

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

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

OMB APPROVAL	
OMB Number:	3235-0287
Estimated average burden hours per response:	0.5

1. Name and Address of Reporting Person* <u>BVF PARTNERS L P/IL</u> (Last) (First) (Middle) 900 N. MICHIGAN AVE., SUITE 1100 (Street) CHICAGO IL 60611 (City) (State) (Zip)	2. Issuer Name and Ticker or Trading Symbol <u>TARGACEPT INC [TRGT]</u>	5. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director <input checked="" type="checkbox"/> 10% Owner Officer (give title below) <input checked="" type="checkbox"/> Other (specify below) Indirect Beneficial Owner
	3. Date of Earliest Transaction (Month/Day/Year) 10/16/2009	
		6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person <input type="checkbox"/> Form filed by More than One Reporting Person

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)		4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5)			5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)	Price			
Common Stock	10/16/2009		S		156,400 ⁽¹⁾	D	\$23.5951	2,543,925	D ⁽²⁾	
Common Stock	10/16/2009		S		108,000 ⁽¹⁾	D	\$23.5951	2,435,925	D ⁽³⁾	
Common Stock	10/16/2009		S		374,000 ⁽¹⁾	D	\$23.5951	2,061,925	D ⁽⁴⁾	
Common Stock								2,061,925	I ⁽⁵⁾	General partner and manager of entities with direct ownership.
Common Stock								2,061,925	I ⁽⁶⁾	General Partner of entity with indirect ownership.
Common Stock								2,061,925	I ⁽⁷⁾	Sole shareholder and sole director of entity with indirect ownership.

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

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)		6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4)	8. Price of Derivative Security (Instr. 5)	9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4)	10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)
				Code	V	(A)	(D)					

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

(City)	(State)	(Zip)
1. Name and Address of Reporting Person*		
BIOTECHNOLOGY VALUE FUND II LP		
(Last)	(First)	(Middle)
900 N. MICHIGAN AVE., SUITE 1100		
(Street)		
CHICAGO	IL	60611
(City)	(State)	(Zip)

(City)	(State)	(Zip)
1. Name and Address of Reporting Person*		
BVF INVESTMENTS LLC		
(Last)	(First)	(Middle)
900 N. MICHIGAN AVE., SUITE 1100		
(Street)		
CHICAGO	IL	60611
(City)	(State)	(Zip)

(City)	(State)	(Zip)
1. Name and Address of Reporting Person*		
LAMPERT MARK N		
(Last)	(First)	(Middle)
900 N. MICHIGAN AVE., SUITE 1100		
(Street)		
CHICAGO	IL	60611
(City)	(State)	(Zip)

(City)	(State)	(Zip)
1. Name and Address of Reporting Person*		
BVF INC/IL		
(Last)	(First)	(Middle)
900 N. MICHIGAN AVE., SUITE 1100		
(Street)		
CHICAGO	IL	60611
(City)	(State)	(Zip)

Explanation of Responses:

- Units may represent aggregation of daily trade activity. Details regarding individual execution amounts and prices are available upon request.
- Shares directly beneficially owned by Biotechnology Value Fund, L.P. ("BVF")
- Shares directly beneficially owned by Biotechnology Value Fund II, L.P. ("BVF II")
- The shares of Common Stock are directly beneficially owned by BVF Investments, LLC ("BVFLLC"), a Delaware limited liability company. Pursuant to the operating agreement of BVFLLC, BVF Partners, L.P., a Delaware limited partnership ("Partners") is authorized, among other things, to invest the contributed capital of Samana Capital, L.P., the majority member of BVFLLC, in the shares of Common Stock 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.
- The shares of Common Stock are indirectly beneficially owned by Partners. Partners is the general partner of BVF and BVF II and is the manager of BVFLLC.
- The shares of Common Stock are indirectly beneficially owned by BVF Inc., a Delaware corporation ("BVF Inc."). BVF Inc. is the general partner of Partners.
- Mark N. Lampert is the sole shareholder, sole director, and an officer of BVF Inc.

Remarks:

BIOTECHNOLOGY VALUE
FUND, L.P. By: BVF Partners 10/20/2009
L.P., its GP, By: BVF Inc., By:
/s/ Mark N. Lampert

BIOTECHNOLOGY VALUE
FUND II, L.P., By: BVF 10/20/2009
Partners L.P., its GP, By: BVF
Inc., By: /s/ Mark N. Lampert

BVF INVESTMENTS, L.L.C.,
By: BVF Partners L.P., its 10/20/2009
Manager, By: BVF Inc., By: /s/
Mark N. Lampert

BVF INC., By: /s/ Mark N. 10/20/2009
Lampert

MARK N. LAMPERT By: /s/ 10/20/2009
Mark N. Lampert

** 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 4 (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.