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

SCHEDULE 13D

(Rule 13d-101)

INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT TO § 240.13d-1(a) AND AMENDMENTS THERETO FILED PURSUANT TO § 240.13d-2(a)

(Amendment No. 2)1

Targacept, Inc. (Name of Issuer)

Common Stock, par value \$0.001 (Title of Class of Securities)

87611R306 (CUSIP Number)

SPIKE LOY BVF PARTNERS L.P. 900 North Michigan Avenue Suite 1100 Chicago, Illinois 60611 (415) 525-8890

ADAM W. FINERMAN, ESQ.
OLSHAN FROME WOLOSKY LLP
Park Avenue Tower
65 East 55th Street
New York, New York 10022
(212) 451-2300
(Name, Address and Telephone Number of Person
Authorized to Receive Notices and Communications)

<u>March 5, 2015</u> (Date of Event Which Requires Filing of This Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of §§ 240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box x.

Note: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. *See* § 240.13d-7 for other parties to whom copies are to be sent.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the *Notes*).

¹ The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

		WAY OF THE COAT	1		
1	NAME OF REPORTING PERSON				
	DIOTECUNOLOGY VALUE FUND. L. D.				
_	BIOTECHNOLOGY VALUE FUND, L.P.				
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) x				
			(b) o		
3	SEC USE ONLY				
4	SOURCE OF FUND	S			
	WC				
5		SCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM			
	2(d) OR 2(e)				
6	CITIZENSHIP OR P	LACE OF ORGANIZATION			
	DEL ALIADE				
	DELAWARE				
NUMBER OF	7	SOLE VOTING POWER			
SHARES					
BENEFICIALLY		-0-			
OWNED BY EACH REPORTING	8 SHARED VOTING POWER				
PERSON WITH	2.077.010				
PERSON WITH	2,977,919				
	9 SOLE DISPOSITIVE POWER				
		- 0 -			
	10	SHARED DISPOSITIVE POWER			
	10	SHAKED DISPOSITIVE FOWER			
		2,977,919			
11	AGGREGATE AMO	DUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON			
	AGGREGATE AMOUNT DENEFICIALLY OWNED BY EACH REPORTING PERSON				
	2,977,919				
12		E AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES	0		
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13	PERCENT OF CLAS	SS REPRESENTED BY AMOUNT IN ROW (11)			
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	8.8%				
14	TYPE OF REPORTI	NG PERSON			
	PN				

		TANKS DEPOSIT				
1	NAME OF REPORT	ING PERSON				
	BIOTECHNOLOGY VALUE FUND II, L.P.					
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) x					
		(b) o				
3	SEC USE ONLY					
4	SOURCE OF FUND	S				
	WC					
5		SCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM				
	2(d) OR 2(e)					
6	CITIZENSHIP OR P	LACE OF ORGANIZATION				
	DELAWARE					
NUMBER OF	7	SOLE VOTING POWER				
SHARES						
BENEFICIALLY		- 0 -				
OWNED BY EACH	8	SHARED VOTING POWER				
REPORTING						
PERSON WITH	1,713,907					
	9 SOLE DISPOSITIVE POWER					
		- 0 -				
	10	SHARED DISPOSITIVE POWER				
	100000000000000000000000000000000000000	1,713,907				
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON					
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12	1,713,907					
12	CHECK BOX IF TH	E AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES	0			
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1	NAME OF REPORTING PERSON				
	DATE VALUE CONTROL I I C				
	BVF INVESTMENTS, L.L.C.				
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) x				
			(b) o		
3	SEC USE ONLY				
4	SOURCE OF FUND	S			
	WC				
5	CHECK BOX IF DIS	SCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM			
	2(d) OR 2(e)				
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6	CITIZENSHIP OR P	LACE OF ORGANIZATION			
	DELAWARE				
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SHARES					
BENEFICIALLY		- 0 -			
OWNED BY EACH	8	SHARED VOTING POWER			
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PERSON WITH	349,482				
	9 SOLE DISPOSITIVE POWER				
	J	SOLD DISTORDER TO WELL			
		- 0 -			
	10	SHARED DISPOSITIVE POWER			
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		349,482			
11	AGGREGATE AMO	DUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON			
11	110 SILL SITL I IIVIC	DI DINITION DI			
	349,482				
12		E AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES	0		
12	CHECK DOX II' III	LINGREGHT INIOUNT IN NOW (11) ENGLODES CERTAIN SHARES	U		
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1	NAME OF REPORT	TING PERSON			
	INVESTMENT 10, L.L.C.				
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) x				
			(b) o		
3	SEC USE ONLY				
4	SOURCE OF FUNDS				
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5		SCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM			
	2(d) OR 2(e)				
6	CITIZENSHIP OR F	PLACE OF ORGANIZATION			
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BENEFICIALLY		-0-			
OWNED BY EACH REPORTING	8	SHARED VOTING POWER			
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PERSON WITH	1,130,361 9 SOLE DISPOSITIVE POWER				
	9	SOLE DISPOSITIVE POWER			
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	10	SHARED DISPOSITIVE POWER			
	10	SHAKED DISPOSITIVE POWER			
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11	ACCRECATE AMO	DUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON			
11	AUGULE AND	JOINT DEVELORIZED OWNED DI ENGINEE ORTING LEROON			
	1,130,361				
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES 0				
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13	PERCENT OF CLA	SS REPRESENTED BY AMOUNT IN ROW (11)			
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	3.3%				
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		THE PERSON	1		
1	NAME OF REPORTING PERSON				
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_	MSI BVF SPV, LLC				
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) x				
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3	SEC USE ONLY				
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BENEFICIALLY		- 0 -			
OWNED BY EACH	8	SHARED VOTING POWER			
REPORTING	STERRED FOIR GOVERN				
PERSON WITH	483,459				
	9 SOLE DISPOSITIVE POWER				
		- 0 -			
	10	SHARED DISPOSITIVE POWER			
		483,459			
11	AGGREGATE AMC	OUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON			
	483,459				
12	CHECK BOX IF TH	E AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES	0		
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14	TYPE OF REPORTI	NC DEDSON			
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		THE PERSON	1			
1	NAME OF REPORTING PERSON					
	DATE DA DENIEDO I. D.					
_	BVF PARTNERS L.P.					
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) x					
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3	SEC USE ONLY					
4	SOURCE OF FUND	S				
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5		SCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM	Ш			
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SHARES BENEFICIALLY		- 0 -				
OWNED BY EACH	0	-				
REPORTING	8 SHARED VOTING POWER					
PERSON WITH		6 CEE 130				
TERSON WITH	6,655,128 9 SOLE DISPOSITIVE POWER					
	5 SOLE DISPOSITIVE POWER					
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	10	SHARED DISPOSITIVE POWER				
	10	SIMINED DISTOSTITVE TOWER				
		6,655,128				
11	AGGREGATE AMO	DUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON				
	6,655,128					
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES 0					
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13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)					
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	19.7%					
14	TYPE OF REPORTI	NG PERSON				
	PN, IA					

	NAME OF BEDODE	TING DEDGON				
1	NAME OF REPORT	ING PERSON				
	BVF INC.					
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2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) x					
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3	SEC USE ONLY					
4	SOURCE OF FUND					
4	SOURCE OF FUND	33				
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5		SCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM	П			
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OWNED BY EACH	8 SHARED VOTING POWER					
REPORTING						
PERSON WITH	6,655,128					
	9 SOLE DISPOSITIVE POWER					
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		6,655,128				
11	AGGREGATE AMO	DUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON				
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12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES 0					
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14	19.7% TYPE OF REPORTI	NC DEDSON				
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1	NAME OF REPORT	ING PERSON				
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_	MARK N. LAMPERT					
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) x					
			(b) o			
3	SEC USE ONLY					
4	SOURCE OF FUND	S				
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5		SCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM				
	2(d) OR 2(e)					
6	CITIZENSHIP OR F	PLACE OF ORGANIZATION				
	USA					
NUMBER OF	7	SOLE VOTING POWER				
SHARES						
BENEFICIALLY		- 0 -				
OWNED BY EACH	8	SHARED VOTING POWER				
REPORTING PERSON WITH						
PERSON WITH	6,655,128					
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	10	SHARED DISPOSITIVE POWER				
		6,655,128				
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14	TYPE OF REPORTI	NG PERSON				
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The following constitutes Amendment No. 2 to the Schedule 13D filed by the undersigned ("Amendment No. 2"). This Amendment No. 2 amends the Schedule 13D as specifically set forth herein.

Item 6. <u>Contracts, Arrangements, Understandings or Relationships With Respect to Securities of the Issuer.</u>

Item 6 is hereby amended to add the following:

On March 5, 2015, each of BVF, BVF2, BVLLC, ILL10 and MSI entered into a certain Voting Agreement with the Issuer and Catalyst Biosciences, Inc., the form of which is attached as Exhibit 10.1 to the Issuer's Form 8-K filed with the Securities and Exchange Commission on March 6, 2015 and incorporated herein by reference.

Other than as described herein, there are no contracts, arrangements, understandings or relationships among the Reporting Persons, or between the Reporting Persons and any other person, with respect to the securities of the Issuer.

Item 7. <u>Exhibits.</u>

99.1 Voting Agreement by and among Targacept, Inc., Catalyst Biosciences, Inc. and Biotechnology Value Fund, L.P., Biotechnology Value Fund II, L.P., Investment 10, LLC, MSI BVF SPV, LLC, BVF Investments, LLC, dated March 5, 2015, the form of which is attached as Exhibit 10.1 to the Issuer's Form 8-K filed March 6, 2015 and is incorporated herein by reference.

SIGNATURES

After reasonable inquiry and to the best of his knowledge and belief, each of the undersigned certifies that the information set forth in this statement is true, complete and correct.

Dated: March 18, 2015

BIOTECHNOLOGY VALUE FUND, L.P.

By: BVF Partners L.P., its general partner

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert

Mark N. Lampert

President

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

Mark N. Lampert

President

BVF PARTNERS L.P.

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert

Mark N. Lampert

President

BVF INVESTMENTS, L.L.C.

By: BVF Partners L.P., its manager

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert

Mark N. Lampert President INVESTMENT 10, L.L.C.

By: BVF Partners L.P., its investment adviser

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert

Mark N. Lampert

President

MSI BVF SPV, LLC

By: BVF Partners L.P., its investment adviser

By: BVF Inc., its general partner

By: /s/ Mark N. Lampert

Mark N. Lampert President

BVF INC.

By: /s/ Mark N. Lampert

Mark N. Lampert

President

/s/ Mark N. Lampert

MARK N. LAMPERT