

INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES

OMB APPROVAL

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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>Redmile Group, LLC</u> (Last) (First) (Middle) <u>ONE LETTERMAN DRIVE, BUILDING D</u> <u>SUITE D3-300</u> (Street) <u>SAN FRANCISCO CA 94129</u> (City) (State) (Zip)	2. Date of Event Requiring Statement (Month/Day/Year) <u>07/31/2018</u>	3. Issuer Name and Ticker or Trading Symbol <u>FATE THERAPEUTICS INC [FATE]</u>	
		4. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> 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) <input checked="" type="checkbox"/> Form filed by One Reporting Person <input 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)
<u>Common Stock</u>	<u>6,655,962</u>	<u>I</u>	<u>See footnote⁽¹⁾⁽²⁾</u>

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			
<u>Class A Convertible Preferred Stock</u>	<u>(3)(4)</u>	<u>(3)(4)</u>	<u>Common Stock</u>	<u>14,097,745</u>	<u>(3)(4)</u>	<u>I</u>	<u>See footnote⁽¹⁾⁽²⁾</u>
<u>Cash-settled swaps</u>	<u>(5)(6)(7)</u>	<u>(6)</u>	<u>Common Stock</u>	<u>559,100</u>	<u>3.02⁽⁸⁾</u>	<u>I</u>	<u>See footnote⁽¹⁾⁽²⁾</u>

1. Name and Address of Reporting Person* <u>Redmile Group, LLC</u> (Last) (First) (Middle) <u>ONE LETTERMAN DRIVE, BUILDING D</u> <u>SUITE D3-300</u> (Street) <u>SAN FRANCISCO CA 94129</u> (City) (State) (Zip)
1. Name and Address of Reporting Person* <u>Green Jeremy</u> (Last) (First) (Middle) <u>C/O REDMILE GROUP, LLC</u> <u>ONE LETTERMAN DR., BLDG. D, SUITE D3-300</u> (Street) <u>SAN FRANCISCO CA 94129</u> (City) (State) (Zip)

Explanation of Responses:

1. These securities are directly owned by certain private investment vehicles and separately managed accounts managed by Redmile Group, LLC ("Redmile") and may be deemed beneficially owned by Redmile as investment manager of such private investment vehicles and separately managed accounts. The reported securities may also be deemed beneficially owned by Jeremy Green as the principal of Redmile. The Reporting Persons disclaim beneficial ownership of the reported securities except to the extent of their pecuniary interest therein, and this report shall not be deemed an admission that such Reporting Persons are the beneficial owners of the securities for purposes of Section 16 of the Securities Exchange Act of 1934, as amended, or for any other purpose.

2. Michael Lee, a member of the board of directors of the Issuer and a managing director of Redmile, was elected to the board of the Issuer as a representative of Redmile. As a result, the Reporting Persons are directors by deputization for purposes of Section 16 of the Securities Exchange Act of 1934, as amended.

3. The Class A Convertible Preferred Stock is convertible into shares of the Issuer's common stock in accordance with the terms of the Issuer's Amended and Restated Certificate of Incorporation and Certificate of Designation of Preferences, Rights and Limitations of Class A Convertible Preferred Stock at any time and from time to time at the holder's election using a calculation based on the stated value

of the shares and the conversion rate in effect at the time of conversion. The shares of Class A Convertible Preferred Stock will currently convert on a 1-for-5 basis and such conversion rate is reflected in the amount listed under Column 3.

4. The terms of the Class A Convertible Preferred Stock provide that the holder may not convert any shares of Class A Convertible Preferred Stock if, after giving effect to the attempted conversion, the holder and its affiliates would collectively beneficially own more than 9.99% of the number of shares of Common Stock outstanding after giving effect to such attempted conversion. The Class A Convertible Preferred Stock has no expiration date.

5. Certain private investment vehicles and separately managed accounts managed by Redmile are parties to swap agreements with counterparties. Each notional share subject to each swap agreement represents the economic equivalent of one share of the Issuer's common stock. These agreements do not give the Reporting Persons direct or indirect voting, investment or dispositive control over any securities of the Issuer and do not require the counterparties thereto to acquire, hold, vote or dispose of any securities of the Issuer. Accordingly, the Reporting Persons disclaim any beneficial ownership in securities that may be referenced in such swap agreements or that may be held from time to time by any counterparties to the agreements.

6. The Reporting Persons have the right to terminate and close out each swap at any time.

7. Upon settlement of the various swap agreements, either (i) the counterparty will pay to the Reporting Persons in cash an amount determined in part by reference to any increase between the reference price and the market value of the notional number of shares of Common Stock subject to the swap agreement or (ii) the Reporting Persons will pay to the counterparty in cash an amount determined in part by reference to any decrease between the reference price and the market value of the notional number of shares of Common Stock subject to the swap agreement.

8. Represents the reference price associated with the swap agreements.

/s/ Jeremy Green, Managing
Member of Redmile Group, 08/02/2018
LLC

/s/ Jeremy Green 08/02/2018

** 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.