

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

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**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.**

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(Name of Registrant as Specified In Its Charter)

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

Payment of Filing Fee (Check all boxes that apply):

- No fee required.
- Fee paid previously with preliminary materials.
- Fee computed on table in exhibit required by Item 25(b) per Exchange Act Rules 14a-6(i)(1) and 0-11.



**Rhythm Pharmaceuticals, Inc.**  
**222 Berkeley Street, 12th Floor**  
**Boston, MA 02116**

**EXPLANATORY NOTE**

Rhythm Pharmaceuticals, Inc. (the "Company") is filing this supplement to its definitive proxy statement as filed with the Securities and Exchange Commission on April 29, 2026 (the "Proxy Statement") solely to make certain clarifying changes and updates to the beneficial ownership table required by Item 403 of Regulation S-K, that appears on pages 64-66 of the Proxy Statement.

Except as otherwise expressly noted herein, this filing does not modify or update the Proxy Statement in any respect.

## BENEFICIAL OWNERSHIP OF CAPITAL STOCK

The following table sets forth certain information as of May 22, 2026 (unless otherwise specified), with respect to the beneficial ownership of our Common Stock and Convertible Preferred Stock by each person who is known to own beneficially more than 5% of the outstanding shares of such securities, each person currently serving as a director, each director nominee, each named executive officer, and all directors and executive officers as a group.

Shares of Common Stock subject to options, restricted stock units, convertible preferred stock or other rights to purchase which were as of May 22, 2026, exercisable or convertible into Common Stock, or would be exercisable or convertible into Common Stock within 60 days after May 22, 2026, are to be considered outstanding for purposes of computing the number of shares beneficially owned and the percentage ownership of the persons holding these options or other rights, but are not to be considered outstanding for the purpose of computing the number of shares beneficially owned or the percentage ownership of any other person. As of May 22, 2026, there were 68,593,574 shares of Common Stock outstanding and 115,000 shares of Convertible Preferred Stock outstanding. Unless otherwise indicated, the address for each beneficial owner is c/o Rhythm Pharmaceuticals, Inc., 222 Berkeley Street, 12th Floor, Boston, MA 02116.

Name and Address of Beneficial Owner	Number of Shares of Common Stock Beneficially Owned†	Percentage of Shares of Common Stock Beneficially Owned
<b>5% or Greater Stockholders:</b>		
Entities affiliated with RA Capital Management, LLC(1) c/o RA Capital Management, L.P. 200 Berkeley Street, 18th Floor, Boston, MA 02116	6,666,837	9.7
Entities affiliated with Baker Bros. Advisors LP(2) c/o Baker Bros. Advisors LP 860 Washington Street, 3rd Floor New York, NY 10014	5,604,483	8.2
BlackRock, Inc.(3) 55 East 52nd Street New York, NY 10055	4,364,700	6.4
Entities affiliated with PRIMECAP Management Company(4) 77 E. Colorado Blvd., 11th Floor Pasadena, CA 91105	3,478,669	5.1
Entities affiliated with Perceptive Advisors LLC.(5) 51 Astor Place, 10th Floor New York, NY 10003	3,519,626	5.0
Vanguard Capital Management LLC(6) 100 Vanguard Blvd., Malvern, PA 19355	3,432,949	5.0
<b>Directors and Named Executive Officers:</b>		
David P. Meeker, M.D.(7)	2,379,665	3.4
Hunter C. Smith(8)	612,911	*
Yann Mazabraud(9)	280,905	*
Jennifer Lee(10)	244,237	*
Alastair Garfield(11)	52,936	*
Stuart A. Arbuckle(12)	130,249	*
Jennifer Good(13)	46,749	*
Christophe R. Jean(14)	125,249	*
David W.J. McGirr(15)	147,059	*
Kimberly J. Popovits	0	*
Lynn A. Tetrault, J.D.(16)	83,749	*
All executive officers and directors as a group (13 persons)(17)	4,252,902	5.9

\* Represents beneficial ownership of less than 1%.

† None of the shares are pledged as security.

(1) Based solely on a Schedule 13G/A filed on February 17, 2026. Consists of 6,666,837 shares held directly by RA Capital Healthcare Fund, L.P., or RAC Healthcare. The general partner of RA Capital Management, L.P., or RA

Capital, is RA Capital Management GP, LLC, of which Peter Kolchinsky and Rajeev Shah are the controlling persons. RA Capital serves as investment adviser for RAC Healthcare and may be deemed a beneficial owner of the shares directly owned by RA Capital. As managers of RA Capital, Dr. Kolchinsky and Mr. Shah may be deemed beneficial owners of the shares beneficially owned by RA Capital. RAC Healthcare has delegated to RA Capital the sole power to vote and dispose of all securities held by RAC Healthcare and may not revoke that delegation on less than 61 days' notice. RA Capital, Dr. Kolchinsky and Mr. Shah each disclaim beneficial ownership of all shares held by RAC Healthcare. According to the cover page of the Schedule 13G/A, each of RA Capital, Dr. Kolchinsky, Mr. Shah and RAC Healthcare has shared voting and dispositive power over 6,666,837 shares.

- (2) Based on a Schedule 13G/A filed on May 15, 2025 and information know to us. Common Stock consists of (i) 470,291 shares of Common Stock held by 667, L.P. and (ii) 5,134,192 shares of Common Stock held by Baker Brothers Life Sciences, L.P. Common Stock reported in the table above does not include (i) 103,437 shares of Common Stock issuable upon conversion of Convertible Preferred Stock held by 667, L.P. and (ii) 1,146,561 shares of Common Stock issuable upon conversion of Convertible Preferred Stock held by Baker Brothers Life Sciences, L.P. The terms of the Convertible Preferred Stock prohibit the conversion thereof to the extent that, upon such conversion, the number of shares of Common Stock then beneficially owned by the holder and its affiliates would exceed 4.99%. Pursuant to management agreements among Baker Bros. Advisors LP (the "Adviser"), 667, L.P. and Baker Brothers Life Sciences, L.P. (together the "Funds") and their respective general partners, the Funds' respective general partners relinquished to the Adviser all discretion and authority with respect to the investment and voting power of the securities held by the Funds, and thus the Adviser has complete and unlimited discretion and authority with respect to the Funds' investments and voting power over investments. Baker Bros. Advisors (GP) LLC (the "Adviser GP") is the sole general partner of the Adviser. The Adviser GP, Felix J. Baker and Julian C. Baker as managing members of the Adviser GP, and the Adviser may be deemed to be beneficial owners of the common shares directly held by the Funds.
- (3) Based solely on a Schedule 13G/A filed on April 24, 2025. BlackRock, Inc. has sole voting power over 4,304,827 shares and sole dispositive power over 4,364,700 shares.
- (4) Based solely on a Schedule 13G/A filed on February 12, 2026. PRIMECAP Management Company has sole voting and dispositive power over 3,478,669 shares.
- (5) Based on a Schedule 13G/A filed on May 15, 2026. Common Stock consists of (i) 729,165 shares of Common Stock issuable upon conversion of the Convertible Preferred Stock held by Perceptive Capital Solutions Holdings LP (formerly Perceptive Discovery ID LP), over which it has shared voting and dispositive power, and (ii) 2,373,795 shares of Common Stock and 416,666 shares of Common Stock issuable upon conversion of the Convertible Preferred Stock held by Perceptive Life Sciences Master Fund, Ltd, over which it has shared voting and dispositive power. The percentage ownership reflected in the table above is based on the total number of shares of Common Stock outstanding as of May 22, 2026 plus the number of shares of Common Stock issuable upon conversion of the Convertible Preferred Stock held by Perceptive Capital Solutions Holdings LP and Perceptive Life Sciences Master Fund, Ltd. The terms of the Convertible Preferred Stock prohibit the conversion thereof to the extent that, upon such conversion, the number of shares of Common Stock then beneficially owned by the holder and its affiliates would exceed 9.99%. Perceptive Advisors LLC serves as the investment manager to Perceptive Life Sciences Master Fund, Ltd. and may be deemed to beneficially own shares held by Perceptive Life Sciences Master Fund, Ltd. Perceptive Discovery Advisors LP serves as the investment manager to Perceptive Capital Solutions Holdings LP and may be deemed to beneficially own shares held by Perceptive Capital Solutions Holdings LP. Joseph Edelman is the managing member of Perceptive Advisors LLC and may be deemed to beneficially own the shares held by Perceptive Life Sciences Fund, Ltd and Perceptive Capital Solutions Holdings LP. Perceptive Discovery GP LLC is the general partner of Perceptive Capital Solutions Holdings LP, and is managed by Perceptive Discovery Advisors LP, a relying advisor of Perceptive Advisors LLC.
- (6) Based solely on Schedule 13G filed on April 30, 2026. Vanguard Capital Management LLC has sole voting power over 465,124 shares and sole dispositive power over 3,432,949 shares.
- (7) Consists of (i) 239,258 shares of Common Stock and (ii) 2,140,407 shares of Common Stock underlying options that are exercisable within 60 days of May 22, 2026.

- (8) Consists of (i) 119,611 shares of Common Stock and (ii) 493,300 shares of Common Stock underlying options that are exercisable within 60 days of May 22, 2026.
- (9) Consists of (i) 66,030 shares of Common Stock and (ii) 214,875 shares of Common Stock underlying options that are exercisable within 60 days of May 22, 2026.
- (10) Consists of (i) 19,233 shares of Common Stock and (ii) 225,004 shares of Common Stock underlying options that are exercisable within 60 days of May 22, 2026.
- (11) Consists of (i) 7,763 shares of Common Stock, (ii) 40,728 shares of Common Stock underlying options that are exercisable within 60 days of May 22, 2026 and (iii) 4,445 restricted stock units that will vest within 60 days of May 22, 2026.
- (12) Consists of (i) 7,000 shares of Common Stock, (ii) 118,537 shares of Common Stock underlying options that are exercisable within 60 days of May 22, 2026 and (iii) 4,712 restricted stock units that will vest within 60 days of May 22, 2026.
- (13) Consists of (i) 7,000 shares of Common Stock, (ii) 35,037 shares of Common Stock underlying options that are exercisable within 60 days of May 22, 2026 and (iii) 4,712 restricted stock units that will vest within 60 days of May 22, 2026.
- (14) Consists of (i) 7,000 shares of Common Stock, (ii) 113,537 shares of Common Stock underlying options that are exercisable within 60 days of May 22, 2026 and (iii) 4,712 restricted stock units that will vest within 60 days of May 22, 2026.
- (15) Consists of (i) 7,000 shares of Common Stock and (ii) 135,347 shares of Common Stock underlying options that are exercisable within 60 days of May 22, 2026 and (iii) 4,712 restricted stock units that will vest within 60 days of May 22, 2026.
- (16) Consists of (i) 7,000 shares of Common Stock, (ii) 72,037 shares of Common Stock underlying options that are exercisable within 60 days of May 22, 2026 and (iii) 4,712 restricted stock units that will vest within 60 days of May 22, 2026.
- (17) Consists of (i) 535,241 shares of Common Stock, (ii) 3,689,656 shares of Common Stock underlying options that are exercisable with 60 days of May 22, 2026 and (iii) 28,005 restricted stock units that will vest within 60 days of May 22, 2026.