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

INFORMATION REQUIRED IN PROXY STATEMENT SCHEDULE 14A INFORMATION

Proxy Statement Pursuant to Section 14(a) of the Securities Exchange Act of 1934

File	d by the	e Registrant ⊠
File	d by a I	Party other than the Registrant \square
Che	ck the a	appropriate box:
	Preli	minary Proxy Statement
	Conf	fidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))
\times	Defii	nitive Proxy Statement
	Defii	nitive Additional Materials
	Solic	riting Material Pursuant to Rule 14a-12
		Targacept, Inc. (Name of Registrant as Specified In Its Charter)
		(Name of Person(s) Filing Proxy Statement, if Other Than the Registrant)
Payı	nent of	Filing Fee (Check the appropriate box):
\times	No fe	ee required.
	Fee o	computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.
	(1)	Title of each class of securities to which transaction applies:
	(2)	Aggregate number of securities to which transaction applies:
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		k box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid iously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing:
	(1)	Amount Previously Paid:
	(2)	Form, Schedule or Registration Statement No.:
	(3)	Filing Party:
	(4)	Date Filed:



Targacept, Inc.

200 East First Street, Suite 300 Winston-Salem, NC 27101 USA Tel: 336-480-2100

Fax: 336-480-2107 www.targacept.com

April 16, 2010

Dear Stockholder,

We cordially invite you to attend the Targacept, Inc. 2010 annual meeting of stockholders to be held at 8:30 a.m. Eastern Daylight Time on Thursday, June 10, 2010 at the Winston-Salem Marriott, 425 North Cherry Street, Winston-Salem, North Carolina. We describe the business that we expect to conduct at the meeting in the attached notice of annual meeting and proxy statement. We have also made available a copy of our 2009 Annual Report to Stockholders, which includes our Annual Report on Form 10-K for the year ended December 31, 2009. We encourage you to read the proxy statement and annual report.

This year, we will be using the "Notice and Access" method of providing proxy materials to you via the Internet. We believe that this process should provide you with a convenient and quick way to access your proxy materials and vote your shares, while allowing us to reduce the costs of printing and distributing the proxy materials. On or about April 16, 2010, we will begin mailing to our stockholders a Notice of Annual Meeting and Internet Availability of Proxy Materials containing instructions on how to access our proxy statement and annual report, how to vote and how to receive a paper copy of the proxy materials.

Your vote is very important, regardless of the number of shares you hold. Whether or not you plan to attend the meeting, please carefully review the attached proxy statement and then cast your vote over the Internet or by telephone, or, if you requested paper copies of the proxy materials, please complete, sign, date and return the paper proxy card in the enclosed postage-paid envelope. For more detail regarding how to vote, please refer to the "General Information about the Annual Meeting" section beginning on page 1 of the attached proxy statement.

We hope that you will join us on June 10, 2010.

Sincerely,

J. Donald deBethizy, Ph.D.

President and Chief Executive Officer

J. Drald Destay



Targacept, Inc.

200 East First Street, Suite 300 Winston-Salem, NC 27101 USA

Tel: 336-480-2100 Fax: 336-480-2107 www.targacept.com

NOTICE OF 2010 ANNUAL MEETING OF STOCKHOLDERS

Time 8:30 a.m. Eastern Daylight Time

Date June 10, 2010

Place Winston-Salem Marriott

425 North Cherry Street Winston-Salem, North Carolina

USA

1. To elect the three nominees named in this proxy statement to the Board of Directors as Class I directors.

2. To ratify the appointment of Ernst & Young LLP as Targacept's independent registered public accounting firm for the fiscal year ending December 31, 2010.

3. To consider any other business that is properly brought before the meeting.

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The Board of Directors has fixed the close of business on April 14, 2010 as the record date for determining stockholders entitled to notice of

and to vote at the meeting.

BY ORDER OF THE BOARD OF DIRECTORS

Peter A. Zorn

Senior Vice President, Legal Affairs, General Counsel and Secretary

April 16, 2010

Purposes

Record Date

TABLE OF CONTENTS

GENERAL INFORMATION ABOUT THE ANNUAL MEETING	1
BOARD OF DIRECTORS AND MANAGEMENT	6
PROPOSAL 1: ELECTION OF CLASS I DIRECTORS	11
CORPORATE GOVERNANCE	11
SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT	17
SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE	20
CERTAIN RELATIONSHIPS AND RELATED PERSON TRANSACTIONS	20
EXECUTIVE COMPENSATION	21
EQUITY COMPENSATION PLAN INFORMATION	39
PROPOSAL 2: RATIFICATION OF APPOINTMENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM	39
INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FEE INFORMATION AND AUDIT COMMITTEE PRE-APPROVAL POLICY	40
DEADLINES FOR STOCKHOLDER PROPOSALS AND STOCKHOLDER NOMINATIONS	42
HOUSEHOLDING OF ANNUAL MEETING MATERIALS	43
FINANCIAL INFORMATION	43

Targacept, Inc. 200 East First Street, Suite 300 Winston-Salem, NC 27101 USA (336) 480-2100

PROXY STATEMENT FOR THE TARGACEPT, INC. 2010 ANNUAL MEETING OF STOCKHOLDERS TO BE HELD AT 8:30 A.M. EASTERN DAYLIGHT TIME ON THURSDAY, JUNE 10, 2010

<u>Important Notice Regarding the Availability of Proxy Materials for the Stockholder Meeting to</u> be Held on June 10, 2010.

The Notice of 2010 Annual Meeting of Stockholders, proxy statement, form of proxy card and our 2009 Annual Report are available on our website at www.targacept.com/2010annualmeeting.

If you need directions to the location for the 2010 Annual Meeting of Stockholders, please contact Jo Peay at the address or telephone number set forth above.

GENERAL INFORMATION ABOUT THE ANNUAL MEETING

Why were this proxy statement and the accompanying materials made available to me?

This proxy statement and the accompanying materials were made available to you because the Board of Directors of Targacept, Inc. ("we" or "Targacept" or the "Company") is soliciting your proxy to vote at the 2010 annual meeting of stockholders to be held at 8:30 a.m. Eastern Daylight Time on Thursday, June 10, 2010 at the Winston-Salem Marriott, 425 North Cherry Street, Winston-Salem, North Carolina and at any adjournments or postponements of the meeting. In this proxy statement, we refer to the 2010 annual meeting of stockholders as the "meeting" and to the Company's Board of Directors as the "Board." This proxy statement, together with the accompanying Notice of 2010 Annual Meeting of Stockholders, summarizes the purposes of the meeting and the information you need to know to vote at the meeting.

Why did I receive a notice in the mail regarding the Internet availability of proxy materials this year instead of a paper copy of the proxy materials?

We are permitted to furnish proxy materials to our stockholders by providing access to such documents on the Internet instead of mailing paper copies. We began sending to stockholders entitled to vote at the meeting a Notice of Annual Meeting and Internet Availability of Proxy Materials and we first made available this proxy statement and the accompanying proxy card on or about April 16, 2010. In this proxy statement, we refer to the Notice of Annual Meeting and Internet Availability of Proxy Materials as the "Notice." The Notice provides instructions for how to access and review this proxy statement and our 2009 Annual Report over the Internet, how to request a paper or email copy of either or both of these documents and how to authorize a proxy to vote your shares over the Internet or by telephone. You will not receive a paper copy of either of these documents unless you request it. Our 2009 Annual Report does not constitute proxy solicitation material.

Who can vote at the meeting?

The record date for the meeting is April 14, 2010. If, on the record date, you owned shares of our common stock that were registered directly in your name with our transfer agent, American Stock Transfer & Trust Company, then you are a stockholder of record entitled to vote at the meeting in person or by proxy. If, on the record date, your shares of our common stock were registered in the name of a bank, broker or other nominee, you are considered to hold your shares in "street name" and we have requested that the Notice be forwarded to you by the bank, broker or other nominee. If you hold your shares in street name, the bank, broker or other

nominee is the stockholder of record entitled to vote at the meeting and, as a beneficial owner of the shares, you have the right to direct the bank, broker or other nominee regarding how to vote the shares. However, because a beneficial owner is not the stockholder of record, you may not vote the shares in person at the meeting unless you obtain a broker's proxy card from the bank, broker or other nominee that is the stockholder of record for the shares giving you the right to vote the shares at the meeting.

How many votes can be cast by all stockholders?

A total of 28,344,707 shares of our common stock were outstanding on April 14, 2010 and entitled to be voted at the meeting. Common stock is our only class of voting stock.

How many votes do I have?

Each share of common stock that you owned as of the record date entitles you to one vote on each matter that is properly brought before the meeting.

How do I vote?

If you are a stockholder of record, you may vote:

- **Over the Internet.** You may vote your shares from any location in the world by visiting www.voteproxy.com and following the on-screen instructions. You should have the Notice or, if you requested paper proxy materials, your proxy card with you when you vote.
- **By telephone.** You may vote your shares by telephone by following the "By Telephone" instructions on the Notice or, if you requested paper proxy materials, the included proxy card. You should have the Notice or, if you requested paper proxy materials, your proxy card with you when you vote.
- **By mail.** If you elect to receive paper proxy materials, you may vote by completing, signing and mailing your proxy card in the enclosed postage prepaid envelope. Please allow sufficient time for mailing if you decide to vote by mail.
- **In person at the meeting.** If you attend the meeting, be sure to bring a form of personal picture identification with you. You may deliver your completed proxy card in person or you may vote by completing a paper proxy card or a ballot, which will be available at the meeting.

If your shares of common stock are held in street name, you may vote:

- **By mail.** You should receive instructions from your bank, broker or other nominee explaining how to vote your shares by mail. If you wish to vote your shares by mail, you should follow those instructions.
- In person at the meeting. If you attend the meeting, you will need to contact the bank, broker or other nominee that is the stockholder of record for your shares to obtain a broker's proxy card and then bring the proxy card, an account statement or a letter from the stockholder of record indicating that you beneficially owned the shares as of the record date and a form of personal picture identification to the meeting. If you have all of a broker's proxy card, account statement or letter and picture identification, you may vote by completing a paper proxy card or a ballot, which will be available at the meeting. If not, you will not be able to vote at the meeting.

If your shares of common stock are held in street name, you may also be entitled to vote **over the Internet or by telephone.** You should receive instructions from your bank, broker or other nominee if you are permitted to vote over the Internet or by telephone. If you are permitted to vote your shares over the Internet or by telephone and wish to do so, you should follow those instructions.

The Notice is **not** a proxy card or ballot and cannot be used to vote your shares.

What if I sign and return a proxy card but do not specify how I want my shares voted?

If you elect to receive paper proxy materials and sign and return your proxy card but do not specify how you want your shares voted, they will be voted **FOR** the nominees to the Board named in this proxy statement, **FOR** the ratification of Ernst & Young LLP as Targacept's independent registered public accounting firm for the fiscal year ending December 31, 2010 and at the discretion of the proxy holder with respect to any other business that may properly be brought before the meeting.

What are the Board's recommendations on how to vote my shares?

The Board recommends a vote:

- FOR election of Charles A. Blixt, Alan W. Dunton, M.D. and Ralph Snyderman, M.D. as Class I directors (page 11); and
- FOR ratification of the appointment of Ernst & Young LLP as Targacept's independent registered public accounting firm for the fiscal year ending December 31, 2010 (page 39).

Can I change my vote?

If you give us your proxy, you may revoke it at any time before the meeting in any one of the following ways:

- · if you signed and returned a paper proxy card, signing a new proxy card bearing a later date and submitting it as instructed above;
- casting a new vote over the Internet or by telephone as instructed above;
- notifying Targacept's Secretary in writing before the meeting that you have revoked your proxy; or
- attending the meeting in person and voting in person as provided above. Merely attending the meeting in person will not in and of itself revoke a
 previously submitted proxy.

If your shares are held in street name, you also have the right to revoke your proxy at any time before the meeting. Please contact your bank, broker or other nominee for specific instructions as to how to revoke a proxy.

Will my shares be voted if I do not vote using one of the permissible methods described above under "How do I vote?"

If you are a stockholder of record, your shares will not be voted if you do not vote using one of the permissible methods described above under "How do I vote?" and in accordance with the applicable instructions for that method.

If your shares are held in street name and you do not provide voting instructions to the bank, broker or other nominee that is the stockholder of record for your shares as described above under "How do I vote?," the bank, broker or other nominee has the authority to vote your shares in its discretion on routine matters, but cannot vote your shares on any matter that is not considered routine. Only Proposal 2 described in this proxy statement is considered a routine matter. We encourage you to provide voting instructions to your bank, broker or other nominee to ensure that your shares will be voted at the meeting in the manner that you desire.

What does it mean if I receive more than one Notice or more than one set of proxy materials?

If you receive more than one Notice, or more than one set of proxy materials, it means that your shares are not all registered in the same way. For example, some of your shares may be registered in your name only and some may be registered in the name of you and your spouse jointly, or some of your shares may be held in street

name in one account with one broker and some may be held in street name in another account with the same broker or with a different broker. Please follow the voting instructions on each Notice or proxy card that you receive to ensure that all of the shares that you are entitled to vote are in fact voted.

What is the quorum requirement?

In order to hold the meeting, there must be a quorum. For there to be a quorum at the meeting, the holders of a majority of all of the shares of common stock entitled to vote at the meeting must be present in person or represented by proxy. Shares represented by stockholders of record who are present in person or represented by proxy at the meeting, including shares that are voted to "Abstain" on any particular matter and broker non-votes, will be counted for purposes of determining whether there is a quorum. The term "broker non-vote" refers to any particular matter for which your bank, broker or other nominee cannot vote your shares because it has not received instructions from you and it does not have discretionary voting authority. As discussed above, banks, brokers and other nominees for shares held in street name only have discretionary authority to vote the shares on matters that are considered routine.

What vote is required to approve each proposal and how are votes counted?

If there is a quorum at the meeting:

- the persons receiving the highest number of the votes of the shares present in person or represented by proxy at the meeting and entitled to vote on the election of directors will be elected as Class I directors. This is called a plurality. Shares for which authority to vote for a particular nominee for election as a director is withheld will not be counted as votes for the election of that nominee. Abstentions are not counted for purposes of electing directors. If your shares are held in street name and you do not provide voting instructions to the bank, broker or other nominee, the bank, broker or other nominee does not have discretionary authority to vote your shares with respect to the election of directors. Because directors are elected by plurality, broker non-votes will have no effect on the election of directors.
- the proposal to ratify the appointment of Ernst & Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2010 will be approved if a majority of the shares present in person or represented by proxy at the meeting and entitled to vote on the proposal vote in favor of the proposal. Because abstentions constitute shares present and entitled to vote, they will have the effect of a vote against the proposal. If your shares are held in street name and you do not provide voting instructions to the bank, broker or other nominee, the bank, broker or other nominee has discretionary authority to vote your shares with respect to the proposal.

Is there a list of stockholders entitled to vote at the meeting?

A list of stockholders of record will be available for any purpose germane to the meeting at the meeting and for 10 days prior to the meeting at the office of Targacept's Secretary during business hours at our executive offices at 200 East First Street, Suite 300, Winston-Salem, North Carolina.

Could matters other than those described in this proxy statement be decided at the meeting?

At the time this proxy statement was printed, we knew of no other matters that may be presented for action at the meeting. If any other business properly comes before the meeting, the persons named on the proxy card included in the proxy materials will have authority to vote the shares represented by proxies in their discretion. If you hold shares in street name, the bank, broker or other nominee that is the stockholder of record for your shares will not be able to vote your shares on any other business that comes before the meeting unless it receives instructions from you with respect to the other business.

What happens if the meeting is postponed or adjourned?

If the meeting is postponed or adjourned, your proxy may be voted when the meeting convenes or re-convenes. You will still be able to revoke your proxy until it is voted.

What are the costs of soliciting these proxies?

This proxy statement is furnished to our stockholders in connection with the solicitation of proxies by and on behalf of the Board. We will pay all of the costs of soliciting these proxies. Our directors, officers and employees may solicit proxies in person or by telephone, fax or email. We will not pay these directors, officers and employees any additional compensation for these services. We may reimburse banks, brokers and other nominees for their expenses incurred to forward the Notice, or these proxy materials, to the beneficial owners of the shares for which they are the stockholders of record.

Where is the meeting?

The meeting will be held at 8:30 a.m. Eastern Daylight Time on Thursday, June 10, 2010 at the Winston-Salem Marriott, 425 North Cherry Street, Winston-Salem, North Carolina. When you arrive at the meeting, signs will direct you to the appropriate meeting room.

Who should I call if I have any additional questions?

If you hold your shares directly, please call Peter A. Zorn, Targacept's Secretary, at (336) 480-2100. If you hold your shares in street name, please use the telephone number provided on the voting instruction form that you receive from your bank, broker or other nominee or contact your bank, broker or other nominee directly.

BOARD OF DIRECTORS AND MANAGEMENT

Board of Directors

Our bylaws provide that the Board shall consist of not less than three or more than 13 directors, as fixed from time to time in accordance with our certificate of incorporation. Our certificate of incorporation provides that the number of directors shall be fixed from time to time exclusively by the Board, and the Board has fixed the number of directors at 10. The Board is divided into three classes, with one class to be elected at each annual meeting of stockholders to serve for a three-year term. The term of our Class I directors expires at the meeting; the term of our Class II directors expires at the 2011 annual meeting of stockholders; and the term of our Class III directors expires at the 2012 annual meeting of stockholders; in each case with each director to hold office until his or her successor is duly elected and qualified or until his or her earlier death, retirement, resignation or removal. Our Class I directors are Charles A. Blixt, Alan W. Dunton, M.D. and Ralph Snyderman, M.D. Our Class II directors are M. James Barrett, Ph.D., Julia R. Brown, J. Donald deBethizy, Ph.D. and John P. Richard. Our Class III directors are G. Steven Burrill, Errol B. De Souza, Ph.D. and Mark Skaletsky.

On March 10, 2010, the Board, acting upon the recommendation of its Governance and Nominating Committee, nominated Charles A. Blixt, Alan W. Dunton, M.D. and Ralph Snyderman, M.D. for election as Class I directors at the meeting. Class I directors elected at the meeting will serve for a term to expire at the 2013 annual meeting of stockholders, with each director to hold office until his successor is duly elected and qualified or until his earlier death, retirement, resignation or removal.

Nominees for Election

Each nominee for election at the meeting is identified below, together with the nominee's position with Targacept, age and certain other biographical information that the nominee provided to us and the nominee's specific experience, qualifications, attributes and skills that led our Board to conclude that he is well qualified to serve as a member of the Board.

Name	Age	Position
Charles A. Blixt	58	Class I Director
Alan W. Dunton, M.D.	55	Class I Director
Ralph Snyderman, M.D.	70	Class I Director

Charles A. Blixt has been a member of the Board since August 2000. Since October 2007, Mr. Blixt has been a senior advisor to Jones Day, a law firm. From September 2006 to April 2007, he served as the interim general counsel of Krispy Kreme Doughnuts, Inc., a branded specialty retailer. From August 2004 to August 2006, he was executive vice president, general counsel and assistant secretary of Reynolds American Inc. From June 1999 to August 2006, he held positions of increasing responsibility with R.J. Reynolds Tobacco Holdings, Inc. and, from January 1998 to August 2006, he served as executive vice president and general counsel of R.J. Reynolds Tobacco Company. Mr. Blixt is a member of the board of directors of each of the publicly-traded companies Krispy Kreme Doughnuts, Inc. and Swedish Match AB.

Mr. Blixt brings to the Board extensive legal, policy, corporate development and business experience. In particular, his experience gained over many years as general counsel of a Fortune 100 consumer products company serves as a balance to the emerging growth and life science backgrounds of the other members of the Board and provides the Board with a unique and valuable perspective. In addition, Mr. Blixt's legal background helps the Board promote strong corporate governance practices.

Alan W. Dunton, M.D. has been a member of the Board since October 2006. Since January 2006, he has been president of Danerius, LLC, a consulting company. From January 2007 to March 2009, Dr. Dunton served as president and chief executive officer of Panacos Pharmaceuticals Inc. and he served as managing director for a

short time thereafter. From February 2002 to December 2005, he served as chief executive officer of Metaphore Pharmaceuticals, Inc., a biotechnology company. Dr. Dunton is a member of the board of directors of the publicly-traded company MediciNova, Inc. and, within the past five years, he served on the board of directors of each of the publicly-traded companies Adams Respiratory Therapeutics (acquired by Reckitt Benckiser Group plc), Vicuron (acquired by Pfizer) and Panacos Pharmaceuticals Inc.

Dr. Dunton brings to the Board substantial drug development and clinical research experience. Over his 27-year career in the pharmaceutical industry, Dr. Dunton has played a key role in the development of more than 20 products to regulatory approval, including several successful neuroscience products. In addition, his experience and training as a physician and fellowship in clinical pharmacology enable him to bring valuable insight to the Board that help us prioritize our drug development opportunities.

Ralph Snyderman, M.D. has been a member of the Board since June 2007. Since July 2004, Dr. Snyderman has been Chancellor Emeritus and James B. Duke Professor of Medicine at Duke University. He is the founder and chairman of Proventys Inc., a developer of diagnostic tools for use with personalized medicine. In addition, from January 2006 to November 2009, he consulted for New Enterprise Associates as a venture partner. Dr. Snyderman is a member of the board of directors of the publicly-traded company The Procter & Gamble Company and, within the past five years, he served on the board of directors of the publicly-traded company Raptor Pharmaceutical Corp.

Dr. Snyderman oversaw the development of the Duke University Health System in his role as president and chief executive officer and brings to the Board extensive knowledge of the national health care system. In addition to his academic and administrative expertise, Dr. Snyderman is internationally recognized for his contributions as a research physician in the field of inflammation, which is an area of great interest for us, and is a proponent of the role that individualized medicine can have in innovative drug development.

Continuing Directors

The terms of our Class II and Class III directors will continue after the meeting. Each continuing director is identified below, together with the director's position with Targacept, age and certain other biographical information that the director provided to us and the director's specific experience, qualifications, attributes and skills that led our Board to conclude that he or she is well qualified to serve as a member of the Board.

Name	Age	Position
M. James Barrett, Ph.D.	67	Class II Director
Julia R. Brown	62	Class II Director
G. Steven Burrill	65	Class III Director
J. Donald deBethizy, Ph.D.	59	President and Chief Executive Officer; Class II Director
Errol B. De Souza, Ph.D.	56	Class III Director
John P. Richard	52	Class II Director
Mark Skaletsky	61	Chairman of the Board; Class III Director

M. James Barrett, Ph.D. has been a member of the Board since November 2002. Since September 2001, Dr. Barrett has been a general partner of New Enterprise Associates, a venture capital firm that focuses on the medical and life sciences and information technology industries. He is currently a member of the board of directors of each of the publicly-traded companies Amicus Therapeutics, Inc. and Inhibitex, Inc. and, within the past five years, he served on the board of directors of each of the publicly-traded companies Iomai Corporation (acquired by Intercell AG), MedImmune, LLC (acquired by AstraZeneca), Pharmion Corporation (acquired by Celgene Corporation) and YM Biosciences, Inc.

As a result of Dr. Barrett's tenure as a general partner of New Enterprise Associates, he has served on numerous boards of directors of both public and private companies in the healthcare sector and brings to the

Board significant first-hand experience in shaping strategic direction as a pharmaceutical company matures from a private venture-backed company, to a development-stage public company and then to a product revenue-generating company. In addition to his valuable perspective as an investor, Dr. Barrett brings to the Board substantial executive experience, having founded or served as the chief executive of four separate life sciences companies.

Julia R. Brown has been a member of the Board since November 2007. From January 2000 to September 2008, Ms. Brown was affiliated with Amylin Pharmaceuticals, Inc., a biopharmaceutical company, serving as executive vice president until July 2003 and then as an adviser to the chief executive officer. She is a member of the board of directors of the publicly-traded company Labopharm, Inc., as well as vice chairman of the board of trustees of the University of California San Diego Foundation and a member of the board of directors of CONNECT, an organization that fosters innovation and the formation of new technology companies in southern California. Within the past five years, she served on the board of directors of the publicly-traded company Tanox, Inc. (acquired by Genentech, Inc.).

Ms. Brown brings to the Board extensive experience in the life science industry gained over her 40-year career. As an executive of Amylin, Ms. Brown was responsible for commercial operations and led that company's transition from the development stage to the commercial stage. Prior to Amylin, she held executive positions at Dura Pharmaceuticals, Inc. (acquired by Elan Pharmaceuticals) and Eli Lilly and Company. In addition to her background in key operating roles, Ms. Brown has been recognized as a Certified Director by the Directors Institute at UCLA and awarded the Certificate of Director Education by the National Association of Corporate Directors, or NACD. Ms. Brown has also trained in executive compensation at both Harvard University and the NACD and chaired the compensation committee for two publicly-traded companies, providing her with a breadth of education and experience that benefits both our Compensation Committee and the Board.

G. Steven Burrill has been a member of the Board since August 2006. Mr. Burrill also previously served as a member of the Board from August 2000 to August 2005. Since January 1997, he has served as the chief executive officer of Burrill & Company LLC, a merchant bank that he founded that provides venture capital, media and strategic partnering services and focuses on biotechnology, pharmaceuticals, diagnostics, devices, human healthcare and related medical technologies, healthcare delivery, nutraceuticals and wellness, agricultural biotechnology, industrial biotechnology and biofuels. Prior to founding Burrill & Company, Mr. Burrill spent 27 years with Ernst & Young LLP, including the last 17 as a partner of the firm. He is currently a member of the board of directors of each of the publicly-traded companies DepoMed, Inc. and Pharmasset, Inc. and, within the past five years, he served on the board of directors of each of the publicly-traded companies Icoria, Inc. (acquired by Clinical Data, Inc.), Clinical Data, Inc. and Third Wave Technologies, Inc.

Mr. Burrill is widely recognized as a leading voice in biotechnology. He has served on numerous boards of directors of both public and private life science companies over his long tenure as chief executive officer of Burrill & Company and, as the author of the Annual Report of the Biotechnology Industry for more than two decades and a founder of The Biotech Meeting and many other industry meetings, he has access to insights from executives of leading companies across the healthcare sector. In addition, Mr. Burrill's many years at Ernst & Young prior to founding Burrill & Company provide him with a strong financial background that benefits both our Audit Committee and the Board.

J. Donald deBethizy, Ph.D. has been a member of the Board since March 1997. Dr. deBethizy has been our Chief Executive Officer since August 2000 and our President since March 1997.

As a founder of Targacept with substantial academic and industrial research and development management experience, Dr. deBethizy brings to the Board a deep knowledge of Targacept's business and science, as well as a broad strategic vision and a tremendous passion for our company. In addition, his service as a director enables the Board to perform its function with the benefit of management's perspectives. Dr. deBethizy is a member of the board of directors of the Biotechnology Industry Organization, or BIO.

Errol B. De Souza, Ph.D. has been a member of the Board since January 2004. Since March 2010, Dr. De Souza has been president and chief executive officer of Biodel Inc., a specialty pharmaceutical company. From April 2009 to March 2010, Dr. De Souza was a pharmaceutical and biotechnology consultant. From April 2003 to January 2009, he served as president and chief executive officer of Archemix Corporation, a privately held biopharmaceutical company. Dr. De Souza currently serves as chairman of GlaxoSmithKline's immunology steering board and is a member of the board of directors of each of the publicly-traded companies Bionomics Ltd. and Palatin Technologies, Inc. Within the past five years, he served on the board of directors of the publicly-traded company IDEXX Laboratories, Inc.

Dr. De Souza brings to the Board substantial experience as an executive in the pharmaceutical industry, having served as president and chief executive officer of Synaptic Pharmaceutical Corp. until its sale to H. Lundbeck A/S in addition to Biodel and Archemix. Over Dr. De Souza's career, he has also served in a number of high-ranking research and development roles, including senior vice president and head of global lead generation for Hoechst Marion Roussel and senior vice president and U.S. head of drug innovation and approval following that company's merger with Rhône-Poulenc to form Aventis (now Sanofi-Aventis) and co-founder and executive vice president of research and development at Neurocrine Biosciences, Inc. These experiences, together with his service as a director for other biopharmaceutical companies, enable Dr. De Souza to contribute valuable insight to the Board regarding pharmaceutical portfolio development and management from both a large company and an emerging company perspective.

John P. Richard has been a member of the Board since November 2002. Since June 2005, Mr. Richard has been a managing director of Georgia Venture Partners, LLC, a venture capital firm that focuses on the biotechnology industry. He has also served as senior business advisor to Agennix AG, a biotechnology company, since April 1999, as a consultant to Nomura Phase4 Ventures LP or an affiliated entity since January 2000, and as the interim chief executive officer of AxoTect Inc., a biotechnology company, since July 2009. Nomura Phase4 Ventures LP is a private equity fund, and Mr. Richard became a venture partner of the fund during 2008. In addition, Mr. Richard currently serves and from time to time during at least the past five years has served as a consultant to portfolio companies of Georgia Venture Partners and Nomura Phase4 Ventures. Within the past five years, Mr. Richard served as a member of the board of directors of the publicly-traded company Altus Pharmaceuticals Inc.

Mr. Richard brings to the Board extensive business development experience, having led that function at three separate life science companies and played a primary role in establishing numerous pharmaceutical alliances. In addition, the breadth of Mr. Richard's current roles enables him to view issues that we face from a variety of perspectives, including as an executive, investor, director and transaction professional.

Mark Skaletsky has been a member of the Board since February 2001 and our Chairman since January 2002. Since May 2008, Mr. Skaletsky has been the chairman and chief executive officer of Fenway Pharmaceuticals, Inc., a biotechnology company. From March 2001 to March 2008, he served as the chairman and chief executive officer of Trine Pharmaceuticals, Inc., a biotechnology company. Mr. Skaletsky is currently a member of the board of directors of each of the publicly-traded companies Alkermes, Inc. and ImmunoGen, Inc. and, within the past five years, he served on the board of directors of each of the publicly-traded companies Icoria, Inc. (acquired by Clinical Data, Inc.) and AMAG Pharmaceuticals, Inc. Mr. Skaletsky is also a member of the board of trustees of Bentley University.

Mr. Skaletsky brings leadership to the Board, as well as substantial business and operating experience and a deep knowledge of our industry. He is one of the founders of the Industrial Biotechnology Association, a predecessor to BIO, and a former chairman of BIO. Over his career, Mr. Skaletsky has served in a number of executive roles, including president and chief executive officer of GelTex Pharmaceuticals, Inc. until its acquisition by Genzyme Corporation in December 2000 and president and chief operating officer of Biogen, Inc. Mr. Skaletsky's wide-ranging qualifications enable him in his role as our Chairman to provide management guidance to Dr. deBethizy and to manage the diverse viewpoints of our directors to ensure that the Board functions well.

Executive Officers

Mauri K. Hodges, C.P.A., C.C.P.

Name

Our executive officers who are not also directors, their ages and positions at Targacept and other biographical information are set forth below.

Age

Positions

Merouane I	Bencherif, M.D., Ph.D.	55	Senior Vice President, Preclinical Research
Jeffrey P. B	rennan	52	Senior Vice President, Business and Commercial Development and Chief Business Officer
William S.	Caldwell, Ph.D.	56	Senior Vice President, Drug Discovery and Development
Geoffrey C	Dunbar, M.D.	63	Senior Vice President, Clinical Development and
			Regulatory Affairs
Alan A. Mu	isso, C.P.A., C.M.A.	48	Senior Vice President, Finance and Administration, Chief Financial Officer, Treasurer and Assistant
			Secretary
Peter A. Zo	rn, Esq.	39	Senior Vice President, Legal Affairs, General Counsel and Secretary
Karen A. H	icks	58	Vice President, Human Resources

Vice President, Finance and Corporate Systems and Controller

Merouane Bencherif, M.D., Ph.D. has been our Senior Vice President, Preclinical Research since March 2010. He was our Vice President, Preclinical Research from August 2002 to March 2010 and our Vice President, Biological Sciences from August 2000 to August 2002.

Jeffrey P. Brennan has been our Senior Vice President, Business and Commercial Development and Chief Business Officer since March 2010. He was our Vice President, Business and Commercial Development from September 2003 to March 2010.

William S. Caldwell, Ph.D. has been our Senior Vice President, Drug Discovery and Development since March 2010. He was our Vice President, Drug Discovery and Development from August 2002 to March 2010 and our Vice President, Drug Discovery from August 2000 to August 2002.

Geoffrey C. Dunbar, M.D. has been our Senior Vice President, Clinical Development and Regulatory Affairs since March 2010. He was our Vice President, Clinical Development and Regulatory Affairs from June 2001 to March 2010.

Alan A. Musso, C.P.A., C.M.A. has been our Senior Vice President, Finance and Administration since March 2010, our Chief Financial Officer and Treasurer since February 2002 and our Assistant Secretary since June 2007. He was our Vice President from February 2002 to March 2010 and our Secretary from February 2002 to June 2007.

Peter A. Zorn, Esq. has been our Senior Vice President, Legal Affairs since March 2010, our General Counsel since January 2006 and our Secretary since June 2007. He was our Vice President, Legal Affairs from January 2006 to March 2010, our Corporate Counsel from May 2003 to January 2006 and our Assistant Secretary from May 2003 to June 2007. Mr. Zorn resides in Bedford, Massachusetts.

Karen A. Hicks has been our Vice President, Human Resources since March 2010. She was our Senior Director, Human Resources from January 2007 to March 2010 and our Director, Human Resources from September 2002 to January 2007.

Mauri K. Hodges, C.P.A., C.C.P. has been our Vice President, Finance and Corporate Systems since March 2010 and our Controller since November 2000. She was our Senior Director, Finance from February 2002 to March 2010.

PROPOSAL 1: ELECTION OF CLASS I DIRECTORS

On March 10, 2010, the Board, acting upon the recommendation of its Governance and Nominating Committee, nominated Charles A. Blixt, Alan W. Dunton, M.D. and Ralph Snyderman, M.D. for election as Class I directors at the meeting. Class I directors elected at the meeting will serve for a term to expire at the 2013 annual meeting of stockholders, with each director to hold office until his successor is duly elected and qualified or until his earlier death, retirement, resignation or removal.

Unless authority to vote for a particular nominee is withheld, the shares represented by proxy will be voted **FOR** the election of Charles A. Blixt, Alan W. Dunton, M.D. and Ralph Snyderman, M.D. as Class I directors. In the event that any nominee becomes unable or unwilling to serve, the shares represented by proxy will be voted for the election of such other person as the Board may recommend in his place. We have no reason to believe that any nominee will be unable or unwilling to serve as a director.

A plurality of the votes of the shares present in person or represented by proxy at the meeting and entitled to vote on the election of directors is required to elect each nominee as a Class I director.

THE BOARD OF DIRECTORS RECOMMENDS A VOTE "FOR" THE ELECTION OF CHARLES A. BLIXT, ALAN W. DUNTON, M.D. AND RALPH SNYDERMAN, M.D. AS CLASS I DIRECTORS.

CORPORATE GOVERNANCE

Director Independence

The listing standards of The NASDAQ Global Market, or NASDAQ, and our Corporate Governance Guidelines require that our Board consist of a majority of independent directors, as determined under the applicable NASDAQ listing standard. The Board, acting upon the recommendation of its Governance and Nominating Committee, has determined that each of Mr. Skaletsky, Dr. Barrett, Mr. Blixt, Ms. Brown, Mr. Burrill, Dr. De Souza, Dr. Dunton, Mr. Richard and Dr. Snyderman qualifies as an independent director. In making their respective independence determinations, the Governance and Nominating Committee and the Board considered the status of Dr. Barrett as a general partner of New Enterprise Associates, which is our largest stockholder, and Dr. De Souza as chairman of GlaxoSmithKline's immunology steering board.

For purposes of qualifying as independent to serve on the Audit Committee of the Board, applicable NASDAQ listing standards and rules of the Securities and Exchange Commission, or *SEC*, require that a director not accept any consulting, advisory, or other compensatory fee from us, other than for Board service, or be an affiliated person of us. We believe that all of the members of our Audit Committee satisfy these requirements.

Board Leadership Structure

The Board and each of its committees are chaired by directors whom our Board has determined meet NASDAQ's independence standards.

The roles of chief executive officer and chairman of the board of directors have been held by separate individuals since we became an independent company in 2000. This separation of roles enables our Chief Executive Officer to focus on his core responsibility of leading and managing our operations and day-to-day performance, consistent with strategic direction provided by the Board, and our Chairman of the Board to focus on leading the Board in its fundamental role of providing guidance to and independent oversight of our management. In addition, this separation provides an opportunity for consistent leadership, as the individual that fills either role could assume the duties of the other role on an emergency basis if the need were to arise.

The Board and its Committees

In 2009, the Board met 11 times, either in person or by conference telephone. Each of our directors attended at least 75% of the aggregate number of meetings of the Board and the committees on which they served, except that Dr. De Souza attended 73.3% of such meetings (with three of the four meetings that Dr. De Souza could not attend being unplanned and held on short notice). Our Corporate Governance Guidelines provide that our directors are also expected to attend annual meetings of stockholders. Seven of our 10 directors attended the 2009 annual meeting of stockholders.

The Board has an Audit Committee, Compensation Committee and Governance and Nominating Committee. A brief description of these committees and their current memberships follows.

Governance and Nominating Committee

The current members of the Governance and Nominating Committee are Mr. Blixt, Dr. De Souza, Mr. Skaletsky and Dr. Snyderman, with Dr. De Souza serving as chairman. In 2009, the Governance and Nominating Committee of the Board met four times, either in person or by conference telephone. You can find the Governance and Nominating Committee charter on the "Investor Relations" page of our website, www.targacept.com, under the "Corporate Governance" tab. Specific responsibilities of the Governance and Nominating Committee include:

- identifying individuals qualified to serve as directors, recommending to the Board nominees for election at our annual meetings of stockholders and recommending to the Board individuals to fill vacancies on the Board;
- making recommendations to the Board concerning the criteria for membership on the Board and the size, composition, chairmanship and compensation of the Board and its committees;
- monitoring and making recommendations to the Board regarding corporate governance matters;
- advising the Board on corporate governance matters generally; and
- conducting an annual review of the performance of the Board and its committees.

Our non-employee director compensation program, including the role that members of our senior management team and outside compensation consultants play in assisting with establishing director compensation, is discussed below under "Executive Compensation—Compensation of Directors."

The objective of the Governance and Nominating Committee is for the backgrounds and qualifications of the directors as a group to provide a significant breadth and diversity of experience, knowledge and abilities. In considering whether to recommend any particular candidate for inclusion in the Board's slate of recommended nominees, the Governance and Nominating Committee applies certain criteria found in our Corporate Governance Guidelines. In particular, each nominee should possess:

- a reputation for integrity, honesty and adherence to high ethical standards;
- · sound judgment and a willingness and ability to contribute positively to decision-making processes;
- · a commitment to understand us and our industry and to regularly attend and participate in meetings of the Board and, as applicable, its committees;
- the interest and ability to understand sometimes conflicting interests of various constituencies, such as stockholders, employees, governmental or regulatory bodies, creditors and the general public, and to act in the interests of all stockholders; and
- no actual or apparent conflict of interest that would impair the ability to represent the interests of all stockholders and to fulfill the responsibilities of a director.

The Governance and Nominating Committee does not assign specific weights to particular criteria, and no particular criterion is a prerequisite for a nominee.

Process for Director Nominations

The Governance and Nominating Committee recommends to the Board individuals to be nominated for election as directors. In considering an incumbent director as a nominee, the Governance and Nominating Committee considers his or her prior contributions to the functioning of the Board and, as applicable, its committees. The Governance and Nominating Committee may also receive recommendations for nominees from members of the Board or management and may from time to time engage a third-party search firm to help identify potential nominees. If a candidate is identified, the Governance and Nominating Committee evaluates his or her qualifications and other biographical information, taking into account the backgrounds and qualifications of the continuing members of the Board and the criteria included in our Corporate Governance Guidelines. Members of the Governance and Nominating Committee and our Chief Executive Officer then interview the candidate or, if multiple candidates are identified, select candidates. Following discussion of the candidates identified and evaluated, the Governance and Nominating Committee recommends to the Board a slate of nominees for election.

Stockholders may recommend individuals for consideration by the Governance and Nominating Committee as potential nominees for director by submitting their names, together with, for each potential nominee, a comprehensive written resume of his or her business experience and background and a signed consent stating that he or she is willing to be considered as a nominee and, if nominated and elected, will serve as a director, to Governance and Nominating Committee, c/o Secretary, Targacept, Inc., 200 East First Street, Suite 300, Winston-Salem, North Carolina 27101. The submission must also include a statement as to whether the stockholder has beneficially owned or, if the recommendation is being made by a group of stockholders, whether the group of stockholders has beneficially owned, more than 5% of our common stock for at least one year as of the date the recommendation is made. Assuming that the required information has been provided by the same deadline that applies for stockholder proposals to be included in the proxy materials for our 2011 annual meeting of stockholders as specified below under "Deadline for Stockholder Proposals and Stockholder Nominations," the committee will evaluate stockholder-recommended candidates using substantially the same process and applying substantially the same criteria as described above. Stockholder Proposals and Stockholder Nominations" below.

At the meeting, stockholders will be asked to consider the election of Mr. Blixt, Dr. Dunton and Dr. Snyderman, each of whom currently serves on the Board. Mr. Blixt, Dr. Dunton and Dr. Snyderman were recommended to the Board for nomination by the Governance and Nominating Committee.

Audit Committee

The current members of the Audit Committee are Mr. Blixt, Mr. Burrill and Mr. Richard, with Mr. Blixt serving as chairman. The Board has determined that the audit committee has at least one "audit committee financial expert" as defined in Item 407(d)(5) of Regulation S-K and that Mr. Burrill is an audit committee financial expert.

In 2009, the Audit Committee met six times, either in person or by conference telephone. You can find the Audit Committee charter on the "Investor Relations" page of our website, www.targacept.com, under the "Corporate Governance" tab. The Audit Committee assists the Board in its oversight of our accounting, financial reporting and internal control functions. Specific responsibilities of the Audit Committee include:

• the appointment, compensation, retention and oversight of any independent registered public accounting firm that we engage to issue an audit report or perform other audit, review or attest services, and evaluating auditor independence;

- overseeing the annual audit process, as well as the review process for our interim financial statements;
- reviewing with management significant accounting issues and policies relating to our financial statements;
- discussing with management and the independent registered public accounting firm our exposure to material risks and the adequacy of our risk management activities;
- reviewing management's assessment of the effectiveness of, and our independent registered public accounting firm's report on, our internal control over financial reporting;
- approving, to the extent required by applicable law or NASDAQ listing standards or by our related person transactions policy, related person transactions:
- establishing procedures for the receipt, retention and treatment of complaints regarding accounting, internal accounting controls or auditing matters;
- responding to any report of evidence of a material violation of the securities laws or breach of fiduciary duty that it receives; and
- preparing the report of the audit committee required by applicable SEC rules to be included in our annual proxy statement.

Compensation Committee

The current members of the Compensation Committee are Dr. Barrett, Ms. Brown, Dr. Dunton and Mr. Skaletsky, with Mr. Skaletsky serving as chairman. In 2009, the Compensation Committee met five times, either in person or by conference telephone. You can find the Compensation Committee charter on the "Investor Relations" page of our website, www.targacept.com, under the "Corporate Governance" tab. Specific responsibilities of the Compensation Committee include:

- reviewing periodically our compensation philosophy and the adequacy of compensation plans and programs for our executive officers and other employees;
- · reviewing the performance of our Chief Executive Officer and establishing the compensation of all of our executive officers;
- · approving employment, severance and change in control agreements, and any amendments, for our executive officers;
- · administering our 2006 Stock Incentive Plan and any other stock-based plans and other employee benefit and incentive plans;
- reviewing and discussing with management our Compensation Discussion and Analysis disclosure and formally recommending to the Board that it be included in our annual report on Form 10-K (either directly or by incorporation by reference to our annual proxy statement); and
- preparing the report of the compensation committee required by applicable SEC rules to be included in our annual report on Form 10-K (either directly or by incorporation by reference to our annual proxy statement).

The Compensation Committee consults regularly with our Chief Executive Officer and on occasion with other members of our senior management team regarding our executive compensation program. Our executive compensation program, including the role that members of our senior management team and outside compensation consultants play in assisting with establishing compensation, is discussed below under "Executive Compensation—Compensation Discussion and Analysis."

The Compensation Committee has the discretion to delegate any of its authority to a subcommittee. In addition, the Board has delegated to Dr. deBethizy, as Chief Executive Officer, the authority to grant stock

options under our 2006 Stock Incentive Plan, subject to limits and other conditions specified by the Board or the Compensation Committee, the terms of that plan and applicable law. In particular, Dr. deBethizy does not have the authority to grant stock options to our executive officers.

Compensation Committee Interlocks and Insider Participation

None of Mr. Skaletsky, Dr. Barrett, Ms. Brown or Dr. Dunton was an officer within the meaning of Rule 3b-2 under the Securities Exchange Act of 1934, or the "1934 Act," or employee of ours during or prior to fiscal 2009 or had any relationship during fiscal 2009 that would be required to be disclosed pursuant to Item 404 of Regulation S-K. None of our executive officers served during fiscal 2009 as a member of the board of directors or compensation committee, or other committee serving an equivalent function, of any entity that has an executive officer who serves on our Board or Compensation Committee.

The Board's Role in Risk Oversight

The Board plays a role with respect to our risk oversight in multiple contexts. For example, in determining whether and under what circumstances we will engage in financing transactions or enter into strategic alliances and collaborations, the Board is involved in our management of risks related to our financial condition or to the development and commercialization of our product candidates. In addition, at each of its meetings, the Board receives business updates from various members of senior management. These updates may identify matters that have emerged within the member of senior management's scope of responsibility that involve operational, financial, legal or regulatory risks and, in these cases, the Board's risk oversight role is to provide guidance to management.

The Board also exercises a risk oversight role through its committees, each of which provides a report to the full Board at the next Board meeting. In particular, as noted above, the Audit Committee is responsible for discussing our exposure to material risks and the adequacy of our risk management activities with management and our independent registered public accounting firm. The Audit Committee's primary emphasis is financial risk, including our internal control over financial reporting, and it reviews information received from our independent registered public accounting firm as to the effectiveness of our internal control over financial reporting and from other third parties that provide information in support of management's assessment of the effectiveness of our internal control over financial reporting. The Audit Committee also oversees our management of exposure to certain financial risks through its periodic review of our investment policy and the allocation of our investment portfolio. Additionally, the Audit Committee seeks assurance from our insurance broker at least annually that it considers our various insurance coverages, including clinical trial-related insurance, to be appropriate and generally consistent with its other clients in our industry with similar profiles. Beyond the Audit Committee, the Compensation Committee is responsible for considering whether our compensation programs and practices are reasonably likely to have a material adverse effect on us.

Stockholder Communications

The Board will receive and review written communications submitted by stockholders to the attention of the Board. The chairman of the Governance and Nominating Committee is primarily responsible for monitoring communications from stockholders and for providing copies or summaries to the other directors as he considers appropriate.

Stockholders who wish to send communications on any topic to the Board should address such communications to the Board of Directors, c/o Corporate Secretary, Targacept, Inc., 200 East First Street, Suite 300, Winston-Salem, North Carolina 27101. The Secretary will forward all communications addressed to the Board to the Chairman of the Governance and Nominating Committee. You should indicate on your correspondence that you are a Targacept stockholder. In addition, you can find procedures to express any concerns or complaints regarding accounting, internal accounting or other financial reporting controls or auditing matters to the Audit Committee on the "Investor Relations" page of our website, www.targacept.com, under the "Corporate Governance" tab.

Corporate Governance Guidelines

The Board has adopted Corporate Governance Guidelines that address a number of matters applicable to directors, including, as examples, independence, qualification standards, compensation, conduct and frequency of meetings, executive sessions and management evaluation and succession. You can find our Corporate Governance Guidelines on the "Investor Relations" page of our website, www.targacept.com, under the "Corporate Governance" tab.

Code of Business Conduct and Ethics

The Board has also adopted a Code of Business Conduct and Ethics applicable to all Targacept personnel, including our directors and executive officers. The Code of Business Conduct and Ethics is designed, among other things, to reflect our commitment to fair and ethical conduct and compliance with law. You can find the Code of Business Conduct and Ethics on the "Investor Relations" page of our website, www.targacept.com, under the "Corporate Governance" tab. To the extent permissible under applicable law, the rules of the SEC or NASDAQ listing standards, we also intend to post on our website any amendment to the Code of Business Conduct and Ethics that requires disclosure under applicable law, SEC rules or NASDAQ listing standards. Any waiver of the Code of Business Conduct and Ethics for any executive officer or director must be approved by the Board and will be disclosed on a Current Report on Form 8-K filed with the SEC, along with the reasons for the waiver.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

Our common stock is our only class of voting security. The table below sets forth information regarding the beneficial ownership of our common stock as of April 14, 2010 for:

- each of the individuals identified as named executive officers in the Summary Compensation Table on page 32 of this proxy statement;
- each of our directors and director nominees;
- · all of our directors and executive officers as a group; and
- each person, entity or group of affiliated persons or entities known by us to beneficially own more than 5% of our common stock.

Beneficial ownership is determined under SEC rules and includes sole or shared power to vote or dispose of shares of our common stock. The number and percentage of shares beneficially owned by a person or entity also include shares of common stock subject to stock options that are currently exercisable or become exercisable within 60 days of April 14, 2010. However, these shares are not deemed to be outstanding for the purpose of computing the percentage of shares beneficially owned of any other person or entity. Except as indicated in footnotes to the table below or, where applicable, to the extent authority is shared by spouses under community property laws, the beneficial owners named in the table have, to our knowledge, sole voting and dispositive power with respect to all shares of common stock shown to be beneficially owned by them. Percentage of shares beneficially owned is based on 28,344,707 shares of common stock outstanding on April 14, 2010. Unless otherwise indicated, the address of each beneficial owner named in the table is c/o Targacept, Inc., 200 East First Street, Suite 300, Winston-Salem, North Carolina 27101.

Name and Address of Beneficial Owner	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned
More than 5% Stockholders New Enterprise Associates, Inc. and affiliates 1954 Greenspring Drive, Suite 600 Timonium, Maryland 21093	4,572,999 (1)	16.1%
Fidelity Management & Research Company and affiliates 82 Devonshire Street Boston, Massachusetts 02109	4,099,654 (2)	14.5%
Wellington Management Company, LLP 75 State Street Boston, Massachusetts 02109	3,408,215 (3)	12.0%
BVF Inc. and affiliates 900 North Michigan Avenue, Suite 1100 Chicago, Illinois 60611	1,805,368 (4)	6.4%
Sectoral Asset Management Inc. and affiliates 2120-1000 Sherbrooke Street West Montreal PQ H3A 3G4 Canada	1,464,412 (5)	5.2%

Name and Address of Beneficial Owner	Number of Shares Beneficially Owned	Percentage of Shares Beneficially Owned
Directors and Named Executive Officers		
Mark Skaletsky	81,332 (6)	*
M. James Barrett	4,613,512 (7)	16.2%
Charles A. Blixt	50,000 (8)	*
Julia R. Brown	45,416 (9)	*
G. Steven Burrill	57,333 (10)	*
Errol B. De Souza	55,333 (11)	*
Alan W. Dunton	55,000 (12)	*
John P. Richard	56,333 (13)	*
Ralph Snyderman	22,916 (14)	*
J. Donald deBethizy	406,916 (15)	1.4%
Alan A. Musso	150,363 (16)	*
Geoffrey C. Dunbar	204,934 (17)	*
Jeffrey P. Brennan	43,919 (18)	*
Peter A. Zorn	35,538 (19)	*
All executive officers and directors as a group (18 persons)	6,235,281 (20)	20.8%

- * Represents beneficial ownership of less than one percent of our common stock
- (1) The information reported is based on information provided by New Enterprise Associates 10, Limited Partnership on February 16, 2010. Includes 4,563,512 shares owned of record by New Enterprise Associates 10, Limited Partnership for which voting and dispositive power is shared by M. James Barrett, Peter J. Barris, C. Richard Kramlich, Charles W. Newhall, III, Mark W. Perry and Scott D. Sandell, each of whom is a general partner of NEA Partners 10, L.P., the general partner of New Enterprise Associates 10, Limited Partnership; 3,154 shares owned of record by NEA Ventures 2002, L.P. for which voting and dispositive power is held by its general partner, Pamela J. Clark; and 2,000 shares owned of record by, and 4,333 shares issuable upon exercise of options exercisable currently or within 60 days of April 14, 2010 held by, New Enterprise Associates, Inc. (f/k/a NEA Development Corp.) for which voting and dispositive power is shared by Peter J. Barris, Ryan D. Drant, C. Richard Kramlich, Charles W. Newhall, III, Mark W. Perry and Scott D. Sandell, each of whom is a member of the board of directors of NEA Management Company, LLC, the sole owner of New Enterprise Associates, Inc. New Enterprise Associates 10, Limited Partnership disclaims beneficial ownership of the shares owned of record by NEA Ventures 2002, L.P. and New Enterprise Associates, Inc. in which it has no pecuniary interest. NEA Partners 10, L.P., each of the general partners of NEA Partners 10, L.P., the general partner of NEA Ventures 2002, L.P., NEA Management Company, LLC and each of the members of the board of directors of NEA Management Company, LLC disclaim beneficial ownership of all of the shares owned of record by, or issuable upon the exercise of options held by, New Enterprise Associates 10, Limited Partnership, NEA Ventures 2002, L.P. or New Enterprise Associates, Inc., except to the extent of its, his or her pecuniary interest therein.
- (2) The information reported is based on a Schedule 13G/A filed with the SEC on February 16, 2010. Fidelity Management & Research Company is a wholly owned subsidiary of FMR LLC and an investment adviser registered under Section 203 of the Investment Advisers Act of 1940 and acts as investment adviser to various investment companies registered under Section 8 of the Investment Company Act of 1940. The interest of one of these investment companies, Fidelity Contrafund, totaled 1,516,869 of these shares at December 31, 2009. Each of Edward C. Johnson 3d, Chairman of FMR LLC, and FMR LLC, through its control of Fidelity Management & Research Company, has the sole power to dispose of all of these shares. Neither FMR LLC nor Edward C. Johnson 3d has the sole power to vote or direct the voting of these shares, and such power resides with the investment companies' respective boards of trustees.
- (3) The information reported is based on information provided by Wellington Management Company, LLP on February 4, 2010 and a Schedule 13G/A filed with the SEC on February 12, 2010. These shares are owned of record by numerous investment advisory clients of Wellington Management Company, LLP, an

investment adviser registered with the SEC under Section 203 of the Investment Advisers Act of 1940, as amended. In its capacity as investment adviser, Wellington Management Company, LLP shares dispositive power with respect to these shares and shares voting power with respect to 2,878,057 of these shares. Wellington Management Company, LLP disclaims any pecuniary interest in these shares.

- (4) The information reported is based on a Schedule 13G/A filed with the SEC on February 16, 2010. Includes 418,368 shares owned of record by Biotechnology Value Fund, L.P., 288,000 shares owned of record by Biotechnology Value Fund II, L.P., 997,000 shares owned of record by BVF Investments, L.L.C. and 102,000 shares owned of record by Investment 10, L.L.C. BVF Partners L.P., the general partner of Biotechnology Value Fund, L.P. and Biotechnology Value Fund II, L.P., the manager of BVF Investments, L.L.C. and the investment adviser of Investment 10, L.L.C., BVF Inc., the general partner of BVF Partners L.P., and Mark N. Lampert, a director and officer of BVF Inc., share voting and dispositive power with respect to these shares. Each of BVF Partners L.P., BVF Inc. and Mr. Lampert disclaims beneficial ownership of the shares owned by Biotechnology Value Fund, L.P., Biotechnology Value Fund II, L.P., BVF Investments, L.L.C. and Investment 10, L.L.C.
- (5) The information reported is based on a Schedule 13G filed with the SEC on February 12, 2010. Sectoral Asset Management Inc., in its capacity as an investment adviser, has the sole right to dispose of these shares and the sole right to vote 1,075,487 of these shares. Jérôme G. Pfund and Michael L. Sjöström, together, hold a majority of the shares of Sectoral Asset Management Inc. Sectoral Asset Management Inc. and Messrs. Pfund and Sjöström disclaim beneficial ownership of these shares.
- (6) Includes 70,000 shares subject to options exercisable currently or within 60 days of April 14, 2010.
- (7) Includes 50,000 shares subject to options exercisable currently or within 60 days of April 14, 2010. Also includes 4,563,512 shares owned of record by New Enterprise Associates 10, Limited Partnership for which voting and dispositive power is shared by M. James Barrett, Peter J. Barris, C. Richard Kramlich, Charles W. Newhall, III, Mark W. Perry and Scott D. Sandell, each of whom is a general partner of NEA Partners 10, L.P., the general partner of New Enterprise Associates 10, Limited Partnership. Dr. Barrett disclaims beneficial ownership of the shares owned of record by New Enterprise Associates 10, Limited Partnership, except to the extent of his pecuniary interest therein.
- (8) Subject to options exercisable currently or within 60 days of April 14, 2010.
- (9) Includes 37,916 shares issuable upon exercise of options exercisable currently or within 60 days of April 14, 2010.
- (10) Includes 50,000 shares issuable upon exercise of options exercisable currently or within 60 days of April 14, 2010. Also includes 2,000 shares owned of record by, and 5,333 shares issuable upon exercise of options exercisable currently or within 60 days of April 14, 2010 held by, Burrill & Company LLC for which voting and dispositive power is held by Mr. Burrill as the chief executive officer of Burrill & Company LLC. Mr. Burrill disclaims beneficial ownership of the shares owned of record by, or issuable upon the exercise of options held by, Burrill & Company LLC, except to the extent of his pecuniary interest therein.
- (11) Includes 50,000 shares subject to options exercisable currently or within 60 days of April 14, 2010.
- (12) Subject to options exercisable currently or within 60 days of April 14, 2010.
- (13) Includes 51,000 shares subject to options exercisable currently or within 60 days of April 14, 2010.
- (14) Subject to options exercisable currently or within 60 days of April 14, 2010.
- (15) Subject to options exercisable currently or within 60 days of April 14, 2010.
- (16) Includes 147,564 shares subject to options exercisable currently or within 60 days of April 14, 2010.
- (17) Includes 203,781 shares subject to options exercisable currently or within 60 days of April 14, 2010.
- (18) Subject to options exercisable currently or within 60 days of April 14, 2010.

- (19) Subject to options exercisable currently or within 60 days of April 14, 2010.
- (20) Includes 1,623,199 shares subject to options exercisable currently or within 60 days of April 14, 2010.

SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the 1934 Act requires our directors and executive officers and the holders of more than 10% of our common stock to file with the SEC initial reports of ownership of our common stock and other equity securities on a Form 3 and reports of changes in such ownership on a Form 4 or Form 5. Officers, directors and more than 10% stockholders are required by SEC rules to provide us with copies of all Section 16(a) forms they file. Based solely upon a review of the copies of such forms furnished to us for the year ended December 31, 2009 and information provided to us by our directors and executive officers required to file the reports, we believe that all forms required to be filed by Section 16(a) were filed on a timely basis.

CERTAIN RELATIONSHIPS AND RELATED PERSON TRANSACTIONS

Related Person Transactions Policy

The Board has adopted a written policy pursuant to which each actual or proposed financial transaction, arrangement or relationship (including any indebtedness or guarantee of indebtedness) or series of similar financial transactions, arrangements or relationships, other than specified employment and compensatory matters, in which we were or would be a participant, the amount involved exceeds \$120,000 and a "related person" (as defined under Item 404 of Regulation S-K) has a direct or indirect material interest is submitted to our Audit Committee for its review and approval or, if applicable, ratification. These transactions, arrangements or relationships are known as "related person transactions."

Under the policy, our Chief Financial Officer and General Counsel consult with regard to any proposed transaction, arrangement or relationship that is identified as a possible related person transaction. If they determine that we desire to proceed with the proposed transaction, arrangement or relationship and the General Counsel determines that, based on available information, the proposed transaction may constitute a related person transaction, it is submitted to the Audit Committee for its consideration. The Audit Committee is to consider all available relevant facts and circumstances, including the benefits to us, the impact on a director's independence in the event the related person is a director (or a family member or entity affiliated with a director), the availability of other sources for comparable products or services, the proposed terms and the terms available to or from parties that are not related persons. Absent special circumstances, the Audit Committee may approve only those related person transactions that it determines to be in or not contrary to the best interests of us and our stockholders. No member of the Audit Committee may participate in any review, consideration or approval of any related person transaction with respect to which the member or any of his or her immediate family members is the related person.

Indemnification Agreements

We have entered into indemnification agreements with each of our directors and with each individual who was serving as an officer as of the date of our initial public offering. Pursuant to the indemnification agreements, we have agreed to indemnify and hold harmless our directors and officers to the fullest extent permitted by the Delaware General Corporation Law. The agreements generally cover expenses that a director or officer incurs or amounts that a director or officer becomes obligated to pay because of any proceeding to which he or she is made or threatened to be made a party or participant by reason of his or her service as a current or former director, officer, employee or agent of us. The agreements also provide for the advancement of expenses to directors and officers subject to specified conditions. There are certain exceptions to our obligation to indemnify our directors and officers, including with respect to any intentional malfeasance or act where the director or officer did not in good faith believe he or she was acting in our best interests, with respect to "short-swing" profit claims under Section 16(b) of the 1934 Act and, with certain exceptions, with respect to proceedings that he or she initiates.

EXECUTIVE COMPENSATION

Compensation Discussion and Analysis

Role of Compensation Committee in the Compensation Process

The Compensation Committee of the Board is responsible for establishing the components and amounts of compensation for each of our executive officers, including the individuals identified as named executive officers in the Summary Compensation Table on page 32 of this proxy statement. The current members of the Compensation Committee are Mr. Skaletsky, Dr. Barrett, Ms. Brown and Dr. Dunton, with Mr. Skaletsky serving as chairman. Each of the current members of the Compensation Committee served throughout fiscal 2009.

Role of Compensation Consultant and Benchmarking

The Compensation Committee's charter grants it the authority to retain outside advisors, including compensation experts, as it deems appropriate to advise it in connection with its responsibilities and to approve related fees and engagement terms. Any advisor engaged by the Compensation Committee reports directly to the Compensation Committee.

The Compensation Committee believes that providing a competitive compensation package is critical to the successful recruitment and retention of skilled executives, particularly for positions for which we compete for talent with companies that are larger, are more mature or offer comparable potential for high growth. The Compensation Committee also believes that benchmarking the compensation that we pay to executive officers as compared to compensation paid to executives in comparable positions at comparable companies helps to assess market competitiveness. However, the Compensation Committee does not rely solely on market data in determining compensation for our executive officers.

In September 2007, the Compensation Committee retained the services of the compensation consultant Radford Surveys + Consulting, a business unit of Aon Corporation, to provide various services related to our executive compensation, including the identification of a group of peer companies to enable appropriate benchmarking and a comprehensive competitive review and analysis of our executive compensation program. Radford Surveys + Consulting is referred to in this Compensation Discussion and Analysis as "*Radford Consulting*."

Following receipt of initial feedback from the Compensation Committee, Radford Consulting identified 16 publicly-traded, U.S.-based biotechnology or pharmaceutical companies in the latter part of 2007 for use as our peer group. The peer group was determined based upon consideration of various factors, including revenue, stage of clinical development programs, number of employees and market capitalization, and included: Acadia Pharmaceuticals Inc.; Affymax, Inc.; Alnylam Pharmaceuticals, Inc.; Altus Pharmaceuticals Inc.; CombinatoRx, Inc.; Cytokinetics, Incorporated; Infinity Pharmaceuticals, Inc.; Kosan Biosciences Inc.; Maxygen, Inc.; Memory Pharmaceuticals Corp.; Metabasis Therapeutics, Inc.; Micromet, Inc.; Rigel Pharmaceuticals, Inc.; Seattle Genetics, Inc.; Sunesis Pharmaceuticals Inc.; and Trubion Pharmaceuticals, Inc. Subsequently, in December 2008, the Compensation Committee reviewed the companies comprising our peer group as part of its process for determining executive compensation for fiscal 2009 and directed that Kosan Biosciences, Inc., which had been acquired, and Memory Pharmaceuticals Corp., which had signed an agreement to be acquired, be replaced with Array BioPharma, Inc. and ArQule, Inc. The resulting peer group is referred to in this Compensation Discussion and Analysis as the "2008 peer group." The Compensation Committee utilized data from the 2008 peer group, among other things, in connection with its consideration of stock option grants in January 2009.

In the third quarter of 2009, the Compensation Committee retained the services of another compensation consultant, Towers Watson & Co. (formerly known as Towers Perrin), to validate the peer group to be used for benchmarking purposes in light of changes over time both in our profile and in those companies' respective profiles and to assess the competitiveness of our executive compensation packages. In assessing the continued

appropriateness of the companies in the 2008 peer group and additional companies for potential inclusion in our peer group going forward, Towers Watson received input from members of our senior management and gave consideration to a number of factors, including number of employees, revenues, other financial metrics considered appropriate for a development-stage company, market capitalization, pipeline profile and significant alliances.

Based on the analysis and recommendations of Towers Watson and the experience and familiarity of the members of the Compensation Committee with various companies considered for potential inclusion, the Compensation Committee determined in December 2009 to use the following 18 publicly-traded, U.S.-based biotechnology or pharmaceutical companies as our peer group: Acorda Therapeutics, Inc.; Alnylam Pharmaceuticals, Inc.; Amicus Therapeutics, Inc.; ARIAD Pharmaceuticals, Inc.; ArQule, Inc.; Array BioPharma, Inc.; Cytokinetics, Incorporated; GTx, Inc.; ImmunoGen, Inc.; Infinity Pharmaceuticals, Inc.; Maxygen, Inc.; Medivation, Inc.; Micromet, Inc.; Rigel Pharmaceuticals, Inc.; Sangamo BioSciences, Inc.; Seattle Genetics, Inc.; Trubion Pharmaceuticals, Inc.; and XenoPort, Inc. This peer group, which includes eight additions to and six deletions from the 2008 peer group, is referred to in this Compensation Discussion and Analysis as the "2009 peer group."

Towers Watson provided the Compensation Committee with compensation data for the 2009 peer group compiled from publicly-available information included in filings with the SEC, organized both by rank and by position with responsibilities comparable to our executive officers. Towers Watson also provided compensation data for comparable positions for comparable companies in our industry based on number of employees from the Radford Global Life Sciences Survey, a well-known published survey of compensation data for life science companies. The elements of compensation for which Towers Watson provided data were base salary, target cash bonus, actual and target total cash compensation, expected value of long-term stock-based awards made in or soon after 2008 based on the Black-Scholes-Merton formula and actual total compensation.

In addition, Towers Watson provided the Compensation Committee with stock-based awards data from the 2009 peer group, including for each company in the group a comparison of the number of shares subject to annual awards as a percentage of shares issued and outstanding, which is known as "burn rate," over one-year and three-year periods, and annual awards made both to named executive officers, individually and collectively, and to all employees. The Compensation Committee utilized the data in establishing the base salaries and target bonus percentages of our executive officers for fiscal 2010 and in connection with its consideration of stock option grants in January 2010.

Objectives of Executive Compensation

The primary objectives of our executive compensation are described below.

 Remain competitive with comparable companies in our industry in order to attract and retain talented individuals to contribute to our long-term success.

The Compensation Committee believes that our long-term success depends substantially on our ability to attract and retain highly-qualified, experienced individuals to serve as our executive officers. We compete for skilled executives in our industry, often with companies that are larger, are more mature or offer comparable potential for high growth. As a result, we believe that the total compensation package for each of our named executive officers must be at least competitive with comparable companies in our industry. Also, because we compete on a national scale for executive talent, we assess the competitiveness of our compensation in the United States as a whole, rather than regionally.

In furtherance of this objective, we generally aim with respect to each of our named executive officers for annual base salary to be at or within a range of 10% above and below, and for total target cash compensation (which takes into account base salary and targets for bonus or other cash awards) to be at or within a range of

15% above and below, the 50th percentile for the comparable position for comparable companies in our industry. However, where we believe it to be necessary to meet our objective with respect to critical positions, we sometimes compensate at a higher level. In addition, for each of our executive officers, the targeted percentile represents a key datapoint but is not the sole factor in compensation determinations. Other factors that the Compensation Committee takes into account are described below.

• Incentivize our named executive officers to achieve our business objectives and build stockholder value, thereby aligning their interests with the interests of our stockholders.

We believe that it is important for our compensation program to align the interests of our named executive officers with the interests of our stockholders to ensure that our named executive officers are invested in our long-term success and our goal of building stockholder value. To accomplish alignment of interests, each named executive officer's compensation includes, in addition to base salary, the opportunity to receive an annual cash incentive bonus and eligibility for the grant of stock-based awards, which have historically been stock options. The annual cash incentive bonus is intended to make a substantial portion of each named executive officer's potential total annual compensation contingent on the achievement of corporate performance objectives that the Compensation Committee believes advance our business interests and contribute to our future success and the building of stockholder value. Accordingly, the amount of annual cash incentive bonus that our named executive officers receive depends heavily on the extent to which the performance objectives are achieved.

Stock option grants also serve to align the interests of our named executive officers with the interests of our stockholders. Because the exercise price of each stock option granted by our Compensation Committee is equal to the fair market value of the underlying stock as of the date of grant, the option results in a financial reward for the named executive officer only if the market price of our common stock increases after the grant date.

Together, these components of our executive compensation, which are described in more detail below under "—Elements of and Rationale for Executive Compensation," are designed to incentivize our named executive officers to work towards the achievement of our objectives in furtherance of our long-term success.

• Achieve internal pay equity within our senior management team.

We believe that it is important that our executive compensation structure promote a cohesive management team. Accordingly, we seek to achieve internal equity in compensating our named executive officers. In particular, our goal is that the compensation paid to each named executive officer be equitable and commensurate with his position, experience, responsibilities and contributions to our overall performance and achievements.

Elements of and Rationale for Executive Compensation

Our total compensation program typically includes base salary, an annual cash incentive bonus and stock options. These elements are designed, together, to accomplish the compensation objectives described above.

Base Salary

Base salary represents fixed cash compensation that does not vary for a particular year based on individual or corporate performance or results achieved and is intended to be compensation that employees in good standing can expect to receive. Base salary for each of our named executive officers is determined annually, taking into account:

- the individual responsibilities of the named executive officer;
- an assessment of the named executive officer's individual performance, development and contributions to the achievement of our corporate performance objectives or otherwise to our achievements during the preceding year, as well as expected future contributions;
- market salary data for executives with comparable responsibilities for comparable companies in our industry;

- the historical base salary of the named executive officer during his employment with us, including the amount and timing of previous adjustments;
- the base salaries of our other executive officers.

Annual Cash Incentive Bonus

Each of our executive officers, including our named executive officers, participates in an incentive award program. Under this program, each named executive officer is eligible to receive an annual cash bonus in an amount based on:

- his base salary received for the year;
- a target bonus percentage of his base salary assigned by the Compensation Committee, which is subject to a minimum percentage specified in the named executive officer's employment agreement; and
- our achievement of specified performance objectives, as well as other corporate accomplishments, that the Compensation Committee believes advance our business interests and contribute to our future success and the building of stockholder value.

The Compensation Committee believes that, as a development-stage biopharmaceutical company, our performance is measured generally by our ability to advance product candidates into and through the clinic towards the market, to identify new product candidates for indications that represent significant commercial opportunities, to attract collaborators with particularized expertise and substantial resources, to secure capital to fund our research and development activities and to manage our cash resources prudently. Accordingly, our specified performance objectives typically relate to one or more of the following areas—the discovery, progression or advancement of our product candidates, clinical or nonclinical development, preclinical research, regulatory operations, business development, alliance management, cash management and capital efficiency.

Under our incentive award program, at or about the beginning of each fiscal year, the Compensation Committee establishes corporate performance objectives for that year and ascribes a percentage weight to each objective. The aggregate weight for all of the objectives is at least equal to 100%. The performance objectives may include additional weighting associated with events considered by the Compensation Committee to be particularly challenging that, if achieved, would be expected to provide substantial benefit to us and our stockholders. In that event, the aggregate weight for all of the objectives exceeds 100%.

Following the end of the fiscal year, the Compensation Committee determines the achievement level of the incentive award program for that year. In determining the achievement level, the Compensation Committee calculates the weights ascribed to those specified performance objectives that have been met, determines whether to award all or any portion of the weight ascribed to any objective that has not been met, whether because the event reflected by the objective was achieved in part or on a delayed basis, because the failure to meet the objective resulted from a strategic change that occurred during the year or for any other reason, and determines whether to make any adjustment based on other corporate accomplishments that occurred during the year. Because the Compensation Committee believes that the achievement of our objectives and our overall success require inter-disciplinary contribution across our senior management team and that the achievement of, or failure to achieve, any particular objective reflects the performance of all of the members of our senior management team collectively, 100% of the annual cash incentive bonus paid to each member of our senior management team (including our named executive officers) is based on the achievement level determined by the Compensation Committee and not on individual performance. Accordingly, the amount of each named executive officer's cash incentive bonus for a particular fiscal year is determined by multiplying his base salary received for that year times his assigned target bonus percentage times the achievement level for the program determined by the Compensation Committee for that year.

In addition to our senior management team, all of our other employees also participate in the incentive award program. For each of these employees, 50% of the annual cash incentive bonus is based on the achievement level determined by the Compensation Committee as described above and the other 50% is based on an assessment of individual performance.

Our incentive award program furthers our executive compensation objectives by:

- focusing our named executive officers' attention directly on, and incentivizing them to achieve, performance objectives that are designed to
 contribute both to our future success and to building stockholder value;
- making a substantial portion of the annual compensation for our named executive officers contingent on achievement of the specified objectives, thereby aligning their interests with the interests of our stockholders; and
- balancing the fixed cash compensation that, in some cases, may be lower than our named executive officers could potentially obtain at larger or more mature companies with which we may compete, thereby better enabling us to attract and retain executive talent.

Stock Options or other Stock-Based Awards

Our named executive officers and other employees are also eligible to be granted stock options or other stock-based awards under the Targacept, Inc. 2006 Stock Incentive Plan, as amended and restated through November 28, 2007 and further amended effective June 10, 2009, which is sometimes referred to in this proxy statement as the "2006 Plan." The granting of awards to named executive officers under the 2006 Plan is within the discretion of the Compensation Committee or the Board. This includes the discretion to include which individuals receive awards, the number of shares to be subject to any award and any relevant price or vesting schedule. The 2006 Plan is the successor plan to the Targacept, Inc. 2000 Equity Incentive Plan, as amended and restated through March 15, 2006. The 2000 Equity Incentive Plan and the 2006 Plan are referred to together in this Compensation Discussion and Analysis as the "Equity Plans."

Since our inception, the only stock-based awards that have been made to employees under the Equity Plans have been stock options, except for restricted stock issued to our founders when we became an independent company in 2000. All options that have been granted to our employees, including our named executive officers, have been designated as incentive options, subject to applicable limits imposed by the Internal Revenue Code of 1986, as amended, or tax regulations. Incentive options provide the potential for more favorable tax treatment for employees than nonqualified options. The Compensation Committee has elected historically to use stock options as our standard form of stock-based compensation due primarily to the expectation and familiarity of options as part of compensation packages for personnel in our industry and to enable greater flexibility for our employees in tax planning than they would have if we were to use, for example, restricted stock.

Historically, each option that has been granted to one of our employees has had an exercise price equal to the fair market value as of the date of grant, as determined in accordance with the applicable Equity Plan. Prior to June 2007, the 2006 Plan provided that fair market value as of the date of grant was equal to the closing price of our common stock on the NASDAQ Global Market on the trading day immediately preceding the date of grant. In June 2007, the Board approved an amendment to the 2006 Plan to provide that, unless otherwise determined in accordance with the terms of the plan, fair market value equals the closing price of our common stock on the NASDAQ Global Market on the date of grant.

The granting of options to named executive officers furthers our executive compensation objectives by:

• aligning directly the interests of the named executive officer with the interests of our stockholders, inasmuch as the named executive officer only receives a financial reward as a result of the grant of an

- option priced at fair market value if the market price of our common stock increases after the grant is made and then to no greater extent than any third party who purchased shares of our common stock on the grant date at a price equal to that day's closing price;
- creating the possibility for wealth accumulation, given our status as a development-stage company and potential for growth, which serves as a
 compelling recruitment tool; and
- serving as a powerful retention tool because options granted to our named executive officers typically have vesting schedules that extend over a four-year period.

Timing of Option Grants

We do not have any program, plan or practice to select dates for options to be granted in coordination with the release of material non-public information. In 2008, the Compensation Committee determined that it would typically consider making option grants in January when the extent to which we have achieved our corporate performance objectives for the preceding year is known, so as to coordinate consideration of stock-based compensation with consideration of the other elements of our executive compensation.

Decision to Pay Each Element and Determination of Amounts for 2009

In determining the elements and amounts of compensation to be paid to each of our named executive officers, the Compensation Committee reviews each named executive officer's current and historical compensation, utilizing executive compensation statements, or tally sheets, to facilitate its review. The tally sheet for each named executive officer typically includes the following information:

- base salary, target bonus percentage and the resulting target bonus, cash incentive bonus paid and 401(k) company match for each year of employment;
- the number of shares of common stock held as of a recent date;
- options previously granted, including the respective numbers of shares subject to the options and exercise prices, the total number of shares subject to all outstanding options, the number of those shares subject to exercisable options as of a recent date and the value of those exercisable options determined based on the fair market value of our common stock as of a recent date;
- whether the exercise price of any outstanding option held is less than the then-current fair market value of our common stock (i.e., whether options are "underwater"); and
- a description of our obligations under the named executive officer's employment agreement in the event employment is terminated by us, other than for just cause, or in the event the named executive officer terminates employment for good reason. Our named executive officers' employment agreements are described in more detail below under "—Employment Agreements."

Base Salary

As noted above, one of the objectives of our executive compensation is to remain competitive with comparable companies in our industry in order to attract and retain talented individuals to serve as executive officers and contribute to our long-term success. Accordingly, we generally aim for the annual base salary for each of our named executive officers to be at or within a range of 10% above and below the 50th percentile for the comparable position for comparable companies in our industry.

Based on circumstances existing at the beginning of 2009, including our cash resources, the unfavorable market conditions and financing environment, our stock price, clinical trial results of our product candidates in 2008 and the uncertainty as to whether our strategic collaborator AstraZeneca would determine to continue development of our product candidate AZD3480, the Compensation Committee determined to maintain base salaries at current levels for our senior management team, including our named executive officers, and substantially all of our other employees.

Cash Incentive Bonus

In January 2009, the Compensation Committee established the following performance objectives under our incentive award program for fiscal 2009 and ascribed a percentage weight to each objective totaling 135% in the aggregate:

- accomplish a decision by AstraZeneca to proceed with additional clinical development of AZD3480 in Alzheimer's disease or attention deficit/hyperactivity disorder (ADHD) by June 30, 2009;
- complete a Phase 2 clinical trial of AZD3480 in adults with ADHD that achieves proof of principle by April 30, 2009;
- in the fourth year of the research plan for our preclinical research collaboration with AstraZeneca, our product candidate AZD1446 is progressed through Phase 1 single rising dose and multiple rising dose clinical trials, a specified preclinical product candidate advances to regulatory toxicology studies and triggers a milestone payment and an additional backup compound is identified;
- complete a Phase 2b clinical trial of our product candidate TC-5214 as an adjunct therapy for major depressive disorder that achieves proof of concept by August 31, 2009;
- achieve clinical proof of principle for TC-5214 in resistant hypertension by October 31, 2009;
- successfully renegotiate the Phase 2 clinical proof of concept development plan for our product candidate TC-5619 by a specified date and secure funding;
- enroll the first subject in a Phase 2 clinical proof of concept trial of TC-5619 by September 30, 2009;
- earn at least a specified amount of milestone payments under our strategic alliance agreement with GlaxoSmithKline;
- progress programs subject to our alliance with GlaxoSmithKline to specified research stages to be on track to earn at least a specified amount of milestone payments in 2010;
- manage spending and cash inflows to end 2009 with a cash and investments balance of at least \$54 million (exclusive of net proceeds from specified types of transactions);
- complete a partnering transaction that provides at least specified amounts of proceeds and value; and
- complete a partnering transaction that provides at least a specified amount of proceeds in 2009 prior to a specified event or that the Compensation Committee determines provides at least comparable value.

Because of the importance of the selection for research and development product candidates with a reasonable opportunity for clinical success, the efficient execution of research and development, the obtaining of working capital and, in some cases, the securing of arrangements with pharmaceutical collaborators with particular expertise and significant resources in building stockholder value for a development-stage biopharmaceutical company, the Compensation Committee believed that management's efforts to achieve the specified performance objectives would further the interests of us and our stockholders. Moreover, the Compensation Committee believes that, when established, the performance objectives did not create risk for us. It is possible that circumstances may evolve in any particular year such that achievement of one or more of the performance objectives for that year would no longer be in our interest, and our Compensation Committee expects that, in that event, the circumstances would be discussed at meetings of the Board held throughout the year and that the Compensation Committee would consider taking discretionary action. For example, following the successful outcome during 2009 of our Phase 2 clinical trial of TC-5214 as an adjunct therapy for major depressive disorder, our management determined, with the support of the Board, not to continue a then-ongoing Phase 2 exploratory study of TC-5214 as an augmentation treatment for resistant hypertension in order to eliminate the possibility that any outcome associated with the resistant hypertension study would impede our efforts to secure a collaboration for TC-5214 and to maximize its potential benefits as a treatment for major depressive disorder. With the discontinuation of the resistant hypertension trial, the Compensation Committee

determined to re-allocate the weight associated with that objective to the major depressive disorder objective when determining the achievement level under our incentive award program for fiscal 2009. The Compensation Committee believes that the discretion that it retains to modify any performance objective during the year or to credit any performance objective that may not have been met for a particular reason (such as, for example, a strategic change that occurs during the year as in the case described above) eliminates any risk that may be associated with a change in circumstances.

In January 2010, the Compensation Committee set the achievement level to be applied under our incentive award program for fiscal 2009 at 127.5%. In setting the achievement level, the Compensation Committee determined that:

- we had met the performance objectives relating to AZD3480, the development of TC-5214 for major depressive disorder, our research collaboration with AstraZeneca, our cash position and strategic partnering;
- the purpose of the performance objective relating to the achievement of proof of principle of TC-5214 in resistant hypertension had been nullified based on the strategic change that occurred during the year following the successful outcome of the trial in major depressive disorder and that the weight associated with that objective should be re-allocated to the objective relating to the development of TC-5214 for major depressive disorder and credited for the reason noted above;
- the performance objectives relating to TC-5619 should be credited because they were achieved on a delayed basis and to achieve them by the dates specified would have required significant time and attention from, and negotiations with, AstraZeneca that could have jeopardized a positive advancement decision for AZD3480; and
- 50% of the weight associated with the performance objectives relating to our alliance with GlaxoSmithKline should be credited because, among other things, we had earned a portion of the specified amount of milestone payments from GlaxoSmithKline in 2009, an amount in excess of the remaining amount of the performance objective had been generated in the form of a payment from AstraZeneca based on the successful outcome of the Phase 2 trial of AZD3480 in adults with ADHD and, based on our current research focus, we were on track at the time the achievement level was determined to earn a portion of the specified amount of milestone payments from GlaxoSmithKline in 2010.

Based on the achievement level and the target bonus percentages for fiscal 2009, in January 2010, Dr. deBethizy received a cash incentive bonus of \$220,621, Mr. Musso received a cash incentive bonus of \$105,790, Dr. Dunbar received a cash incentive bonus of \$111,729, Mr. Brennan received a cash incentive bonus of \$105,790 and Mr. Zorn received a cash incentive bonus of \$94,099.

Special Bonus

On December 2, 2009, the Board, acting upon the recommendation of the members of the Compensation Committee, awarded a special bonus to Dr. deBethizy and authorized Dr. deBethizy to award a special bonus to each of our other executive officers, including our named executive officers, subject to an aggregate limit. The special bonuses were awarded primarily in recognition of the respective contributions by our executive officers to the execution of a partnering process that resulted in consummation of a significant collaboration with AstraZeneca regarding TC-5214. Dr. deBethizy received a special bonus of \$100,000, Mr. Zorn received a special bonus of \$75,000, Mr. Brennan received a special bonus of \$65,000 and Dr. Dunbar and Mr. Musso each received a special bonus of \$60,000.

Stock Options

As disclosed in our proxy statement for the 2009 annual meeting of stockholders, in December 2008 and January 2009, the Compensation Committee conducted a review of various matters related to our Equity Plans,

including (1) the number of shares available for issuance under the 2006 Plan, (2) the percentage of stock options outstanding under the Equity Plans that were underwater, both overall and on an individual-by-individual basis, (3) a comparison of burn rate over one-year and three-year periods as compared to comparable companies based on number of employees obtained from the Radford Advisory Services 2008 GLS Equity Trends Report, which is referred to in this proxy statement as the "Radford Equity Trends Report," (4) a comparison of the number of shares either underlying stock options outstanding under the Equity Plans or reserved for future issuance under the 2006 Plan as a percentage of shares issued and outstanding, which is known as "equity overhang," as compared to comparable companies based on number of employees obtained from the Radford Equity Trends Report, and (5) stock-based plan management guidelines for burn rate and equity overhang published by RiskMetrics Group in 2008.

On January 9, 2009, based on its review of the foregoing factors and giving consideration both to the value of stock options as an incentive and retention tool and its decision to suspend base salary adjustments for fiscal 2009, the Compensation Committee determined to grant a stock option to purchase shares of our common stock to each of our named executive officers, as well as to our other executive officers and substantially all of our other employees. In establishing the number of shares to be subject to all of the stock options in the aggregate, the Compensation Committee determined not to exceed RiskMetrics Group guidelines for burn rate over a three-year period for pharmaceutical and biotechnology companies and to stay within or near the data from the Radford Equity Trends Report for burn rate and equity overhang. The number of shares to be subject to the stock options granted to each of our executive officers was then determined primarily by benchmarking against (1) the aggregate potential equity ownership data by position for companies in the 2008 peer group that the Compensation Committee had received from Radford Consulting in the latter part of 2007 and (2) for positions where substantial ownership data was not available, stock option grant valuation data by position for companies in the 2008 peer group or, where unavailable, for companies in our industry based on number of employees from the Radford Global Life Sciences Survey.

The number of shares subject to the option granted to Dr. deBethizy was 65,000; the number of shares subject to the options granted to each of Mr. Musso and Mr. Brennan was 52,500; and the number of shares subject to the options granted to each of Dr. Dunbar and Mr. Zorn was 46,000. All of the options have an exercise price of \$2.93 per share, the closing price of our common stock on the NASDAQ Global Market on January 9, 2009.

Actions Taken in Fiscal 2010

In January 2010, the Compensation Committee set the base salaries and target bonus percentages for each of our executive officers, including our named executive officers. In making these determinations, the Compensation Committee continued to target for each of our named executive officers annual base salary to be at or within a 10% range above and below, and total target cash compensation to be at or within a 15% range above and below, the 50th percentile for the comparable position for comparable companies in our industry and considered, among other things, the 2009 peer group data and other information provided by Towers Watson. The data and information provided by Towers Watson indicated that Dr. deBethizy and Mr. Zorn were furthest away from the annual base salary and total target cash compensation percentile targets and they were given the highest salary increases, on a percentage basis, among our executive officers. The Compensation Committee approved an increase in the base salary for:

- Dr. deBethizy from \$384,525 for fiscal 2009 to \$442,204 for fiscal 2010;
- Mr. Musso from \$276,575 for fiscal 2009 to \$293,170 for fiscal 2010;
- Dr. Dunbar from \$292,102 for fiscal 2009 to \$321,312 for fiscal 2010;
- Mr. Brennan from \$276,575 for fiscal 2009 to \$300,084 for fiscal 2010; and
- Mr. Zorn from \$246,010 for fiscal 2009 to \$270,611 for fiscal 2010.

For each of our named executive officers other than Dr. deBethizy, the base salary increase for fiscal 2010 placed his base salary and the resulting total target cash compensation at or near the targeted percentiles. For Dr. deBethizy, the base salary increase for fiscal 2010 placed his total target cash compensation, but not his base salary, at the targeted percentile. Accordingly, the Compensation Committee increased the target bonus percentage for Dr. deBethizy for fiscal 2010 from 45% to 50%, while maintaining the target bonus percentage for each of the other named executive officers at 30%.

In addition, on January 19, 2010, the Compensation Committee, giving consideration to the value of stock options as an incentive and retention tool, determined to grant a stock option to purchase shares of our common stock to each of our named executive officers, as well as to our other executive officers and substantially all of our other employees. In establishing the number of shares to be subject to all of the stock options in the aggregate, the Compensation Committee considered:

- the number of shares available for issuance under the 2006 Plan;
- · the planned three-year duration for the shares currently reserved for awards under the 2006 Plan;
- · other planned uses for such shares;
- burn rate and equity overhang data for the 2009 peer group; and
- stock-based plan management guidelines for burn rate and equity overhang published by RiskMetrics Group.

The portion of that total number of shares made subject to the stock options granted to each of our named executive officers was then determined, targeting a value (determined using the Black-Scholes-Merton formula) at the 75th percentile of stock awards to executives in comparable positions at companies in the 2009 peer group (or, where publicly-available data for the 2009 peer group was insufficient, for comparable companies in our industry based on number of employees from the Radford Global Life Sciences Survey) and taking into account considerations of internal equity. The number of shares subject to the option granted to Dr. deBethizy was 70,000; and the number of shares subject to the options granted to each of Mr. Musso, Dr. Dunbar, Mr. Brennan and Mr. Zorn was 50,000. All of the options have an exercise price of \$20.68 per share, the closing price of our common stock on the NASDAQ Global Market on January 19, 2010.

Role of Management in the Compensation Process

As described above, the Compensation Committee determines the base salary and target bonus percentage for each of our executive officers, including our named executive officers, on an annual basis. As part of the process, our Controller, at the direction of Dr. deBethizy or Mr. Skaletsky, assembles: a tally sheet for each executive officer; data showing the relationship of the executive officer's compensation to the compensation of our other executive officers; and base and total compensation data for executives in comparable positions in our then-current peer group or comparable companies in our industry based on number of employees as reflected in the Radford Global Life Sciences Survey. This information is provided in addition to any peer group or other data or information that may be provided by any compensation consultant engaged by the Compensation Committee. In addition, where our compensation committee has engaged a compensation consultant, our Controller provides information requested by the consultant, such as job codes used to correlate our executive officers with positions in the Radford survey.

For each executive officer other than himself, Dr. deBethizy makes a recommendation regarding base salary and target bonus percentage to the Compensation Committee, taking into account the factors discussed above. At or about the same time, Dr. deBethizy proposes to the Compensation Committee corporate performance objectives, determined in consultation with our entire senior management team, for the incentive award program. He then participates in the meeting at which the Compensation Committee determines the base salary and target bonus percentage for our executive officers and the performance objectives for the incentive award program. No

other member of management is present for the portion of this meeting during which these matters are finally determined. Dr. deBethizy is excused from the portion of the meeting during which his performance is considered and his base salary and target bonus percentage are determined.

With respect to the granting of options, the Compensation Committee has historically determined the period of time over which the shares reserved for issuance under the Equity Plans may be considered for grant. In making that determination, the Compensation Committee takes into account market data relating to burn rate and equity overhang for comparable companies in our industry, overall employee ownership, dilutive events and the role of stock-based awards in meeting the objectives of our compensation program. Based on the guidance received from the Compensation Committee, Dr. deBethizy may from time to time propose that the Compensation Committee consider the grant of options. In that event, Dr. deBethizy typically recommends a number of shares to be made subject to the option proposed to be granted to each of our executive officers based on our executive compensation objectives and the factors discussed above. The Compensation Committee then makes the determination whether to grant any or all of the options and, if it determines to make a grant, the individuals who will receive an option and the number of shares to be subject to such option. As discussed above, the Compensation Committee has determined that, as a general matter, it will consider making option grants as part of the annual performance assessment process each January.

Compensation Committee Report

The Compensation Committee has reviewed and discussed the Compensation Discussion and Analysis that accompanies this report with Targacept's management. Based on its review and discussions, the Compensation Committee recommended to the Board that the Compensation Discussion and Analysis be included in this proxy statement and incorporated by reference in Targacept's Annual Report on Form 10-K for the year ended December 31, 2009.

This Compensation Committee report shall not be deemed to be "soliciting material" or subject to Regulation 14A or Regulation 14C under the 1934 Act, shall be deemed furnished in Targacept's Annual Report on Form 10-K for the year ended December 31, 2009, is otherwise not incorporated by reference into any of Targacept's previous filings with the SEC and is not to be incorporated by reference into any of Targacept's future filings with the SEC, irrespective of any general statement included in any such filing that incorporates the Annual Report on Form 10-K referenced above or this proxy statement by reference, unless such filing explicitly incorporates this Compensation Committee report by reference.

Respectfully submitted, Mark Skaletsky, Chairman M. James Barrett, Ph.D. Julia R. Brown Alan W. Dunton, M.D.

Summary Compensation

The following table contains information regarding the total compensation for the fiscal years ended December 31, 2009, 2008 and 2007 of our chief executive officer, chief financial officer and three other most highly compensated executive officers who were serving as executive officers on December 31, 2009. We refer to these individuals in this proxy statement as our "named executive officers."

SUMMARY COMPENSATION TABLE

Name and principal position	Year	Salary (\$)	Bonus (1) (\$)	Option Awards (2) (\$)	Non-Equity Incentive Plan Compensation (1) (\$)	All Other Compensation (3) (\$)	Total (\$)
J. Donald deBethizy	2009	384,525	143,259	125,528	177,362	14,700	845,374
President and Chief Executive Officer	2008	384,525	8,652	_	95,170	13,800	502,147
	2007	348,400	10,452	_	205,556	13,500	577,908
Alan A. Musso Senior Vice President, Finance and Administration, Chief Financial Officer, Treasurer and Assistant Secretary	2009 2008 2007	276,575 276,575 257,000	80,743 4,149 5,782	101,388 — 216,558	85,047 45,635 113,723	14,700 13,800 13,500	558,453 340,159 606,563
Geoffrey C. Dunbar	2009	292,102	83,708	88,835	89,821	14,700	569,166
Senior Vice President, Clinical Development and	2008	292,102	4,382	_	48,196	13,800	358,480
Regulatory Affairs	2007	282,102	6,347	331,358	124,830	13,500	758,137
Jeffrey P. Brennan Senior Vice President, Business and Commercial Development and Chief Business Officer	2009 2008 2007	276,575 276,575 257,700	85,743 4,149 5,798	101,388 — 223,300	85,047 45,635 114,033	14,700 13,800 13,500	563,453 340,159 614,331
Peter A. Zorn (4) Senior Vice President, Legal Affairs, General Counsel and Secretary	2009	246,010	93,451	88,835	75,648	14,700	518,644

- (1) The amounts in these columns, together, reflect for each fiscal year shown cash payments made in January of the following year pursuant to our incentive award program, except that for 2009 the amounts in the column titled "Bonus" also reflect special cash bonuses paid in December 2009 in the following amounts: \$100,000 for Dr. deBethizy; \$60,000 for Mr. Musso and Dr. Dunbar; \$65,000 for Mr. Brennan; and \$75,000 for Mr. Zorn. Our incentive award program and the special cash bonuses paid in 2009 are discussed above under "—Compensation Discussion and Analysis."
- (2) The amounts in this column reflect for each fiscal year shown the aggregate grant date fair value of stock options granted during the year calculated in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 718, *Compensation-Stock Compensation*, or ASC 718, regardless of the period in which the corresponding compensation expense was recorded in accordance with ASC 718. The assumptions used to calculate grant date fair value are discussed in Note 10 to our audited financial statements included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2009.
- (3) The amounts in this column represent matching contributions that we made under our 401(k) plan.
- (4) Mr. Zorn was not a named executive officer for fiscal 2008 or 2007.

Information Relating to Plan-Based Awards

The following table contains information regarding grants of plan-based awards to our named executive officers made during the fiscal year ended December 31, 2009.

2009 GRANTS OF PLAN-BASED AWARDS

		Estimated Possible Payouts Under Non-Equity Incentive Plan Awards (1)		All Other Option Awards: Number of Securities Underlying	Exercise or Base Price of Option Awards	Grant Date Fair Value of	
Name	Grant Date	Threshold (\$)	Target (\$)	Maximum (\$)	Options (2)	(\$/Sh) (3)	Option Awards (4)
J. Donald deBethizy			173,036	233,599			
	1/9/2009				65,000	2.93	\$ 125,528
Alan A. Musso	_		82,973	112,013			
	1/9/2009				52,500	2.93	101,388
Geoffrey C. Dunbar	_		87,631	118,301			
	1/9/2009				46,000	2.93	88,835
Jeffrey P. Brennan	_		82,973	112,013			
	1/9/2009				52,500	2.93	101,388
Peter A. Zorn	_		73,803	99,634			
	1/9/2009				46,000	2.93	88,835

- (1) Our incentive award program is considered a non-equity incentive plan and is discussed above under "—Compensation Discussion and Analysis." There is no threshold amount payable under the program. The amounts shown in the "Target" column reflect each named executive officer's target bonus percentage of base salary set by the Compensation Committee for fiscal 2009. The amounts shown in the "Maximum" column reflect the maximum amount payable to each named executive officer under the program based on his target bonus percentage and the aggregate weight for all of the corporate performance objectives approved by the Compensation Committee for fiscal 2009. The amounts actually paid to our named executive officers under the program for fiscal 2009 were as follows: \$220,621 for Dr. deBethizy, \$105,790 for Mr. Musso, \$111,729 for Dr. Dunbar, \$105,790 for Mr. Brennan and \$94,099 for Mr. Zorn. All amounts awarded under the program for fiscal 2009 were paid in January 2010.
- (2) The options reflected in this column were granted under the 2006 Plan and vest and become exercisable in equal installments on the last day of 16 consecutive calendar quarters beginning with March 31, 2009.
- The exercise price per share of each option shown is equal to the closing price of our common stock on the NASDAQ Global Market on the grant date.
- (4) The amounts in this column reflect the grant date fair value of each option calculated in accordance with ASC 718.

Additional discussion regarding factors that may be helpful in understanding the information included in the Summary Compensation Table and 2009 Grants of Plan-Based Awards table is included above under "—Compensation Discussion and Analysis."

Employment Agreements

We have entered into employment agreements with each of our named executive officers. Each employment agreement continues until terminated by us or by the named executive officer.

Each employment agreement provides for a minimum annual base salary that will be reviewed and is subject to increase in accordance with our policies and procedures. In addition, each employment agreement provides for the named executive officer's annual base salary to be increased annually as necessary to be

consistent with the median base salaries of employees in similar positions at comparable companies as described in the then-current Radford biotechnology compensation report. Each named executive officer is also eligible to receive stock-based awards and to earn an annual bonus based on a target percentage of his annual base salary. Each named executive officer's employment agreement provides for a minimum target bonus percentage, which may be increased at the discretion of the Board or Compensation Committee. For fiscal 2009, the target bonus percentage for Dr. deBethizy was 45% and the target bonus percentage for each of the other named executive officers was 30%. For fiscal 2010, the Compensation Committee increased the target bonus percentage for Dr. deBethizy to 50%.

If a named executive officer's employment terminates for any reason, the named executive officer is entitled to receive a lump sum equal to any base salary, bonus and other compensation earned and due but not yet paid or, in the case of Mr. Brennan, earned and accrued through the effective date of termination. In addition, if we (or a successor) terminate a named executive officer's employment other than for "Just Cause" or a named executive officer terminates his employment within one year following the first occurrence of "Good Reason," he is entitled to receive:

- severance following termination equal to his then-current base salary for twelve months in the case of Dr. deBethizy and nine months for all other named executive officers or in each case, if shorter, until he secures other employment, if shorter, payable monthly, except that any amount that would exceed the exemption under Section 409A of the Internal Revenue Code of 1986, as amended, would be payable in a lump sum two and one-half months following the end of our taxable year in which the termination occurs;
- acceleration of unvested options to purchase capital stock or restricted stock—Dr. deBethizy is entitled to twelve months acceleration, Mr. Brennan is entitled to nine months acceleration and all other named executive officers are entitled to six months acceleration;
- continuation of the health and life insurance benefits coverage provided to him as of the date of termination for the period during which he receives severance; and
- up to \$10,000 in outplacement counseling services, if incurred by him and paid by us within specified time periods.

Under the employment agreements:

- "Just Cause" means the named executive officer's: (i) willful and material breach of the agreement and his continued failure to cure the breach for a specified period; (ii) conviction of, or entry of a plea of guilty or nolo contendere to a felony or a misdemeanor involving moral turpitude; (iii) willful commission of an act of fraud, breach of trust, or dishonesty including, without limitation, embezzlement, that results in material damage or harm to our business, financial condition or assets; (iv) intentional damage or destruction of substantial property of ours. Mr. Brennan and Mr. Zorn joined Targacept in 2003, after our other named executive officers. In the case of their agreements, the definition of "Just Cause" also includes a violation of specified company policies or an act or omission contrary to generally expected ethical or professional standards.
- "Good Reason" means: (i) any purported termination of the named executive officer's employment that is not effected in accordance with the agreement; or (ii) any uncured failure to confer the benefits and compensation provided under the agreement or, in some cases, to comply with any other material provision of the agreement, in each case conditional on the named executive officer providing written notice of the initial existence of Good Reason within 90 days and the Good Reason continuing to exist 30 days after the notice.

Each employment agreement provides that the named executive officer shall at all times maintain the confidentiality of our proprietary information and shall not engage in a business defined in the agreement as competitive to us until 12 months after termination of employment with respect to Dr. deBethizy or nine months after termination of employment with respect to each other named executive officer.

Information Relating to Equity Awards

The following table contains information for each of our named executive officers regarding equity awards outstanding as of December 31, 2009.

OUTSTANDING EQUITY AWARDS AT 2009 FISCAL YEAR-END

	Option Awards			
Name	Number of Securities Underlying Unexercised Options Exercisable	Number of Securities Underlying Unexercised Options Unexercisable	Option Exercise Price (\$)	Option Expiration Date
J. Donald deBethizy	798		5.10	2/14/2012
Š	4,415	<u>—</u>	5.10	1/13/2013
	20,833	<u> </u>	5.10	1/30/2013
	8,751 (1)	<u> </u>	1.75 (1)	1/30/2013
	98,014	_	5.10	10/30/2013
	28,711 (1)	_	1.75 (1)	10/30/2013
	5,868	_	5.63	1/25/2014
	200,517	28,646 (2)	5.55	8/15/2016
	16,249	48,751 (5)	2.93	1/8/2019
Alan A. Musso	892	_	5.10	2/24/2012
	5,101	_	5.10	1/13/2013
	11,197	_	5.10	1/30/2013
	23,254	_	5.10	10/30/2013
	2,880	_	5.63	1/25/2014
	57,290	8,185 (2)	5.55	8/15/2016
	20,994	16,330 (3)	8.51	12/18/2017
	13,125	39,375 (5)	2.93	1/8/2019
Geoffrey C. Dunbar	6,354	_	5.10	5/31/2011
	1,271 (1)	-	1.75 (1)	5/31/2011
	4,896	-	5.10	2/14/2012
	10,749	-	5.10	1/30/2013
	5,250 (1)	-	1.75 (1)	1/30/2013
	29,638	-	5.10	10/30/2013
	6,782 (1)	-	1.75 (1)	10/30/2013
	3,950	-	5.63	1/25/2014
	24,000	-	1.75	3/28/2015
	53,853	7,694 (2)	5.55	8/15/2016
	32,124	24,986 (3)	8.51	12/18/2017
	11,499	34,501 (5)	2.93	1/8/2019
Jeffrey P. Brennan	997	998 (4)	5.10	2/27/2016
	4,092	8,185 (2)	5.55	8/15/2016
	21,647	16,839 (3)	8.51	12/18/2017
	3,282	39,376 (5)	2.93	1/8/2019
Peter A. Zorn	-	313 (4)	5.10	2/27/2016
		8,185 (2)	5.55	8/15/2016
	17,727	13,790 (3)	8.51	12/18/2017
	5,750	34,501 (5)	2.93	1/8/2019

⁽¹⁾ Granted together with the immediately preceding option shown in the above table as a single award and reflects the effect of a repricing of the portion of the award that was not yet exercisable as of March 31, 2005. The repricing was implemented by the Board in April 2005.

⁽²⁾ The unexercisable portion of this option as of December 31, 2009 vests and becomes exercisable in equal installments on the last day of two consecutive calendar quarters beginning with March 31, 2010.

⁽³⁾ The unexercisable portion of this option as of December 31, 2009 vests and becomes exercisable in equal installments on the last day of seven consecutive calendar quarters beginning with March 31, 2010.

- (4) The unexercisable portion of this option as of December 31, 2009 vested and became exercisable on March 31, 2010.
- (5) The unexercisable portion of this option as of December 31, 2009 vests and becomes exercisable in equal installments on the last day of 12 consecutive calendar quarters beginning with March 31, 2010.

The following table contains information for each named executive officer regarding the exercise of stock options during the fiscal year ended December 31, 2009.

2009 OPTION EXERCISES AND STOCK VESTED

	Option Awards		Stock Awards	
Name	Number of Shares Acquired on Exercise	Value Realized on Exercise (\$) (1)	Number of Shares Acquired on Vesting	Value Realized on Vesting
J. Donald deBethizy	252,004	4,721,869	<u> </u>	_
Alan A. Musso	85,032	1,358,865	_	_
Geoffrey C. Dunbar	41,000	570,286	_	_
Jeffrey P. Brennan	129,537	2,087,794	_	_
Peter A. Zorn	131,787	2,278,157	_	_

⁽¹⁾ The amounts in this column are calculated based on the difference between the closing market price per share of our common stock on the respective dates of exercise and the exercise price per share of the respective exercised stock options.

Payments upon Termination in Certain Circumstances

Our employment agreements with our named executive officers provide for payments and benefits to the named executive officer if we terminate (or if a successor following a change of control terminates) his employment other than for Just Cause or, subject to certain timing and other conditions, he terminates his employment for Good Reason. The terms "Just Cause" and "Good Reason" and, in the case of Good Reason, the applicable conditions are discussed above under "—Employment Agreements."

Under SEC rules, we are required to estimate and quantify the payments and benefits that would be payable upon the occurrence of a triggering event, as if the triggering event had occurred as of the last business day of the last fiscal year. Accordingly, the following table sets forth the estimated payments and benefits that would have become payable if we had terminated the employment of any of our named executive officers without Just Cause, or if any of our named executive officers had terminated his employment with us for Good Reason and the applicable conditions were met, as of December 31, 2009.

SUMMARY OF POTENTIAL PAYMENTS UPON TERMINATION

Name	Severance (1) (\$)	Incentive Award Program (2) (\$)	Value of Accelerated Options (3) (\$)	Continuation of Health and Life Insurance (4) (\$)	Outplacement Counseling Services (\$)	Total (\$)
J. Donald deBethizy	384,525	220,621	731,747	12,505	10,000	1,359,398
Alan A. Musso	207,431	105,790	301,376	14,393	10,000	638,990
Geoffrey C. Dunbar	219,077	111,729	309,883	10,788	10,000	661,476
Jeffrey P. Brennan	207,431	105,790	407,723	14,336	10,000	745,281
Peter A. Zorn	184,508	94,099	282,729	13,320	10,000	584,656

⁽¹⁾ The amounts in this column reflect the aggregate amount that would be payable over 12 months in the case of Dr. deBethizy and over nine months in the case of each other named executive officer or in each case, if shorter, until such time as he secures other employment.

- (2) The amounts in this column are calculated based on the achievement level determined in January 2010 by the Compensation Committee for our incentive award program for fiscal 2009. As discussed above under "—Compensation Discussion and Analysis," the Compensation Committee determines the achievement level to be applied under the program for a fiscal year following the end of the year based on our achievement of performance objectives and other corporate accomplishments that occurred during the year. The program anticipates that the achievement level under the program is likely to change from year to year. In addition, with respect to each named executive officer, the amount in this column assumes that the amount that would be payable under the named executive officer's employment agreement with respect to our incentive award program equals the amount of the annual cash incentive bonus that would have been payable to him under the program if his employment status had not changed.
- (3) The amounts in this column are calculated based on the difference between \$20.90, the closing price of our common stock on the NASDAQ Global Market on December 31, 2009, and the exercise price per share of each option for which vesting would be accelerated.
- (4) The amounts in this column are calculated based on the monthly premiums that we pay for the medical, dental and life insurance coverage received by the named executive officer as of December 31, 2009.

Compensation of Directors

Under our current non-employee director compensation program:

- each non-employee director who is first elected or appointed to the Board receives a nonqualified option to purchase 25,000 shares of common stock on the fifth business day after his or her election or appointment (an "Initial Option");
- each non-employee director who is first elected or appointed as chairman of the Board receives an additional Initial Option to purchase 10,000 shares of common stock on the fifth business day after his or her election or appointment;
- each non-employee director receives on an annual basis a nonqualified option to purchase 7,500 shares of common stock or, in the case of the chairman of the Board, an option to purchase 12,500 shares of common stock (an "Annual Option");
- each non-employee director receives an annual cash retainer of \$25,000 payable in quarterly installments (\$45,000 in the case of the chairman of the Board); and
- each member of the Audit Committee receives an additional cash retainer of \$6,000 (\$16,000 in the case of the chairman of the committee); each member of the Compensation Committee receives an additional cash retainer of \$5,000 (\$10,000 in the case of the chairman of the committee); and each member of the Governance and Nominating Committee receives an additional cash retainer of \$5,000 (\$10,000 in the case of the chairman of the committee).

Each Initial Option vests and becomes exercisable (i) with respect to one-third of the shares subject to the Initial Option, on the earlier of the first anniversary of the grant date or the last business day before the annual meeting of stockholders that occurs in the next calendar year, provided that the recipient director remains in service on the vesting date, and (ii) with respect to the remaining two-thirds of the shares subject to the Initial Option on a pro rata quarterly basis over the next two years, if the recipient director remains in service as a director during such periods.

Each Annual Option is granted on the fifth business day after the date of the stockholders meeting at which directors are elected, if the recipient director remains in service as a director as of the grant date, and vests and becomes exercisable in full on the earlier of the first anniversary of the grant date or the last business day before the annual meeting of stockholders that occurs in the next calendar year, if the recipient director remains in service as a director on the vesting date.

The exercise price per share for both Initial Options and Annual Options is equal to the fair market value of our common stock on the date the option is granted, as determined in accordance with the 2006 Plan (or any successor plan). The option period for both Initial Options and Annual Options is 10 years. The exercise of Initial Options and Annual Options granted to any director is subject to certain restrictions on exercise if his or her service on the Board terminates.

The cash amounts shown above reflect increases to some of the cash retainer components of our non-employee director compensation program that were approved in March 2010 by the Board, acting upon the recommendation of its Governance and Nominating Committee. In making its recommendation, the Governance and Nominating Committee considered director compensation data for our peer group provided by Towers Watson, which is the same consultant engaged by the Compensation Committee for executive compensation matters. Prior to the cash retainer increases and as in effect for fiscal 2009, each non-employee director received an annual cash retainer of \$20,000 (\$35,000 in the case of the chairman of the Board), each member of the Audit Committee received an additional cash retainer of \$6,000 (\$16,000 in the case of the chairman of the committee), each member of the Compensation Committee received an additional cash retainer of \$3,000 (\$5,500 in the case of the chairman of the committee) and each member of the Governance and Nominating Committee received an additional cash retainer of \$3,000 (\$5,500 in the case of the chairman of the committee).

Process for Determining Director Compensation

The Governance and Nominating Committee periodically directs our Controller, or engages a third party consultant, to assemble director compensation data for our then-current peer group to evaluate the competitiveness of our non-employee director compensation program. Based on the findings, the Governance and Nominating Committee considers whether to recommend that the Board modify our non-employee director compensation program.

2009 Director Compensation Table

The following table contains information regarding total compensation paid to members of the Board who are not also named executive officers during the fiscal year ended December 31, 2009.

	Fees Earned or Paid in	Option Awards (1) (2)	
<u>Name</u>	Cash (\$)	<u>(\$)</u>	Total (\$)
Mark Skaletsky	43,500	22,918	66,418
M. James Barrett	23,000	13,751	36,751
Charles A. Blixt	39,000	13,751	52,751
Julia R. Brown	23,000	13,751	36,751
G. Steven Burrill	26,000	13,751	39,751
Errol B. De Souza	25,500	13,751	39,251
Alan W. Dunton	23,000	13,751	36,751
John P. Richard	26,000	13,751	39,751
Ralph Snyderman	23,000	13,751	36,751

- (1) The amounts in this column reflect the aggregate grant date fair value of stock options granted during fiscal 2009 calculated in accordance with ASC 718, disregarding forfeitures. The assumptions that we used to calculate these amounts are discussed in Note 10 to our audited financial statements included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2009. All stock options granted to non-employee directors during fiscal 2009 were granted on June 17, 2009 at an exercise price of \$2.71 per share, the closing price of our common stock on the NASDAQ Global Market on the grant date
- (2) As of December 31, 2009: Mr. Skaletsky held options to purchase an aggregate of 70,000 shares of common stock; Dr. Barrett held options to purchase an aggregate of 50,000 shares of common stock; Mr. Blixt held options to purchase an aggregate of 50,000 shares of common stock; Ms. Brown held options to purchase an

aggregate of 40,000 shares of common stock; Mr. Burrill held options to purchase an aggregate of 50,000 shares of common stock; Dr. De Souza held options to purchase an aggregate of 55,000 shares of common stock; Mr. Richard held options to purchase an aggregate of 51,000 shares of common stock; and Dr. Snyderman held options to purchase an aggregate of 40,000 shares of common stock.

EQUITY COMPENSATION PLAN INFORMATION

The following table contains information regarding securities authorized for issuance under our equity compensation plans in effect as of December 31, 2009. Our equity compensation plans consist of the 2006 Plan and our 2000 Equity Incentive Plan.

	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
<u>Plan Category</u>	(a)	<u>(b)</u>	(c)
Equity compensation plans approved by security holders	2,823,812	\$ 5.40	3,181,775 (1)
Equity compensation plans not approved by security holders			
Total	2,823,812	\$ 5.40	3,181,775 (1)

⁽¹⁾ In addition to being available for future issuance upon exercise of stock options that may be granted after December 31, 2009, the securities shown remain available for future issuance in the form of restricted stock or other stock-based awards under the 2006 Plan.

PROPOSAL 2: RATIFICATION OF APPOINTMENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Audit Committee has appointed Ernst & Young LLP to audit our financial statements for the fiscal year ending December 31, 2010. Ernst & Young, an independent registered public accounting firm, has served as our independent auditor since we became an independent company in 2000. A representative from Ernst & Young is expected to be present at the meeting and available to respond to appropriate questions and will have the opportunity to make a statement if he or she desires to do so. We are soliciting stockholder ratification of the appointment of Ernst & Young, although stockholder ratification is not required by law. If the appointment of Ernst & Young is not ratified at the meeting, the Audit Committee will consider whether to appoint a different independent registered public accounting firm.

THE BOARD OF DIRECTORS RECOMMENDS A VOTE "FOR" RATIFICATION OF THE APPOINTMENT OF ERNST & YOUNG LLP AS TARGACEPT'S INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FOR THE FISCAL YEAR ENDING DECEMBER 31, 2010.

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FEE INFORMATION AND AUDIT COMMITTEE PRE-APPROVAL POLICY

The following table sets forth the fees billed by Ernst & Young LLP for professional services rendered in connection with the audits of our annual financial statements for the years ended December 31, 2009 and 2008 and for other services rendered by Ernst & Young during those periods.

	Fiscal	Fiscal 2008
Audit Fees (1):	\$ 365,666	\$ 314,877
Tax Fees (2):	42,432	12,000
All Other Fees (3):	1,995	1,500
Total Fees:	\$ 410,093	\$ 328,377

- (1) Audit Fees include fees billed for the applicable year for services: (a) in connection with the audit of our financial statements included in our annual report on Form 10-K and the review of our financial statements included in our quarterly reports on Form 10-Q; (b) in connection with the audit of our internal control over financial reporting; (c) in connection with our registration statements filed with the SEC with respect to public offerings that we completed in January 2008 and October 2009 and in connection with our registration statement filed with the SEC in June 2009 with respect to the 2006 Plan; (d) in connection with the review of other documents filed with the SEC and accounting consultations; and (e) normally provided by the independent registered public accounting firm in connection with statutory and regulatory filings or engagements.
- (2) Tax Fees include fees billed in the applicable year for tax return preparation, research and technical tax advice.
- 3) All Other Fees reflect fees billed in the applicable year for a license to Ernst & Young's web-based accounting research tool.

Audit Committee Pre-Approval Policy

The Audit Committee has adopted a policy that requires the Audit Committee to approve all audit and permissible non-audit services to be provided by the independent registered public accounting firm prior to its engagement to provide such services. The Audit Committee has established a pre-approval policy for certain audit and non-audit services, up to a specified amount for each identified service that may be provided by the independent registered public accounting firm. In addition, the Chairman of the Audit Committee, or any member of the Audit Committee designated by the Chairman, may specifically approve any service that is not a prohibited non-audit service if the fees for such service are not reasonably expected to exceed \$10,000. Any such approval by the Chairman or his designee must be reported to the Audit Committee at its next scheduled meeting. The pre-approved services of the independent registered public accounting firm, and corresponding maximum fees, are reviewed annually by the Audit Committee.

Audit Committee Report

The Audit Committee has reviewed and discussed with management Targacept's audited financial statements for the year ended December 31, 2009. The Audit Committee has also reviewed and discussed with Ernst & Young LLP, Targacept's independent registered public accounting firm, Targacept's audited financial statements and the matters required to be discussed by the Statement on Auditing Standards No. 61, as amended (The American Institute of Certified Public Accountants, *Professional Standards*, Vol. 1 AU section 380), as adopted by the Public Company Accounting Oversight Board in Rule 3200T.

The Audit Committee has received from Ernst & Young the written disclosures and the letter required by applicable requirements of the Public Company Accounting Oversight Board regarding Ernst & Young's communications with the Audit Committee concerning independence and has discussed with Ernst & Young its independence.

Based on its review and discussions with management and Ernst & Young and its review of the information provided by management and Ernst & Young, the Audit Committee recommended to the Board that Targacept's audited financial statements be included in its Annual Report on Form 10-K for the year ended December 31, 2009 for filing with the SEC.

This Audit Committee report is not incorporated by reference into any of Targacept's previous filings with the SEC and is not to be incorporated by reference into any of Targacept's future filings with the SEC, irrespective of any general statement included in any such filing that incorporates this proxy statement by reference, unless such filing explicitly incorporates this Audit Committee report by reference.

Respectfully submitted, Charles A. Blixt, Chairman G. Steven Burrill John P. Richard

DEADLINES FOR STOCKHOLDER PROPOSALS AND STOCKHOLDER NOMINATIONS

Under Rule 14a-8 under the 1934 Act, if you want us to include a proposal in the proxy materials for our 2011 annual meeting of stockholders, or the "2011 annual meeting," we must receive the proposal at our executive offices at 200 East First Street, Suite 300, Winston-Salem, North Carolina 27101 not later than December 17, 2010. However, if the date of the 2011 annual meeting is changed by more than 30 days from the first anniversary of the date of the 2010 annual meeting, the deadline will instead be a reasonable time before we begin to print and mail our proxy statement for the 2011 annual meeting. The proposal should be addressed to the attention of Targacept's Corporate Secretary, and we suggest that it be sent by certified mail, return receipt requested. Any proposal that you submit must comply with SEC rules.

If you wish to present a proposal or to nominate a candidate for director for election at the 2011 annual meeting, but not to have the proposal or nomination considered for inclusion in the proxy materials for that meeting, you must be eligible and give us advance written notice in accordance with our bylaws. Our bylaws are filed with the SEC as Exhibit 3.1 to our Current Report on Form 8-K filed August 11, 2009.

To be eligible under our bylaws, you must be a stockholder of record (and, if you are making the proposal or nomination on behalf of a beneficial owner of shares of us, the beneficial owner must be a beneficial owner of shares of us) both on the date you provide us the required notice and on the date of the 2011 annual meeting and you must be entitled to vote at the 2011 annual meeting. The required notice must include all of the information required by our bylaws and must be delivered to or mailed and received at our executive offices not fewer than 90 calendar days and not more than 120 calendar days before the first anniversary of the date of the 2010 annual meeting. However, if the 2010 annual meeting is not held or if the date of the 2011 annual meeting is advanced by more than 30 days, or delayed by more than 60 days, from the first anniversary of the date of the 2010 annual meeting, then the required notice must be delivered to or mailed and received at our executive offices not later than the close of business on the 90th day prior to the date of the 2011 annual meeting or, if the first public disclosure that discloses the date of the 2011 annual meeting is less than 100 days prior to the date of the 2011 annual meeting, not later than the close of business on the 10th day following that first public disclosure. Assuming that the date of our 2011 annual meeting is not advanced or delayed in the manner described above, the required notice for the 2011 annual meeting would need to be provided to us not earlier than February 10, 2011 and not later than March 12, 2011. If you are not eligible or you do not provide timely notice of a proposal or nomination for the 2011 annual meeting in accordance with our bylaws, then the proposal or nomination may be excluded from consideration at the meeting.

After you have provided the required notice, you must update and supplement the notice as required by our bylaws, if necessary, so that the information provided or required to be provided remains true and correct both as of the record date for the 2011 annual meeting and as of the date that is 10 business days prior to the date of the 2011 annual meeting. Your update or supplement must be delivered to, or mailed and received by, our Secretary at our executive offices at 200 East First Street, Suite 300, Winston-Salem, North Carolina 27101 not later than five business days after the record date for the 2011 annual meeting, in the case of the update and supplement required to be made as of the record date for the 2011 annual meeting, and not later than eight business days prior to the date of the 2011 annual meeting, if practicable (or, if not practicable, on the earliest practicable date prior to the date of the 2011 annual meeting), in the case of the update and supplement required to be made as of 10 business days prior to the 2011 annual meeting.

HOUSEHOLDING OF ANNUAL MEETING MATERIALS

Some banks, brokers or other nominees may participate in the practice of "householding" proxy statements, annual reports and notices of annual meeting and internet availability of proxy materials. This means that only one copy of the Notice or, if a paper copy is requested, one copy of our proxy statement or 2009 Annual Report may have been sent to multiple stockholders living in the same household. If you are a stockholder who shares with another stockholder an address that received a single copy of any of these documents, we will promptly arrange for delivery of a separate copy upon your request made in writing to us at Targacept, Inc., 200 East First Street, Suite 300, Winston-Salem, North Carolina 27101, Attention: Chief Financial Officer or by calling us at (336) 480-2100. If you share with another stockholder an address that received only one copy of the Notice, proxy statement or 2009 Annual Report and wish to receive a separate copy of any of these documents in the future, or if your household received multiple copies of any of these documents and you would like to receive only one copy for your household, please contact your bank, broker or other nominee or contact us at the address and telephone number above.

FINANCIAL INFORMATION

Our 2009 Annual Report, which includes our Annual Report on Form 10-K for the fiscal year ended December 31, 2009, accompanies this proxy statement and provides additional information about us.

A copy of our Annual Report on Form 10-K for the fiscal year ended December 31, 2009, as filed with the SEC is available on our website at www.targacept.com and is available in paper form (excluding exhibits) to beneficial owners of our common stock without charge upon written request directed to Targacept, Inc., 200 East First Street, Suite 300, Winston-Salem, North Carolina 27101, Attention: Chief Financial Officer. This proxy statement and our Annual Report on Form 10-K for the fiscal year ended December 31, 2009 are also available on the SEC's website at www.sec.gov.

BY ORDER OF THE BOARD OF DIRECTORS

Peter A. Zorn

Senior Vice President, Legal Affairs, General Counsel and Secretary

April 16, 2010

ANNUAL MEETING OF STOCKHOLDERS OF

TARGACEPT, INC.

June 10, 2010

PROXY VOTING INSTRUCTIONS

<u>INTERNET</u> - Access "www.voteproxy.com" and follow the on-screen instructions. Have your proxy card available when you access the web page and use the Company Number and Account Number shown on your proxy card.

<u>TELEPHONE</u> - Call toll-free **1-800-PROXIES** (1-800-776-9437) in the United States or **1-718-921-8500** from foreign countries from any touch-tone telephone and follow the instructions. Have your proxy card available when you call and use the Company Number and Account Number shown on your proxy card

Vote online/phone until 11:59 PM EDT the day before the meeting.

MAIL - Sign, date and mail your paper proxy card in the envelope provided as soon as possible.

address in the address space above. Please note that changes to the registered name(s) on the

account may not be submitted via this method.

IN PERSON - You may vote your shares in person at the meeting.

COMPANY NUMBER	
ACCOUNT NUMBER	

Important Notice Regarding the Availability of Proxy Materials for the Stockholder Meeting to be Held on June 10, 2010.

The Notice of 2010 Annual Meeting of Stockholders, proxy statement, form of proxy card and our 2009 Annual Report are available on our website at www.targacept.com/2010annualmeeting.

 $i \ \ Please \ detach \ along \ perforated \ line \ and \ mail \ in \ the \ envelope \ provided \ \underline{IF} \ you \ are \ not \ voting \ via \ telephone \ or \ the \ Internet. \ i \$

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THE ELECTION OF THE NOMINEES FO	ECTORS RECOMMENDS A VOTE "FOR" OR DIRECTOR NAMED BELOW AND "FOR" PROPOSAL 2. ENVELOPE, PLEASE MARK YOUR VOTE IN BLUE OR BLACK INK AS SHOWN HERE ⊠
1. Election of the three nominees named below as Class I directors for a term to expire at the annual meeting of stockholders, with each director to hold office until his successor is duly and qualified or until his earlier death, retirement, resignation or removal. FOR ALL NOMINEES	2013 FOR AGAINST ABSTA
INSTRUCTIONS: To withhold authority to vote for any individual nominee(s), mark "FOR EXCEPT" and fill in the circle next to each nominee you wish to withhous shown here: 1	
To change the address on your account, please check the box at right and indicate your new	

Signature of Stockholder

Note: Please sign exactly as your name or names appear on this Proxy. When shares are held jointly, each holder should sign. When signing as executor, administrator, attorney, trustee or guardian, please give full title as such. If the signer is a corporation, please sign full corporate name by duly authorized officer, giving full title as such. If signer is a partnership, please sign in partnership name by authorized person.

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PROXY TARGACEPT, INC. JUNE 10, 2010 ANNUAL MEETING THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS OF TARGACEPT, INC.

 \Box

As an alternative to completing this form, you may enter your vote instruction by calling 1-800-PROXIES, or visiting WWW.VOTEPROXY.COM, and following the simple instructions.

The undersigned stockholder of Targacept, Inc., a Delaware corporation (the "Company"), appoints J. Donald deBethizy, Ph.D. and Mark Skaletsky, or either of them, with full power to act alone, the true and lawful attorneys in fact and proxies of the undersigned, with full power of substitution and revocation, to vote all shares of common stock of the Company that the undersigned is entitled to vote at the annual meeting of stockholders of the Company to be held at the Winston-Salem Marriott, 425 North Cherry Street, Winston-Salem, North Carolina on Thursday, June 10, 2010 at 8:30 a.m. Eastern Daylight Time, and at any adjournment or postponement thereof, with all powers the undersigned would possess if personally present, as follows:

The shares represented by this Proxy will be voted in accordance with the instructions of the undersigned stockholder(s) when instructions are given in accordance with the procedures described herein and the accompanying proxy statement. If this Proxy is duly executed and returned, the shares represented hereby will be voted "FOR" the nominees for director named herein and "FOR" the proposal described herein if no instruction to the contrary is indicated. If any other business is properly brought before the annual meeting, the shares represented by this Proxy will be voted at the discretion of the proxies identified above.

(Continued and to be signed on the reverse side)

14475 ¢

[TARGACEPT, INC. LETTERHEAD]

April 16, 2010

VIA EDGAR
Filing Desk
Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549

Re: Targacept, Inc. Definitive Proxy Materials

Ladies and Gentlemen:

On behalf of Targacept, Inc. (the "Company"), accompanying this letter for filing please find: (i) the definitive notice of annual meeting, proxy statement and form of proxy (the "definitive proxy materials") to be furnished by the Company to its stockholders in connection with the Company's 2010 Annual Meeting of Stockholders scheduled for June 10, 2010, as required pursuant to Rule 14a-6(b) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"); and (ii) the Schedule 14A cover page required pursuant to Rule 14a-6(m) promulgated under the Exchange Act.

The Company intends to make the definitive proxy materials available to its stockholders on or about April 16, 2010.

Sincerely,

Targacept, Inc.

By: /s/ Peter A. Zorn
Peter A. Zorn
Senior Vice President, Legal Affairs, General

Counsel and Secretary