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

Form 144 Filer Information

Form 144

FORM 144

NOTICE OF PROPOSED SALE OF SECURITIES

PURSUANT TO RULE 144 UNDER THE SECURITIES ACT OF 1933

144: Filer Information

Filer CIK 0001636385
Filer CCC XXXXXXXX
Is this a LIVE or TEST Filing? • LIVE • TEST

Submission Contact Information

Name

Phone

E-Mail Address

144: Issuer Information

Name of Issuer RHYTHM PHARMACEUTICALS INC

SEC File Number 001-38223

222 Berkeley Street, 12th Floor

Address of Issuer BOSTON

MASSACHUSETTS

02116

Phone 8572644280

Name of Person for Whose Account the Securities are To Be Sold HUNTER SMITH

See the definition of "person" in paragraph (a) of Rule 144. Information is to be given not only as to the person for whose account the securities are to be sold but also as to all other persons included in that definition. In addition, information shall be given as to sales by all persons whose sales are required by paragraph (e) of Rule 144 to be aggregated with sales for the account of the person filing this notice.

Relationship to Issuer Officer

144: Securities Information

| Title of the Class of Securities To Be Sold | Name and Address of the Broker | Number of Shares or Other Units To Be Sold | Aggregate Market Value | Number of Shares or Other Units Outstanding | Approximate Date of Sale | Securities |
|--|---|---|------------------------------|--|--------------------------|------------|
| COMMON | Morgan Stanley Smith Barney LLC Executive Financial Services 1 New York Plaza 38th Fl. New York NY 10004 | 20000 | 736200.00 | 59096000 | 12/06/2023 | NASDAQ |

Furnish the following information with respect to the acquisition of the securities to be sold and with respect to the payment of all or any part of the purchase price or other consideration therefor:

144: Securities To Be Sold

Title of the Date you Nature of Name of Is Date Amount of Date of Nature of

| Class | Acquired | Acquisition Transaction | Person from Whom Acquired | Donor Acquired | Securities Acquired | Payment | Payment * |
|--------|---|----------------------------|---------------------------------|-------------------|------------------------|--------------|-----------|
| Common | $12/06/2023 \frac{\text{Ez}}{\text{O}}$ | xercise of Stock | Issuer | | 20000 | 12/06/2023 C | ash |

^{*} If the securities were purchased and full payment therefor was not made in cash at the time of purchase, explain in the table or in a note thereto the nature of the consideration given. If the consideration consisted of any note or other obligation, or if payment was made in installments describe the arrangement and state when the note or other obligation was discharged in full or the last installment paid.

Furnish the following information as to all securities of the issuer sold during the past 3 months by the person for whose account the securities are to be sold.

144: Securities Sold During The Past 3 Months

| | Name and Address of Seller | Title of Securities Sold | Date of Sale | Amount of Securities Sold | Gross Proceeds |
|---|---|--------------------------|-----------------|---------------------------------|-----------------------|
| 2 | 0b5-1 Sales for HUNTER C. SMITH 222 Berkeley Street, 12th Floor BOSTON MA 02116 | Common | 12/05/2023 | 7026 | 246359.66 |
| 2 | 0b5-1 Sales for HUNTER C. SMITH 222 Berkeley Street, 12th Floor BOSTON MA 02116 | Common | 11/24/2023 | 10974 | 384335.82 |
| 2 | 0b5-1 Sales for HUNTER C. SMITH 222 Berkeley Street, 12th Floor BOSTON MA 02116 | Common | 11/14/2023 | 12000 | 364573.20 |

144: Remarks and Signature

Remarks

Date of Notice 12/06/2023

Date of Plan Adoption or Giving of Instruction, If Relying on Rule 10b5-1 12/13/2022

ATTENTION:

The person for whose account the securities to which this notice relates are to be sold hereby represents by signing this notice that he does not know any material adverse information in regard to the current and prospective operations of the Issuer of the securities to be sold which has not been publicly disclosed. If such person has adopted a written trading plan or given trading instructions to satisfy Rule 10b5-1 under the Exchange Act, by signing the form and indicating the date that the plan was adopted or the instruction given, that person makes such representation as of the plan adoption or instruction date.

Signature /s/ Hunter Smith

ATTENTION: Intentional misstatements or omission of facts constitute Federal Criminal Violations (See 18 U.S.C. 1001)