
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 13G

**INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT TO RULES
13d-1(b), (c), AND (d) AND AMENDMENTS THERETO FILED
PURSUANT TO RULE 13d-2
(Amendment No.)**

T2 Biosystems, Inc.

(Name of Issuer)

Common Stock, \$0.01 par value per share
(Title of Class of Securities)

89853L104
(CUSIP Number)

December 31, 2014
(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

Rule 13d-1(b)

Rule 13d-1(c)

Rule 13d-1(d)

* 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 the disclosures provided in a prior cover page.

The information required in 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.	Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only). Flagship Ventures Fund 2004, L.P.	
2.	Check the Appropriate Box if a Member of a Group (See Instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3.	SEC Use Only	
4.	Citizenship or Place of Organization Delaware	
Number of Shares Beneficially Owned by Each Reporting Person With:	5.	Sole Voting Power -0-
	6.	Shared Voting Power 1,632,816
	7.	Sole Dispositive Power -0-
	8.	Shared Dispositive Power 1,632,816
9.	Aggregate Amount Beneficially Owned by Each Reporting Person 1,632,816	
10.	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)	
11.	Percent of Class Represented by Amount in Row (9) 8.1%	
12.	Type of Reporting Person (See Instructions) PN	

1.	Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only). Flagship Ventures General Partner LLC	
2.	Check the Appropriate Box if a Member of a Group (See Instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3.	SEC Use Only	
4.	Citizenship or Place of Organization Delaware	
Number of Shares Beneficially Owned by Each Reporting Person With:	5.	Sole Voting Power -0-
	6.	Shared Voting Power 1,632,816
	7.	Sole Dispositive Power -0-
	8.	Shared Dispositive Power 1,632,816
9.	Aggregate Amount Beneficially Owned by Each Reporting Person 1,632,816	
10.	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)	
11.	Percent of Class Represented by Amount in Row (9) 8.1%	
12.	Type of Reporting Person (See Instructions) OO	

1.	Names of Reporting Persons. Flagship Ventures Fund IV, L.P.	
2.	Check the Appropriate Box if a Member of a Group (See Instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3.	SEC Use Only	
4.	Citizenship or Place of Organization Delaware	
Number of Shares Beneficially Owned by Each Reporting Person With:	5.	Sole Voting Power -0-
	6.	Shared Voting Power 741,755
	7.	Sole Dispositive Power -0-
	8.	Shared Dispositive Power 741,755
9.	Aggregate Amount Beneficially Owned by Each Reporting Person 741,755	
10.	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)	
11.	Percent of Class Represented by Amount in Row (9) 3.7%	
12.	Type of Reporting Person (See Instructions) PN	

1.	Names of Reporting Persons. Flagship Ventures Fund IV General Partner LLC	
2.	Check the Appropriate Box if a Member of a Group (See Instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3.	SEC Use Only	
4.	Citizenship or Place of Organization Delaware	
Number of Shares Beneficially Owned by Each Reporting Person With:	5.	Sole Voting Power -0-
	6.	Shared Voting Power 741,755
	7.	Sole Dispositive Power -0-
	8.	Shared Dispositive Power 741,755
9.	Aggregate Amount Beneficially Owned by Each Reporting Person 741,755	
10.	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)	
11.	Percent of Class Represented by Amount in Row (9) 3.7%	
12.	Type of Reporting Person (See Instructions) OO	

1.	Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only). Noubar B. Afeyan Ph.D.	
2.	Check the Appropriate Box if a Member of a Group (See Instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3.	SEC Use Only	
4.	Citizenship or Place of Organization United States	
Number of Shares Beneficially Owned by Each Reporting Person With:	5.	Sole Voting Power 0
	6.	Shared Voting Power 2,374,571
	7.	Sole Dispositive Power 0
	8.	Shared Dispositive Power 2,374,571
9.	Aggregate Amount Beneficially Owned by Each Reporting Person 2,374,571	
10.	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)	
11.	Percent of Class Represented by Amount in Row (9) 11.8%	
12.	Type of Reporting Person (See Instructions) IN	

1.	Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only). Edwin M. Kania, Jr.	
2.	Check the Appropriate Box if a Member of a Group (See Instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3.	SEC Use Only	
4.	Citizenship or Place of Organization United States	
Number of Shares Beneficially Owned by Each Reporting Person With:	5.	Sole Voting Power 0
	6.	Shared Voting Power 2,374,571
	7.	Sole Dispositive Power 0
	8.	Shared Dispositive Power 2,374,571
9.	Aggregate Amount Beneficially Owned by Each Reporting Person 2,374,571	
10.	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)	
11.	Percent of Class Represented by Amount in Row (9) 11.8%	
12.	Type of Reporting Person (See Instructions) IN	

Item 1(a) Name of Issuer:
T2 Biosystems, Inc.

Item 1(b) Address of Issuer's Principal Executive Offices:
101 Hartwell Avenue
Lexington, Massachusetts 02421 USA

Item 2(a) Name of Person Filing:
The names of the persons filing this report (collectively, the "reporting persons") are:
 Flagship Ventures Fund 2004, L.P. ("Fund 2004")
 Flagship Ventures General Partner LLC ("Fund 2004 GP")
 Flagship Ventures Fund IV, L.P. ("Fund IV")
 Flagship Ventures Fund IV General Partner LLC ("Fund IV GP")
 Noubar B. Afeyan, Ph.D. ("Mr. Afeyan")
 Edwin M. Kania, Jr. ("Mr. Kania")

Item 2(b) Address of Principal Business Office or, if None, Residence:
The address of the principal business office of each of the reporting persons is:
 c/o Flagship Ventures
 One Memorial Drive, 7th Floor
 Cambridge, Massachusetts 02142

Item 2(c) Citizenship:

Fund 2004	Delaware limited partnership
Fund 2004 GP	Delaware limited liability company
Fund IV	Delaware limited partnership
Fund IV GP	Delaware limited liability company
Mr. Afeyan	U.S. citizen
Mr. Kania	U.S. citizen

Item 2(d) Title of Class of Securities:

This Schedule 13G relates to the Common Stock, par value \$0.001 per share (“Common Stock”), of T2 Biosystems, Inc.

Item 2(e) CUSIP Number:

89853L104

Item 3 Description of Person Filing:

Not applicable.

Item 4 Ownership:

(a) Amount Beneficially Owned:

As of December 31, 2014: (i) Fund 2004 was the record holder of 1,632,816 shares of Common Stock (the “Fund 2004 Shares”), and Fund IV was the record holder of 741,755 shares of Common Stock (the “Fund IV Shares” and, collectively with the Fund 2004 Shares, the “Shares”).

Fund 2004 GP is the general partner of Fund 2004 and, as such, may be deemed to beneficially own the Fund 2004 Shares.

Fund IV GP is the general partner of Fund IV and, as such, may be deemed to beneficially own the Fund IV Shares.

Messrs. Afeyan and Kania are the managers of each of Fund 2004 GP and Fund IV GP and have shared voting and dispositive power over the Shares. Accordingly, Messrs. Afeyan and Kania may be deemed to beneficially own the Shares.

Each of the Reporting Persons expressly disclaims beneficial ownership of the Shares except to the extent of its or his pecuniary interest in such Shares.

(b) Percent of Class:

Fund 2004	8.1%
Fund 2004 GP	8.1%
Fund IV	3.7%
Fund IV GP	3.7%
Mr. Afeyan	11.8%
Mr. Kania	11.8%

The ownership percentages reported above are based on an aggregate of 20,041,645 shares of Common Stock outstanding, as reported in the Issuer’s Quarterly Report on Form 10-Q for the quarter ended September 30, 2014.

(c) Number of Shares as to which the Person has:

Reporting Person	NUMBER OF SHARES OF COMMON STOCK			
	(i)	(ii)	(iii)	(iv)
Fund 2004	0	1,632,816	0	1,632,816
Fund 2004 GP	0	1,632,816	0	1,632,816
Fund IV	0	741,755	0	741,755
Fund IV GP	0	741,755	0	741,755
Mr. Afeyan	0	2,374,571	0	2,374,571
Mr. Kania	0	2,374,571	0	2,374,571

- (i) Sole power to vote or direct the vote
(ii) Shared power to vote or to direct the vote
(iii) Sole power to dispose or to direct the disposition of
(iv) Shared power to dispose or to direct the disposition of

Item 5 Ownership of Five Percent or Less of a Class:

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following .

Item 6 Ownership of More than Five Percent on Behalf of Another Person:

Not applicable.

Item 7 Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on By the Parent Holding Company or Control Person:

Not applicable.

Item 8 Identification and Classification of Members of the Group:

Each of the Reporting Persons expressly disclaims membership in a "Group" as defined in Rule 13d-1(b)(ii)(K).

Item 9 Notice of Dissolution of Group:

Not applicable.

Item 10 Certification:

Not applicable.

This Schedule 13G is not filed pursuant to Rule 13d-1(b) or Rule 13d-1(c).

SIGNATURES

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

DATED: February 10, 2015

FLAGSHIP VENTURES FUND 2004, L.P.

By: Flagship Ventures General Partner LLC, its general partner

By: /s/ Noubar B. Afeyan, Ph. D.

Name: Noubar B. Afeyan, Ph. D.

Title: Manager

FLAGSHIP VENTURES GENERAL PARTNER LLC

By: /s/ Noubar B. Afeyan, Ph. D.

Name: Noubar B. Afeyan, Ph. D.

Title: Manager

FLAGSHIP VENTURES FUND IV, L.P.

By: Flagship Ventures Fund IV General Partner LLC, its general partner

By: /s/ Noubar B. Afeyan, Ph. D.

Name: Noubar B. Afeyan, Ph. D.

Title: Manager

FLAGSHIP VENTURES FUND IV GENERAL PARTNER LLC

By: /s/ Noubar B. Afeyan, Ph. D.

Name: Noubar B. Afeyan, Ph. D.

Title: Manager

/s/ Noubar B. Afeyan, Ph. D

NOUBAR B. AFEYAN, PH.D.

/s/ Edwin M. Kania, Jr.

EDWIN M. KANIA, JR.

Joint Filing Agreement

Pursuant to Rule 13d-1(k)(1) under the Securities Exchange Act of 1934, as amended, the undersigned hereby agree that only one statement containing the information required by Schedule 13G need be filed with respect to the ownership by each of the undersigned of the shares of Common Stock of T2 Biosystems, Inc. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original.

EXECUTED as of this 10th day of February, 2015.

FLAGSHIP VENTURES FUND 2004, L.P.

By: Flagship Ventures General Partner LLC, its general partner

By: /s/ Noubar B. Afeyan, Ph. D.

Name: Noubar B. Afeyan, Ph. D.

Title: Manager

FLAGSHIP VENTURES GENERAL PARTNER LLC

By: /s/ Noubar B. Afeyan, Ph. D.

Name: Noubar B. Afeyan, Ph. D.

Title: Manager

FLAGSHIP VENTURES FUND IV, L.P.

By: Flagship Ventures Fund IV General Partner LLC, its general partner

By: /s/ Noubar B. Afeyan, Ph. D.

Name: Noubar B. Afeyan, Ph. D.

Title: Manager

FLAGSHIP VENTURES FUND IV GENERAL PARTNER LLC

By: /s/ Noubar B. Afeyan, Ph. D.

Name: Noubar B. Afeyan, Ph. D.

Title: Manager

/s/ Noubar B. Afeyan, Ph. D

NOUBAR B. AFEYAN, PH.D.

/s/ Edwin M. Kania, Jr.

EDWIN M. KANIA, JR.