

INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES

OMB APPROVAL	
OMB Number:	3235-0104
Estimated average burden hours per response:	0.5

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 N. MICHIGAN AVENUE, SUITE 1100 (Street) CHICAGO IL 60611 (City) (State) (Zip)	2. Date of Event Requiring Statement (Month/Day/Year) 09/06/2012	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⁾	1,692,127	I ⁽²⁾	By Biotechnology Value Fund, L.P.
Common Stock, \$0.001 par value ⁽¹⁾	975,858	I ⁽³⁾	By Biotechnology Value Fund II, L.P.
Common Stock, \$0.001 par value ⁽¹⁾	349,482	I ⁽⁴⁾	By BVF Investments, L.L.C. ⁽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*
BVF PARTNERS L P/IL
 (Last) (First) (Middle)
 900 N. MICHIGAN AVENUE, SUITE 1100
 (Street)
 CHICAGO IL 60611
 (City) (State) (Zip)

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

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

Explanation of Responses:

1. This Form 3 is filed jointly by Biotechnology Value Fund, L.P. ("BVF"), Biotechnology Value Fund II, L.P. ("BVF2"), BVF Investments, L.L.C. ("BVLLC"), BVF Partners L.P. ("Partners"), BVF Inc. and Mark N. Lampert. (collectively, the "Reporting Persons"). Each of the Reporting Persons is a member of a Section 13(d) group that collectively owns more than 10% of the Issuer's outstanding shares of Common Stock. Each of the Reporting Persons disclaims beneficial ownership of the shares of Common Stock reported herein except to the extent of his or its pecuniary interest therein.
2. Shares of Common Stock owned directly by BVF. As the general partner of BVF, Partners may be deemed to beneficially own the shares of Common Stock owned directly by BVF. As the investment adviser and general partner of Partners, BVF Inc. may be deemed to beneficially own the shares of Common Stock owned directly by BVF. As a director and officer of BVF Inc., Mr. Lampert may be deemed to beneficially own the shares of Common Stock owned directly by BVF.
3. Shares of Common Stock owned directly by BVF2. As the general partner of BVF2, Partners may be deemed to beneficially own the shares of Common Stock owned directly by BVF2. As the investment adviser and general partner of Partners, BVF Inc. may be deemed to beneficially own the shares of Common Stock owned directly by BVF2. As a director and officer of BVF Inc., Mr. Lampert may be deemed to beneficially own the shares of Common Stock owned directly by BVF2.
4. Shares of Common Stock owned directly by BVLLC. As the manager of BVLLC, Partners may be deemed to beneficially own the shares of Common Stock owned directly by BVLLC. As the investment adviser and general partner of Partners, BVF Inc. may be deemed to beneficially own the shares of Common Stock owned directly by BVLLC. As a director and officer of BVF Inc., Mr. Lampert may be deemed to beneficially own the shares of Common Stock owned directly by BVLLC.
5. Pursuant to the operating agreement of BVLLC, Partners is authorized, among other things, to invest the contributed capital of Samana Capital, L.P., the majority member of BVLLC, in the Common Stock and other securities of the Issuer 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.

[BVF Partners L.P., By: BVF Inc., its general partner, By: /s/ Mark N. Lampert, President](#) [09/10/2012](#)

[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](#) [09/10/2012](#)

[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](#) [09/10/2012](#)

[BVF Investments, L.L.C., By: BVF Partners L.P., its manager, By: BVF Inc., its general partner, By: /s/ Mark N. Lampert, President](#) [09/10/2012](#)

[BVF Inc., By: /s/ Mark N. Lampert, President](#) [09/10/2012](#)
[/s/ Mark N. Lampert](#) [09/10/2012](#)

** 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.