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

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FORM 8-A

FOR REGISTRATION OF CERTAIN CLASSES OF SECURITIES  
PURSUANT TO SECTION 12(b) OR 12(g) OF THE  
SECURITIES EXCHANGE ACT OF 1934

**Avenue Therapeutics, Inc.**

*(Exact name of registrant as specified in its charter)*

**Delaware**

*(State of incorporation or organization)*

**47-4113275**

*(I.R.S. Employer Identification No.)*

**2 Gansevoort Street, 9<sup>th</sup> Floor, New York, New York 10014**

*(Address and Zip Code of Principal Executive Offices)*

Securities to be registered pursuant to Section 12(b) of the Act:

Title of each class  
to be so registered

**Common Stock, par value \$0.0001 per share**

Name of each exchange on which  
each class is to be registered

**The Nasdaq Capital Market**

If this form relates to the registration of a class of securities pursuant to Section 12(b) of the Exchange Act and is effective pursuant to General Instruction A.(c), please check the following box.  S

If this form relates to the registration of a class of securities pursuant to Section 12(g) of the Exchange Act and is effective pursuant to General Instruction A.(d), please check the following box.  □

Securities Act registration statement file number to which this form relates: **333-217552**

Securities to be registered pursuant to Section 12(g) of the Act: None

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**ITEM 1. DESCRIPTION OF REGISTRANT'S SECURITIES TO BE REGISTERED.**

The description of the common stock, par value \$0.0001 per share, of Avenue Therapeutics, Inc. (the "Registrant"), as included under the caption "Description of Capital Stock" in the prospectus forming a part of the Registration Statement on Form S-1, as amended, originally filed with the Securities and Exchange Commission (the "Commission") on April 28, 2017 (Registration No. 333-217552), including exhibits, and as subsequently amended from time to time (the "Registration Statement"), is hereby incorporated by reference. In addition, all of the above-referenced descriptions included in any prospectus relating to the Registration Statement filed with the Commission pursuant to Rule 424(b) under the Securities Act of 1933, as amended, shall be deemed to be incorporated by reference herein. Capitalized terms used herein and not otherwise defined shall have the meanings assigned to them in the Registration Statement.

**ITEM 2. EXHIBITS.**

Under the Instructions as to Exhibits with respect to Form 8-A, no exhibits are required to be filed because no other securities of the Registrant are registered on the Nasdaq Capital Market and the securities registered hereby are not being registered pursuant to Section 12(g) of the Exchange Act.

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**SIGNATURE**

Pursuant to the requirements of Section 12 of the Securities Exchange Act of 1934, the Registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereto duly authorized.

**Avenue Therapeutics, Inc.**

Date: June 14, 2017

By: /s/ Lucy Lu, M.D.

Name: Lucy Lu, M.D.

Title: *President and Chief Executive Officer*

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