UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): June 6, 2018

RHYTHM PHARMACEUTICALS, INC.

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation)

001-38223 (Commission File Number)

46-2159271 (IRS Employer Identification Number)

500 Boylston Street, 11th Floor Boston, MA 02116

(Address of principal executive offices, including Zip Code)

Registrant's telephone number, including area code: (857) 264-4280

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- o Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- o Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- o Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- o Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter). Emerging growth company x

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. x

Item 5.07 Submission of Matters to a Vote of Security Holders.

- (a) Rhythm Pharmaceuticals, Inc. (the "Company") held its 2018 Annual Meeting of Stockholders (the "Annual Meeting") on June 6, 2018.
- (b) The final voting results on each of the matters submitted to a vote of stockholders at the Annual Meeting are set forth below.
 - (1) The following director nominees were elected to serve as Class I directors until the Company's 2021 Annual Meeting of Stockholders and until their successors are duly elected and qualified:

| Nominee | Votes For | Votes Withheld | Votes Abstaining | Broker Non-Votes |
|-----------------------------|------------|----------------|------------------|-------------------------|
| Keith M. Gottesdiener, M.D. | 20,795,988 | 762,428 | 35,053 | 1,697,431 |
| Christophe R. Jean | 17,615,456 | 3.942.960 | 35.053 | 1,697,431 |

(2) The appointment of Ernst & Young LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2018 was ratified.

| Votes For | Votes Against | Votes Abstaining | |
|------------|---------------|------------------|--|
| 23,246,337 | 8,558 | 36,005 | |
| | | | |
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SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

RHYTHM PHARMACEUTICALS, INC.

Date: June 11, 2018 By: /s/ Hunter Smith

Hunter Smith

Chief Financial Officer

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