

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

SCHEDULE 14A

Proxy Statement Pursuant to Section 14(a) of
the Securities Exchange Act of 1934 (Amendment No.)

Filed by the Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

- Preliminary Proxy Statement
 Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))
 Definitive Proxy Statement
 Definitive Additional Materials
 Soliciting Material under §240.14a-12

RHYTHM PHARMACEUTICALS, INC.

(Name of Registrant as Specified In Its Charter)

(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check the appropriate box):

No fee required.

Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.

(1) Title of each class of securities to which transaction applies:

(2) Aggregate number of securities to which transaction applies:

(3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined):

(4) Proposed maximum aggregate value of transaction:

(5) Total fee paid:

Fee paid previously with preliminary materials.

Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.

(1) Amount Previously Paid:

(2) Form, Schedule or Registration Statement No.:

(3) Filing Party:

(4) Date Filed:



Online - Before the Meeting

Go to www.investorvote.com/RYTM or scan the QR code – login details are located in the shaded bar below.

Online - During the Meeting

Go to www.meetingcenter.io/230218259. To access the virtual meeting, you must have the information that is printed in the shaded bar located below. The password for the meeting is RYTM2021.

Stockholder Meeting Notice

Important Notice Regarding the Availability of Proxy Materials for the Rhythm Pharmaceuticals, Inc. Stockholder Meeting to be Held on June 9, 2021

Under Securities and Exchange Commission rules, you are receiving this notice that the proxy materials for the annual stockholders' meeting are available on the Internet. Follow the instructions below to view the materials and vote online or request a copy. The items to be voted on and location of the annual meeting are on the reverse side. Your vote is important!

This communication presents only an overview of the more complete proxy materials that are available to you on the Internet. We encourage you to access and review all of the important information contained in the proxy materials before voting. The 2021 proxy statement and Annual Report to shareholders are available at:

www.investorvote.com/RYTM

Easy Online Access – View your proxy materials and vote.



- Step 1:** Go to www.investorvote.com/RYTM.
- Step 2:** Click on the icon on the right to view meeting materials.
- Step 3:** Return to the investorvote.com window and follow the instructions on the screen to log in.
- Step 4:** Make your selections as instructed on each screen for your delivery preferences.
- Step 5:** Vote your shares.

When you go online, you can also help the environment by consenting to receive electronic delivery of future materials.



Obtaining a Copy of the Proxy Materials – If you want to receive a copy of the proxy materials, you must request one. There is no charge to you for requesting a copy. Please make your request as instructed on the reverse side on or before May 28, 2021 to facilitate timely delivery.



2 N O T



Stockholder Meeting Notice

Rhythm Pharmaceuticals, Inc.'s Annual Meeting of Stockholders will be held on June 9, 2021, at 2:00 PM Eastern Time. The Annual Meeting will be a completely virtual meeting, which will be conducted via live webcast.

To access the virtual meeting, you must have the information that is printed in the shaded bar located on the reverse side of this form. The password for this meeting is RYTM2021.

Proposals to be voted on at the meeting are listed below along with the Board of Directors' recommendations.

The Board of Directors recommend a vote **FOR** all the nominees listed and **FOR** Proposal 2 and 3 and for every **ONE YEAR** for Proposal 4:

1. Election of the Class I directors, each to serve for a three year term until the 2024 Annual Meeting of Stockholders and until their respective successors are duly elected and qualified.
Nominees
01 - Stuart A. Arbuckle
02 - Christophe R. Jean
03 - Lynn A. Tetrault, J.D.
2. Ratification of the appointment of Ernst & Young LLP as the independent registered public accounting firm for the Company for the fiscal year ending December 31, 2021.
3. Approval, on an advisory (non-binding) basis, of the compensation of the named executive officers of the Company (the "Say-on-Pay Vote").
4. Approval, on an advisory (non-binding) basis, of the frequency of future Say-on-Pay Votes.

PLEASE NOTE – YOU CANNOT VOTE BY RETURNING THIS NOTICE. To vote your shares you must go online or request a paper copy of the proxy materials to receive a proxy card.



Here's how to order a copy of the proxy materials and select delivery preferences:

Current and future delivery requests can be submitted using the options below.

If you request an email copy, you will receive an email with a link to the current meeting materials.

PLEASE NOTE: You must use the number in the shaded bar on the reverse side when requesting a copy of the proxy materials.

- **Internet** – Go to www.investorvote.com/RYTM.
- **Phone** – Call us free of charge at 1-866-641-4276.
- **Email** – Send an email to investorvote@computershare.com with "Proxy Materials Rhythm Pharmaceuticals, Inc." in the subject line. Include your full name and address, plus the number located in the shaded bar on the reverse side, and state that you want a paper copy of the meeting materials.

To facilitate timely delivery, requests for a paper copy of proxy materials must be received by May 28, 2021.
