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

**SCHEDULE 13D**

Under the Securities Exchange Act of 1934  
(Amendment No. 3)\*

**Fate Therapeutics, Inc.**

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(Name of Issuer)

**Common Stock, \$0.001 par value**

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(Title of Class of Securities)

**31189P102**

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(CUSIP Number)

**Mark McDonnell  
ARCH Venture Corporation  
8755 W. Higgins Road Suite 1025  
Chicago, IL 60631**

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(Name, Address and Telephone Number of Person Authorized to Receive Notices and Communications)

**November 23, 2016**

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(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.

**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 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.

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).

**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 control number.**

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Item 1. Security and Issuer.

This Amendment No. 3 ("Amendment No. 3") to the Schedule 13D filed on October 15, 2013 (the "Original 13D"), as amended by Amendment No. 1 to Schedule 13D filed on June 24, 2015 ("Amendment No. 1") and Amendment No. 2 to Schedule 13D filed on August 15, 2016 ("Amendment No. 2"), relating to the Common Stock, \$0.001 par value per share (the "Common Stock"), of Fate Therapeutics, Inc. (the "Issuer") having its principal executive office at 3535 General Atomics Court, Suite 200, San Diego, California, 92121, amends the Original 13D as set forth herein (the "Original 13D", together with Amendment No. 1, Amendment No. 2 and this Amendment No. 3, the "Schedule 13D").

Certain terms used but not defined in this Amendment No. 3 shall have the meanings assigned thereto in the Original 13D (as amended by Amendment No. 1 and Amendment No. 2). Except as specifically provided herein, this Amendment No. 3 does not modify any of the information previously reported in the Original 13D (as amended by Amendment No. 1 and Amendment No. 2).

Item 2. Identity and Background.

- (a) This statement is being filed by: (1) ARCH Venture Fund VI, L.P. ("ARCH Venture Fund VI"), (2) ARCH Venture Partners VI, L.P. ("AVP VI LP"), which is the sole general partner of ARCH Venture Fund VI, (3) ARCH Venture Partners VI, LLC ("AVP VI LLC"), which is the sole general partner of AVP VI LP, (4) Clinton Bybee ("Bybee"), (5) Keith Crandell ("Crandell"), and (6) Robert Nelsen ("Nelsen" and, together with Bybee and Crandell, collectively, the "Managing Directors" and each individually, a "Managing Director"). Each of the individuals and entities above shall be referred to herein individually as a "Reporting Person" and collectively as the "Reporting Persons".
  - (b) The business address of each of the Reporting Persons is 8755 West Higgins Road, Suite 1025, Chicago, IL, 60631.
  - (c) The principal business of ARCH Venture Fund VI is to invest and assist in developmental and emerging businesses located principally in the United States. The principal business of AVP VI LP is to act as the general partner of ARCH Venture Fund VI. The principal business of AVP VI LLC is to act as the general partner of AVP VI LP. The principal business of each of the Managing Directors is to act as managing directors of AVP VI LLC and a number of affiliated partnerships with similar businesses.
  - (d) During the five years prior to the date hereof, none of the Reporting Persons has been convicted in a criminal proceeding.
  - (e) During the five years prior to the date hereof, none of the Reporting Persons has been a party to a civil proceeding of a judicial or administrative body of competent jurisdiction ending in a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, Federal or State securities laws or finding any violation with respect to such laws.
  - (f) Each of ARCH Venture Fund VI and AVP VI LP is a Delaware limited partnership. AVP VI LLC is a Delaware limited liability company. Each of the Managing Directors is a United States citizen.
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Item 4. Purpose of the Transaction.

Not Applicable.

Item 5. Interest in Securities of the Issuer.

Each of the Reporting Persons has ceased to beneficially own five percent (5%) or more of the Issuer's outstanding Common Stock.

Item 7. Material to be Filed as Exhibits.

Exhibit 1 – Agreement regarding filing of joint Schedule 13D.

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SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Date: December 5, 2016

ARCH VENTURE FUND VI, L.P.

By: ARCH Venture Partners VI, L.P.  
its General Partner

By: ARCH Venture Partners VI, LLC  
its General Partner

By: \_\_\_\_\_  
\*  
Managing Director

ARCH VENTURE PARTNERS VI, L.P.

By: ARCH Venture Partners VI, LLC  
its General Partner

By: \_\_\_\_\_  
\*  
Managing Director

ARCH VENTURE PARTNERS VI, LLC

By: \_\_\_\_\_  
\*  
Managing Director

\_\_\_\_\_  
\*  
Clinton Bybee

\_\_\_\_\_  
\*  
Keith Crandell

\_\_\_\_\_  
\*  
Robert Nelsen

\* By: /s/ Mark McDonnell  
Mark McDonnell as Attorney-in-Fact

\* This Schedule 13D was executed by Mark McDonnell pursuant to a Power of Attorney filed as Exhibit 24 to the Form 3 relating to the beneficial ownership of shares of Fate Therapeutics, Inc. by the Reporting Persons filed with the Securities Exchange Commission on September 30, 2013 and incorporated herein in its entirety by reference.

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Exhibit 1**AGREEMENT OF JOINT FILING**

Pursuant to Rule 13d-1(k)(1) under the Securities Exchange Act of 1934, the undersigned hereby agree that only one statement containing the information required by Schedule 13D need be filed with respect to the ownership by each of the undersigned of shares of Common Stock of Fate Therapeutics, Inc.

This Agreement may be executed in any number of counterparts, each of which shall be deemed an original.

Date: December 5, 2016

ARCH VENTURE FUND VI, L.P.

By: ARCH Venture Partners VI, L.P.  
its General Partner

By: ARCH Venture Partners VI, LLC  
its General Partner

By: \_\_\_\_\_  
\*  
Managing Director

ARCH VENTURE PARTNERS VI, L.P.

By: ARCH Venture Partners VI, LLC  
its General Partner

By: \_\_\_\_\_  
\*  
Managing Director

ARCH VENTURE PARTNERS VI, LLC

By: \_\_\_\_\_  
\*  
Managing Director

\_\_\_\_\_  
\*  
Clinton Bybee

\_\_\_\_\_  
\*  
Keith Crandell

\_\_\_\_\_  
\*  
Robert Nelsen

\* By: /s/ Mark McDonnell  
Mark McDonnell as Attorney-in-Fact

\* This Agreement was executed by Mark McDonnell pursuant to a Power of Attorney filed as Exhibit 24 to the Form 3 relating to the beneficial ownership of shares of Fate Therapeutics, Inc. by the Reporting Persons filed with the Securities Exchange Commission on September 30, 2013 and incorporated herein in its entirety by reference.