

Seres Therapeutics, Inc.
Form SC 13G
February 16, 2016

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

SCHEDULE 13G
Under the Securities Exchange Act of 1934

(Amendment No. __)*

Seres Therapeutics Inc.

(Name of Issuer)

Common Stock, \$.001 par value

(Title of Class of Securities)

81750R102

(CUSIP Number)

December 31, 2015

(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 2007, L.P.

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS)

(a) (b)

3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware, United States of America

5 SOLE VOTING POWER

NUMBER OF

SHARES 0
6 SHARED VOTING POWER

BENEFICIALLY

OWNED BY 599,297 shares
EACH 7 SOLE DISPOSITIVE POWER

REPORTING

PERSON 0
8 SHARED DISPOSITIVE POWER

WITH:

599,297 shares

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

599,297 shares

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)

..

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9

1.53%

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 2007 General Partner LLC

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS)

(a) (b)

3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware, United States of America

5 SOLE VOTING POWER

NUMBER OF 0
6 SHARED VOTING POWER

SHARES

BENEFICIALLY 599,297 shares
EACH 7 SOLE DISPOSITIVE POWER

REPORTING

WITH: 0
8 SHARED DISPOSITIVE POWER

599,297 shares
9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

599,297 shares
10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)

..

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9

1.53%

12 TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

OO

1 NAMES OF REPORTING PERSONS

I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)

Flagship Ventures Fund IV, L.P.

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS)

(a) (b)

3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware, United States of America

5 SOLE VOTING POWER

NUMBER OF

SHARES 0
6 SHARED VOTING POWER

BENEFICIALLY

OWNED BY 11,877,976 shares
EACH 7 SOLE DISPOSITIVE POWER

REPORTING

PERSON 0
8 SHARED DISPOSITIVE POWER

WITH:

11,877,976 shares

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

11,877,976 shares

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)

..

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9

30.41%

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 Fund IV-Rx, L.P.

2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS)

(a) (b)

3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware, United States of America

5 SOLE VOTING POWER

NUMBER OF

SHARES 0
6 SHARED VOTING POWER

BENEFICIALLY

OWNED BY 2,205,603 shares
EACH 7 SOLE DISPOSITIVE POWER

REPORTING

PERSON 0
8 SHARED DISPOSITIVE POWER

WITH:

2,205,603 shares

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

2,205,603 shares

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)

..

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9

5.65%

12 TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

PN

1 NAMES OF REPORTING PERSONS

I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)

2 Flagship VentureLabs IV, LLC
CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS)

3 (a) (b)
SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware, United States of America
5 SOLE VOTING POWER

NUMBER OF

SHARES 0
6 SHARED VOTING POWER

BENEFICIALLY

OWNED BY 3,055,556 shares
EACH 7 SOLE DISPOSITIVE POWER

REPORTING

PERSON 0
8 SHARED DISPOSITIVE POWER

WITH:

9 3,055,556 shares
AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

10 3,055,556 shares
CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)

..

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9

7.82%

12 TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

OO

1 NAMES OF REPORTING PERSONS

I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)

2 Flagship Ventures Fund IV General Partner LLC
CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS)

3 (a) (b)
SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware, United States of America
5 SOLE VOTING POWER

NUMBER OF

SHARES 0
6 SHARED VOTING POWER

BENEFICIALLY

OWNED BY 14,083,579 shares
EACH 7 SOLE DISPOSITIVE POWER

REPORTING

PERSON 0
8 SHARED DISPOSITIVE POWER

WITH:

9 14,083,579 shares
AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

10 14,083,579 shares
CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)

..

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9

36.06%

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) (b)
 3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

United States of America

5 SOLE VOTING POWER

NUMBER OF

SHARES 0
 6 SHARED VOTING POWER

BENEFICIALLY

OWNED BY 14,682,876 shares
 EACH 7 SOLE DISPOSITIVE POWER

REPORTING

PERSON 0
 8 SHARED DISPOSITIVE POWER

WITH:

14,682,876 shares

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

14,682,876 shares

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)

..

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9

37.59%

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) (b)
 3 SEC USE ONLY

4 CITIZENSHIP OR PLACE OF ORGANIZATION

United States

5 SOLE VOTING POWER

NUMBER OF

SHARES 0
 6 SHARED VOTING POWER

BENEFICIALLY

OWNED BY 14,682,876 shares
 EACH 7 SOLE DISPOSITIVE POWER

REPORTING

PERSON 0
 8 SHARED DISPOSITIVE POWER

WITH:

14,682,876 shares

9 AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

14,682,876 shares

10 CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)

..

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9

37.59%

12 TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

IN

CUSIP No. 81750R102

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Item 1(a). Name of Issuer:

Seres Therapeutics Inc. (the Issuer)

Item 1(b). Address of Issuer s Principal Executive Offices:

215 First Street, Cambridge, Massachusetts 02142

Item 2(a). Names of Persons Filing:

The names of the persons filing this report (collectively, the Reporting Persons) are:

Flagship Ventures Fund 2007, L.P. (Flagship 2007 Fund)

Flagship Ventures 2007 General Partner LLC (Flagship 2007 GP)

Flagship Ventures Fund IV, L.P. (Flagship IV Fund)

Flagship Ventures Fund IV-Rx, L.P. (Flagship IV-Rx Fund)

Flagship VentureLabs IV, LLC (Flagship VentureLabs IV)

Flagship Ventures Fund IV General Partner LLC (Flagship 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:

Flagship 2007 Fund

Delaware limited partnership

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| | |
|-------------------------|------------------------------------|
| Flagship 2007 GP | Delaware limited liability company |
| Flagship IV Fund | Delaware limited partnership |
| Flagship IV-Rx Fund | Delaware limited partnership |
| Flagship VentureLabs IV | Delaware limited liability company |
| Flagship IV GP | Delaware limited liability company |
| Mr. Afeyan | U.S. citizen |
| Mr. Kania | U.S. citizen |

Item 2(d). Title of Class of Securities:

Common Stock, \$.001 par value (Common Stock).

Item 2(e). CUSIP Number:

81750R102.

Item 3. If this statement is filed pursuant to §§ 240.13d-1(b) or 240.13d-2(b) or (c), check whether the person filing is a:

Not applicable.

Item 4. Ownership.**(a) Amount Beneficially Owned:**

As of December 31, 2015: (i) Flagship 2007 Fund was the record owner of 599,297 shares of Common Stock (the Fund 2007 Shares), (ii) Flagship IV Fund was the record owner of 8,822,420 shares of Common Stock (the Fund IV Shares), (iii) Flagship IV-Rx Fund was the record owner of 2,205,603 shares of Common Stock (the Fund IV-Rx Shares) and (iv) Flagship VentureLabs IV was the record owner of 3,055,556 shares of Common Stock (the VentureLabs IV Shares) and, collectively with the Fund IV Shares and the Fund IV-Rx Shares, the Flagship IV Shares). The Fund 2007 Shares and the Flagship IV Shares are collectively referred to herein as the Shares.

Flagship 2007 GP is the general partner of Flagship 2007 Fund and, as such, may be deemed to beneficially own the Fund 2007 Shares.

Flagship IV Fund is the manager of Flagship VentureLabs IV and, as such, may be deemed to beneficially own the VentureLabs IV Shares.

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

Messrs. Afeyan and Kania are the managers of each of Fund 2007 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.

The ownership percentages reported above are based on an aggregate of 39,055,767 shares of Common Stock outstanding, as reported in the Issuer's Quarterly Report on Form 10-Q for the quarter ended September 30, 2015.

(b) Percent of Class:

| | |
|-------------------------|--------|
| Flagship 2007 Fund | 1.53% |
| Flagship 2007 GP | 1.53% |
| Flagship IV Fund | 30.41% |
| Flagship IV-Rx Fund | 5.65% |
| Flagship VentureLabs IV | 7.82% |
| Flagship IV GP | 36.06% |

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| | |
|------------|--------|
| Mr. Afeyan | 37.59% |
| Mr. Kania | 37.59% |

(c) Number of shares as to which such person has:

| | |
|---|------------|
| (i) sole power to vote or to direct the vote: | |
| Flagship 2007 Fund | 0 |
| Flagship 2007 GP | 0 |
| Flagship IV Fund | 0 |
| Flagship IV-Rx Fund | 0 |
| Flagship VentureLabs IV | 0 |
| Flagship IV GP | 0 |
| Mr. Afeyan | 0 |
| Mr. Kania | 0 |
| (ii) shared power to vote or to direct the vote: | |
| Flagship 2007 Fund | 599,297 |
| Flagship 2007 GP | 599,297 |
| Flagship IV Fund | 11,877,976 |
| Flagship IV-Rx Fund | 2,205,603 |
| Flagship VentureLabs IV | 3,055,556 |
| Flagship IV GP | 14,083,579 |
| Mr. Afeyan | 14,682,876 |
| Mr. Kania | 14,682,876 |
| (iii) sole power to dispose or to direct the disposition of: | |
| Flagship 2007 Fund | 0 |
| Flagship 2007 GP | 0 |
| Flagship IV Fund | 0 |
| Flagship IV-Rx Fund | 0 |
| Flagship VentureLabs IV | 0 |
| Flagship IV GP | 0 |
| Mr. Afeyan | 0 |
| Mr. Kania | 0 |
| (iv) shared power to dispose or to direct the disposition of: | |
| Flagship 2007 Fund | 599,297 |
| Flagship 2007 GP | 599,297 |
| Flagship IV Fund | 11,877,976 |
| Flagship IV-Rx Fund | 2,205,603 |
| Flagship VentureLabs IV | 3,055,556 |
| Flagship IV GP | 14,083,579 |
| Mr. Afeyan | 14,682,876 |
| Mr. Kania | 14,682,876 |

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

Not applicable.

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 used in Rule 13d-5(b).

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).

Material to be Filed as Exhibits.

Exhibit 1 Agreement regarding filing of joint Schedule 13G.

SIGNATURE

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

Date: February 16, 2016

FLAGSHIP VENTURES 2007 FUND, L.P.

By: Flagship Ventures 2007 General Partner LLC
General Partner

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

FLAGSHIP VENTURES 2007 GENERAL PARTNER
LLC

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

FLAGSHIP VENTURES FUND IV, L.P.

By: Flagship Ventures Fund IV General Partner LLC
General Partner

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

FLAGSHIP VENTURES FUND IV-Rx, L.P.

By: Flagship Ventures Fund IV General Partner LLC
General Partner

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

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FLAGSHIP VENTURELABS IV, LLC

By: Flagship Ventures Fund IV, L.P.
Manager

By: Flagship Ventures Fund IV General Partner LLC
General Partner

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

FLAGSHIP VENTURES FUND IV GENERAL
PARTNER LLC

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

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

/s/ Edwin M. Kania, Jr.
Edwin M. Kania, Jr.