (90) days of receipt by Employee in writing of such determination, Employee may object to such determination in writing and submit the determination to arbitration in accordance with Section 9(j). If such determination is overturned in arbitration, Employee will be treated as having been terminated without Just Cause and shall be entitled to the benefits of Section 7(d).

(c) Employee may voluntarily terminate his employment with Employer on thirty (30) days prior written notice to Employer.

(d) Upon any termination pursuant to this Section 7, Employee shall be entitled to receive a lump sum equal to any base salary, target bonus and other compensation earned and due but not yet paid through the effective date of termination. In addition, if this Agreement and Employee's employment hereunder is terminated by (i) Employer (or its successor) other than for Just Cause or (ii) Employee within one (1) year following the first occurrence of Good Reason, Employee shall be entitled to the following:

(A) severance, payable monthly, equal to Employee's then current base salary for nine (9) months following such termination or, if shorter, until such time as Employee secures other employment (the "**Severance Period**"); provided that, in the event the aggregate amount payable in the Severance Period based on the foregoing would exceed the greater of:

(1) two times the lesser of:

(x) the sum of Employee's annualized compensation based upon his annual base salary for his taxable year preceding his taxable year in which his employment hereunder terminates (adjusted for any increase during that year that was expected to continue indefinitely if Employee's employment had not terminated); or

(y) the maximum amount that may be taken into account under a qualified plan pursuant to Section 401(a)(17) of the Internal Revenue Code of 1986, as amended (the "**Code**"), for the year in which Employee's employment hereunder is terminated; or

(2) the maximum amount that would be exempt under Section 409A of the Code;

then, Employer (or its successor) shall pay the amount of such excess to Employee in a lump sum on the date that is two and one-half months following the end of Employer's (or its successor's) taxable year during which the termination of Employee's employment occurs;

(B) six (6) months acceleration of unvested stock options to purchase capital stock or restricted stock of the Employer held by Employee;

(C) the health care (including medical and dental) and life insurance benefits coverage provided to Employee at his date of termination shall be continued at the same level and in the same manner as if his employment had not terminated (subject to the customary changes in such coverages if Employee reaches age 65 or similar events), for the Severance Period, followed by COBRA election rights. Any additional coverages Employee had at termination, including dependent coverage, will also be continued for such period on the same terms. Any costs Employee was paying for such coverages at the time of termination shall continue to be paid by Employee. If the terms of any benefit plan referred to in this section do not permit continued participation by Employee, then Employer will arrange for other coverage providing substantially similar benefits at the same contribution level of Employee, and

(D) outplacement counseling services selected by Employer, up to a maximum of \$10,000 and provided that (1) such expense is incurred by Employee on or before the second anniversary of December 31 of the year during which the termination of Employee's employment occurs and (2) such amount is paid by Employer on or before the third anniversary of December 31 of the year during which the termination of Employee's employment occurs.

(e) If Employer (or its successor) terminates Employee's employment for Just Cause, Employee shall forfeit any unexercised vested stock options at the date of termination. If Employee terminates his employment or if Employer (or its successor) terminates Employee's employment without Just Cause, Employee shall have, with respect to each vested stock option, until the earlier of (i) three (3) months or ninety (90) days (whichever is applicable to the plan pursuant to which the stock option was granted) from the date of termination or (ii) the last day of the applicable option period or option term, to exercise such vested stock option.

(f) For purposes hereof, "Good Reason" shall mean the occurrence of any of the following events without Employee's express written consent:

(A) the breach by Employer (or any successor entity) of any material provision of this Agreement;

(B) any purported termination of the employment of Employee by Employer (or any successor entity) which is not effected in accordance with this Agreement; or

(C) any failure of the Employer (or any successor entity) to pay Employee any amounts of base salary or bonus compensation that have become due and payable to Employee within thirty (30) days after Employee has given Employer (or any successor entity) notice of demand therefor;

provided that "Good Reason" pursuant to any of clauses (A), (B) or (C) above shall be conditional on (i) Employee having provided written notice to Employer (or its successor) of the initial existence of any or all of the foregoing events within ninety (90) days of the initial existence of such event and (ii) such event continuing to exist thirty (30) days after the date of such written notice from Employee.

(g) Except as otherwise provided in this Section 7, upon termination of this Agreement for any reason, Employee shall not be entitled to any form of severance benefits, including benefits otherwise payable under any of Employer's regular severance plans or policies, or any other payment whatsoever. Employee agrees that (i) the payment of any severance or other benefits pursuant to this Section 7 shall be contingent on the delivery by Employee to Employer of a release and waiver of legal claims related to the employment relationship between Employee and Employer in a form reasonably acceptable to Employer and (ii) the payments and benefits provided hereunder, subject to the terms and conditions hereof, shall be in full satisfaction of any rights which he might otherwise have or claim by operation of law, by implied contract or otherwise, except for rights which he may have under any employee benefit plan of Employer.

(h) To the extent applicable, Employer and Employee intend that this Agreement comply with Section 409A of the Code. The parties hereby agree that this Agreement shall at all times be construed in a manner to comply with Section 409A and that should any provision be found not in compliance with Section 409A, the parties are hereby contractually obligated to execute any and all amendments to this Agreement deemed necessary and required by legal counsel to achieve compliance with Section 409A. In the event amendments are required to be made to this Agreement to comply with Section 409A, Employer shall use its best efforts to provide Employee with substantially the same payments he would have been entitled to pursuant to this Agreement had Section 409A not applied, but in a manner that is compliant with Section 409A. The manner in which the immediately preceding sentence shall be implemented shall be the subject of good faith negotiations of the parties. The parties also agree that in no event shall any payment required to be made pursuant to this Agreement that is considered deferred compensation within the meaning of Section 409A be accelerated in violation of Code Section 409A.

8. Best Efforts of Employee. Employee agrees that he will at all times faithfully, industriously and to the best of his ability, experience and talents perform all the duties that may be required of him pursuant to the express and implicit terms hereof, to the reasonable satisfaction of Employer, commensurate with his position, and to comply with all rules, regulations and policies established or issued by Employer. Such duties shall be rendered at such place as Employer designates and Employee acknowledges that he may be required to travel as shall reasonably be required to promote the business of Employer. To the extent reasonably required by the duties assigned to him, Employee shall devote substantially all his professional time, attention, knowledge and skills to the business and interest of Employer and Employer shall be entitled to all the benefits, profits and other issue arising from or incident to all work, service and advice of Employee. Employee pledges that during the Term, Employee shall not, directly or indirectly, engage in any business which could detract from Employee's ability to apply his best efforts to the performance of his duties hereunder. Employee further agrees to obtain prior written consent before engaging in any other occupation, and he agrees to refrain from taking advantage of any corporate opportunities of the Employer. During the Term, Employee shall not be interested,

directly or indirectly, in any manner as partner, manager, officer, director, shareholder, member, adviser, consultant, employee or in any other capacity in any other business; provided, that nothing herein contained shall be deemed to prevent or limit the right of Employee to beneficially own less than 1% of the stock of a corporation traded on a national securities exchange (including, without limitation, The Nasdaq Stock Market) as long as such passive investment does not interfere with or conflict with the performance of services to be rendered hereunder.

9. Miscellaneous.

(a) This Agreement shall be governed by and construed in accordance with the laws of the State of North Carolina without regard to conflicts of law principles thereof.

(b) This Agreement constitutes the entire Agreement between Employee and Employer with respect to the subject matter hereof, and supersedes in their entirety any and all prior oral or written agreements, understandings or arrangements between Employee and Employer or any of its affiliates relating to the terms of Employee's employment by Employer, and all such agreements, understandings and arrangements are hereby terminated and are of no force and effect. To the extent necessary, the terms of Section 7(d)(B) shall be deemed incorporated into any option or similar agreement evidencing an award made to Employee prior to or after the date hereof. Employee hereby expressly disclaims any rights under any such agreements, understandings and arrangements. This Agreement may not be amended or terminated except by an agreement in writing signed by both parties.

(c) This Agreement may be executed in two counterparts, each of which shall be deemed an original and all of which, taken together, shall constitute one and the same instrument.

(d) Any notice or other communication required or permitted under this Agreement shall be effective only if it is in writing and delivered in person or by nationally recognized overnight courier service or deposited in the mails, postage prepaid, return receipt requested, addressed as follows:

To Employer:

Targacept, Inc.
200 East First Street, Suite 300
Winston-Salem, North Carolina 27101
Attn: President

To Employee:

Peter A. Zorn
19 Liberty Road
Bedford, Massachusetts 01730

Notices given in person or by overnight courier service shall be deemed given when delivered in person or the day after delivery to the courier addressed to the address required by this Section 9(d), and notices given by mail shall be deemed given three days after deposit in the mails. Either party hereto may designate by written notice to the other party in accordance herewith any other address to which notices addressed to him shall be sent.

(e) The provisions of this Agreement shall be deemed severable and the invalidity or unenforceability of any provision shall not affect the validity or enforceability of the other provisions hereof. It is understood and agreed that no failure or delay by Employer or Employee in exercising any right, power or privilege under this Agreement shall operate as a waiver thereof, nor shall any single or partial exercise thereof preclude any other or further exercise thereof or the exercise of any other right, power or privilege hereunder.

(f) This Agreement may not be assigned by Employee without the written consent of Employer. This Agreement shall be binding on any successors or assigns of either party hereto.

(g) For purposes of this Agreement, employment of Employee by any affiliate of Employer shall be deemed to be employment by Employer hereunder, and a transfer of employment of Employee from one such affiliate to another shall not be deemed to be a termination of employment of Employee by Employer or a cessation of the Term, it being the intention of the parties hereto that employment of Employee by any affiliate of Employer shall be treated as employment by Employer and that the provisions of this Agreement shall continue to be fully applicable following any such transfer.

(h) The respective rights and obligations of the parties hereunder shall survive any termination of the Term or Employee's employment with Employer to the extent necessary to preserve such rights and obligations for their stated durations.

(i) In the event that it shall become necessary for either party to retain the services of an attorney to enforce any terms under this Agreement, the prevailing party, in addition to all other rights and remedies hereunder or as provided by law, shall be entitled to reasonable attorneys' fees and costs of suit. Employer shall reimburse Employee for the reasonable fees and expenses of counsel to Employee for the original negotiation of this Agreement.

(j) Except as otherwise provided in this Section 9(j), any controversy or claim arising out of or relating to this Agreement shall be settled by arbitration in accordance with Commercial Arbitration Rules of the American Arbitration Association then in effect, and judgment upon the award rendered by the arbitration panel, which shall consist of three members, may be entered in any court having jurisdiction. Any arbitration shall be held in Winston-Salem, North Carolina, unless otherwise agreed in writing by the parties. One arbitrator shall be selected by Employee, one arbitrator shall be selected by Employer, and the third arbitrator shall be selected by the two arbitrators selected by Employee and Employer. Notwithstanding the foregoing, any claim or dispute with respect

to or arising out of any of the covenants in Section 5 or the last sentence of Section 8, or any statutory or common law claim of patent infringement, misappropriation of trade secrets, unfair competition, unfair or deceptive trade practices, interference with contract, or interference with actual or prospective economic or business relations, shall be excluded from this Section 9(j).

[THE NEXT PAGE IS THE SIGNATURE PAGE]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date and year first above written.

TARGACEPT, INC.

By: /s/ J. Donald deBethizy
J. Donald deBethizy, Ph.D.
President and CEO

EMPLOYEE:

/s/ Peter A. Zorn
Peter A. Zorn

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)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

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

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

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

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

Date: May 8, 2008

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)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

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

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

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

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

Date: May 8, 2008

By: /s/ Alan A. Musso
Alan A. Musso
Vice President, Chief Financial Officer and Treasurer

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

In connection with the Quarterly Report on Form 10-Q of Targacept, Inc. (the "Company") for the period ended March 31, 2008 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, to my knowledge:

- (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 8, 2008

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, 2008 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Alan A. Musso, Vice President, Chief Financial Officer 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, to my knowledge:

- (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 8, 2008

By: /s/ Alan A. Musso

Alan A. Musso

Vice President, Chief Financial Officer and Treasurer