

INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES

OMB APPROVAL	
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Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

1. Name and Address of Reporting Person* <u>BVF PARTNERS L P/IL</u> (Last) (First) (Middle) 900 NORTH MICHIGAN AVENUE SUITE 1100 (Street) CHICAGO IL 60611 (City) (State) (Zip)	2. Date of Event Requiring Statement (Month/Day/Year) 07/08/2009	3. Issuer Name and Ticker or Trading Symbol <u>TARGACEPT INC [TRGT]</u>	
		4. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director <input checked="" type="checkbox"/> 10% Owner Officer (give title below) Other (specify below)	5. If Amendment, Date of Original Filed (Month/Day/Year) 6. Individual or Joint/Group Filing (Check Applicable Line) Form filed by One Reporting Person <input checked="" type="checkbox"/> Form filed by More than One Reporting Person

Table I - Non-Derivative Securities Beneficially Owned

1. Title of Security (Instr. 4)	2. Amount of Securities Beneficially Owned (Instr. 4)	3. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	4. Nature of Indirect Beneficial Ownership (Instr. 5)
Common Stock, \$0.001 par value ⁽¹⁾	438,300	I	By Biotechnology Value Fund II, L.P. ⁽²⁾
Common Stock, \$0.001 par value ⁽¹⁾	648,009	I	By Biotechnology Value Fund, L.P. ⁽³⁾
Common Stock, \$0.001 par value ⁽¹⁾	1,578,800	I	By BVF Investments, L.L.C. ⁽⁴⁾⁽⁵⁾

Table II - Derivative Securities Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 4)	2. Date Exercisable and Expiration Date (Month/Day/Year)		3. Title and Amount of Securities Underlying Derivative Security (Instr. 4)		4. Conversion or Exercise Price of Derivative Security	5. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	6. Nature of Indirect Beneficial Ownership (Instr. 5)
	Date Exercisable	Expiration Date	Title	Amount or Number of Shares			

1. Name and Address of Reporting Person* <u>BVF PARTNERS L P/IL</u> (Last) (First) (Middle) 900 NORTH MICHIGAN AVENUE SUITE 1100 (Street) CHICAGO IL 60611 (City) (State) (Zip)		
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1. Name and Address of Reporting Person* <u>BIOTECHNOLOGY VALUE FUND L P</u> (Last) (First) (Middle) 900 NORTH MICHIGAN AVENUE SUITE 1100 (Street) CHICAGO IL 60611 (City) (State) (Zip)		
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1. Name and Address of Reporting Person* <u>BIOTECHNOLOGY VALUE FUND II LP</u> (Last) (First) (Middle) 900 NORTH MICHIGAN AVENUE SUITE 1100		
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(Street)
CHICAGO IL 60611

(City) (State) (Zip)

1. Name and Address of Reporting Person*
BVF INVESTMENTS LLC

(Last) (First) (Middle)
900 NORTH MICHIGAN AVENUE
SUITE 1100

(Street)
CHICAGO IL 60611

(City) (State) (Zip)

1. Name and Address of Reporting Person*
BVF INC/IL

(Last) (First) (Middle)
900 NORTH MICHIGAN AVENUE
SUITE 1100

(Street)
CHICAGO IL 60611

(City) (State) (Zip)

1. Name and Address of Reporting Person*
LAMPERT MARK N

(Last) (First) (Middle)
900 NORTH MICHIGAN AVENUE
SUITE 1100

(Street)
CHICAGO IL 60611

(City) (State) (Zip)

Explanation of Responses:

1. Each of the Reporting Persons is a member of a Section 13(d) group with respect to the securities of the Issuer that beneficially owns in excess of 10% of the Issuer's outstanding Shares. The Reporting Persons disclaim beneficial ownership of the securities of the Issuer beneficially owned by the other members of the group except to the extent of his or its pecuniary interest therein.
2. Shares owned directly by Biotechnology Value Fund II, L.P. ("BVF2"). As the general partner of BVF2, BVF Partners L.P. ("Partners") may be deemed to beneficially own the Shares owned by BVF2. As the general partner of Partners, BVF Inc. may be deemed to beneficially own the Shares owned by BVF2. As the sole shareholder, sole director, and an officer of BVF Inc., Mark N. Lampert may be deemed to beneficially own the Shares owned by BVF2. Partners, BVF Inc. and Mr. Lampert each disclaim beneficial ownership of such Shares except to the extent of his or its pecuniary interest therein.
3. Shares owned directly by Biotechnology Value Fund, L.P. ("BVF"). As the general partner of BVF, Partners may be deemed to beneficially own the Shares owned by BVF. As the general partner of Partners, BVF Inc. may be deemed to beneficially own the Shares owned by BVF. As the sole shareholder, sole director, and an officer of BVF Inc., Mr. Lampert may be deemed to beneficially own the Shares owned by BVF. Partners, BVF Inc. and Mr. Lampert each disclaim beneficial ownership of such Shares except to the extent of his or its pecuniary interest therein.
4. Shares owned directly by BVF Investments, L.L.C. ("BVFLLC"). As the manager of BVFLLC, Partners may be deemed to beneficially own the Shares owned by BVFLLC. As the general partner of Partners, BVF Inc. may be deemed to beneficially own the Shares owned by BVFLLC. As the sole shareholder, sole director, and an officer of BVF Inc., Mr. Lampert may be deemed to beneficially own the Shares owned by BVFLLC. Partners, BVF Inc. and Mr. Lampert each disclaim beneficial ownership of such Shares except to the extent of his or its pecuniary interest therein.
5. Pursuant to the operating agreement of BVFLLC, Partners is authorized, among other things, to invest the contributed capital of Samana Capital, L.P., the majority member of BVFLLC, in the Shares and other securities and to vote, exercise or convert and dispose of such securities and is entitled to receive fees based on assets under management and, subject to certain exceptions, allocations based on realized and unrealized gains on such assets.

By: BVF Partners L.P.; By: BVF Inc., its general partner; 07/13/2009
By: /s/ Mark N. Lampert, President

By: Biotechnology Value Fund, L.P.; By: BVF Partners L.P., its general partner; By: BVF Inc., its general partner; By: /s/ Mark N. Lampert, President

By: Biotechnology Value Fund II, L.P.; By: BVF Partners L.P., its general partner; By: BVF Inc., its general partner; By: /s/ Mark N. Lampert, President

By: BVF Investments, L.L.C.; 07/13/2009
By: BVF Partners L.P., its manager; By: BVF Inc., its general partner; By: /s/ Mark N. Lampert, President

By: BVF Inc.; By: /s/ Mark N. Lampert, President 07/13/2009

/s/ Lampert, Mark N. 07/13/2009

** Signature of Reporting Person Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

* If the form is filed by more than one reporting person, see Instruction 5 (b)(v).

** Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.