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The reader should not assume that the information is accurate and complete.

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

OMB APPROVAL	
OMB Number:	3235-0076
Estimated average burden hours per response:	4.00

Notice of Exempt Offering of Securities

1. Issuer's Identity

CIK (Filer ID Number)

[0001649904](#)

Name of Issuer

[RHYTHM PHARMACEUTICALS, INC.](#)

Jurisdiction of Incorporation/Organization

[DELAWARE](#)

Year of Incorporation/Organization

Over Five Years Ago

Within Last Five Years (Specify Year) [2013](#)

Yet to Be Formed

Previous Names

None

[RHYTHM METABOLIC, INC.](#)

Entity Type

Corporation

Limited Partnership

Limited Liability Company

General Partnership

Business Trust

Other (Specify)

2. Principal Place of Business and Contact Information

Name of Issuer

[RHYTHM PHARMACEUTICALS, INC.](#)

Street Address 1

[500 BOYLSTON STREET](#)

Street Address 2

[11TH FLOOR](#)

City

[BOSTON](#)

State/Province/Country

[MASSACHUSETTS](#)

ZIP/PostalCode

[02116](#)

Phone Number of Issuer

[857-264-4280](#)

3. Related Persons

Last Name

[Gottesdiener](#)

First Name

[Keith](#)

Middle Name

Street Address 1

[500 Boylston Street](#)

Street Address 2

[11th Floor](#)

City

[Boston](#)

State/Province/Country

[MASSACHUSETTS](#)

ZIP/PostalCode

[02116](#)

Relationship: Executive Officer Director Promoter

Clarification of Response (if Necessary):

[Mr. Gottesdiener is the Chief Executive Officer of the Issuer.](#)

Last Name

[Jean](#)

First Name

[Christophe](#)

Middle Name

Street Address 1

[c/o Ipsen BioPharm Ltd](#)

Street Address 2

[190 Bath Road](#)

City

[Slough](#)

State/Province/Country

[UNITED KINGDOM](#)

ZIP/PostalCode

[SL1 3XE](#)

Relationship: Executive Officer Director Promoter

Clarification of Response (if Necessary):

Last Name

[Exter](#)

First Name

[Neil](#)

Middle Name

Street Address 1

Street Address 2

c/o Third Rock Ventures
City 29 Newbury Street
Boston MASSACHUSETTS
ZIP/PostalCode 02116
Relationship: Executive Officer Director Promoter

Clarification of Response (if Necessary):

Last Name First Name Middle Name
Mathers Edward T.
Street Address 1 Street Address 2
c/o New Enterprises Associates 1954 Greenspring Drive, Suite 600
City State/Province/Country ZIP/PostalCode
Timonium MARYLAND 21093
Relationship: Executive Officer Director Promoter

Clarification of Response (if Necessary):

Last Name First Name Middle Name
Foley Todd
Street Address 1 Street Address 2
c/o MPM Capital LLC 450 Kendall Street
City State/Province/Country ZIP/PostalCode
Boston MASSACHUSETTS 02116
Relationship: Executive Officer Director Promoter

Clarification of Response (if Necessary):

Last Name First Name Middle Name
Henderson Bart
Street Address 1 Street Address 2
500 Boylston Street 11th Floor
City State/Province/Country ZIP/PostalCode
Boston MASSACHUSETTS 02116
Relationship: Executive Officer Director Promoter

Clarification of Response (if Necessary):

Mr. Henderson is the President and Treasurer of the Issuer.

Last Name First Name Middle Name
Silverstein Jonathan
Street Address 1 Street Address 2
c/o OrbiMed Private Investments V, LP 601 Lexington Avenue, 54th Floor
City State/Province/Country ZIP/PostalCode
New York NEW YORK 10022
Relationship: Executive Officer Director Promoter

Clarification of Response (if Necessary):

Last Name First Name Middle Name
Meeker, M.D. David P.
Street Address 1 Street Address 2
c/o Genzyme 500 Kendall Street
City State/Province/Country ZIP/PostalCode
Cambridge MASSACHUSETTS 02142
Relationship: Executive Officer Director Promoter

Clarification of Response (if Necessary):

Last Name First Name Middle Name

McGirr
Street Address 1
33 Pheasant Lane
City
Greenwich

David
Street Address 2
State/Province/Country
CONNECTICUT

J.
ZIP/PostalCode
06830

Relationship: Executive Officer Director Promoter

Clarification of Response (if Necessary):

4. Industry Group

- | | | |
|---|---|--|
| <input type="checkbox"/> Agriculture | Health Care | <input type="checkbox"/> Retailing |
| <input type="checkbox"/> Banking & Financial Services | <input type="checkbox"/> Biotechnology | <input type="checkbox"/> Restaurants |
| <input type="checkbox"/> Commercial Banking | <input type="checkbox"/> Health Insurance | Technology |
| <input type="checkbox"/> Insurance | <input type="checkbox"/> Hospitals & Physicians | <input type="checkbox"/> Computers |
| <input type="checkbox"/> Investing | <input checked="" type="checkbox"/> Pharmaceuticals | <input type="checkbox"/> Telecommunications |
| <input type="checkbox"/> Investment Banking | <input type="checkbox"/> Other Health Care | <input type="checkbox"/> Other Technology |
| <input type="checkbox"/> Pooled Investment Fund | <input type="checkbox"/> Manufacturing | Travel |
| Is the issuer registered as an investment company under the Investment Company Act of 1940? | Real Estate | <input type="checkbox"/> Airlines & Airports |
| <input type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> Commercial | <input type="checkbox"/> Lodging & Conventions |
| <input type="checkbox"/> Other Banking & Financial Services | <input type="checkbox"/> Construction | <input type="checkbox"/> Tourism & Travel Services |
| <input type="checkbox"/> Business Services | <input type="checkbox"/> REITS & Finance | <input type="checkbox"/> Other Travel |
| Energy | <input type="checkbox"/> Residential | <input type="checkbox"/> Other |
| <input type="checkbox"/> Coal Mining | <input type="checkbox"/> Other Real Estate | |
| <input type="checkbox"/> Electric Utilities | | |
| <input type="checkbox"/> Energy Conservation | | |
| <input type="checkbox"/> Environmental Services | | |
| <input type="checkbox"/> Oil & Gas | | |
| <input type="checkbox"/> Other Energy | | |

5. Issuer Size

- | Revenue Range | OR | Aggregate Net Asset Value Range |
|---|----|---|
| <input type="checkbox"/> No Revenues | | <input type="checkbox"/> No Aggregate Net Asset Value |
| <input type="checkbox"/> \$1 - \$1,000,000 | | <input type="checkbox"/> \$1 - \$5,000,000 |
| <input type="checkbox"/> \$1,000,001 - \$5,000,000 | | <input type="checkbox"/> \$5,000,001 - \$25,000,000 |
| <input type="checkbox"/> \$5,000,001 - \$25,000,000 | | <input type="checkbox"/> \$25,000,001 - \$50,000,000 |
| <input type="checkbox"/> \$25,000,001 - \$100,000,000 | | <input type="checkbox"/> \$50,000,001 - \$100,000,000 |
| <input type="checkbox"/> Over \$100,000,000 | | <input type="checkbox"/> Over \$100,000,000 |
| <input checked="" type="checkbox"/> Decline to Disclose | | <input type="checkbox"/> Decline to Disclose |
| <input type="checkbox"/> Not Applicable | | <input type="checkbox"/> Not Applicable |

6. Federal Exemption(s) and Exclusion(s) Claimed (select all that apply)

- | | | | | | |
|-------------------------------------|---|--------------------------|-------------------------------------|--------------------------|------------------|
| <input type="checkbox"/> | Rule 504(b)(1) (not (i), (ii) or (iii)) | <input type="checkbox"/> | Investment Company Act Section 3(c) | <input type="checkbox"/> | Section 3(c)(9) |
| <input type="checkbox"/> | Rule 504 (b)(1)(i) | <input type="checkbox"/> | Section 3(c)(1) | <input type="checkbox"/> | Section 3(c)(10) |
| <input type="checkbox"/> | Rule 504 (b)(1)(ii) | <input type="checkbox"/> | Section 3(c)(2) | <input type="checkbox"/> | Section 3(c)(11) |
| <input type="checkbox"/> | Rule 504 (b)(1)(iii) | <input type="checkbox"/> | Section 3(c)(3) | <input type="checkbox"/> | Section 3(c)(12) |
| <input type="checkbox"/> | Rule 505 | <input type="checkbox"/> | Section 3(c)(4) | <input type="checkbox"/> | Section 3(c)(13) |
| <input checked="" type="checkbox"/> | Rule 506(b) | <input type="checkbox"/> | Section 3(c)(5) | <input type="checkbox"/> | Section 3(c)(14) |
| <input type="checkbox"/> | Rule 506(c) | <input type="checkbox"/> | Section 3(c)(6) | <input type="checkbox"/> | Section 3(c)(7) |
| <input type="checkbox"/> | Securities Act Section 4(a)(5) | <input type="checkbox"/> | Section 3(c)(7) | | |

7. Type of Filing

- New Notice Date of First Sale 2017-01-06 First Sale Yet to Occur
 Amendment

8. Duration of Offering

Does the Issuer intend this offering to last more than one year? Yes No

9. Type(s) of Securities Offered (select all that apply)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Equity | <input type="checkbox"/> Pooled Investment Fund Interests |
| <input type="checkbox"/> Debt | <input type="checkbox"/> Tenant-in-Common Securities |
| <input type="checkbox"/> Option, Warrant or Other Right to Acquire Another Security | <input type="checkbox"/> Mineral Property Securities |
| <input type="checkbox"/> Security to be Acquired Upon Exercise of Option, Warrant or Other Right to Acquire Security | <input checked="" type="checkbox"/> Other (describe)
Series A Preferred Stock |

10. Business Combination Transaction

Is this offering being made in connection with a business combination transaction, such as a merger, acquisition or exchange offer? Yes No

Clarification of Response (if Necessary):

11. Minimum Investment

Minimum investment accepted from any outside investor \$0 USD

12. Sales Compensation

Recipient	Recipient CRD Number <input checked="" type="checkbox"/> None
(Associated) Broker or Dealer <input checked="" type="checkbox"/> None	(Associated) Broker or Dealer CRD Number <input checked="" type="checkbox"/> None
Street Address 1	Street Address 2
City	State/Province/Country
State(s) of Solicitation (select all that apply) Check "All States" or check individual States <input type="checkbox"/> All States	ZIP/Postal Code
<input type="checkbox"/> Foreign/non-US	

13. Offering and Sales Amounts

Total Offering Amount \$40,949,999 USD or Indefinite
Total Amount Sold \$20,475,001 USD
Total Remaining to be Sold \$20,474,998 USD or Indefinite

Clarification of Response (if Necessary):

14. Investors

Select if securities in the offering have been or may be sold to persons who do not qualify as accredited investors, and enter the number of such non-accredited investors who already have invested in the offering.

Regardless of whether securities in the offering have been or may be sold to persons who do not qualify as accredited investors, enter the total number of investors who already have invested in the offering:

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15. Sales Commissions & Finder's Fees Expenses

Provide separately the amounts of sales commissions and finders fees expenses, if any. If the amount of an expenditure is not known, provide an estimate and check the box next to the amount.

Sales Commissions \$0 USD Estimate

Finders' Fees \$0 USD Estimate

Clarification of Response (if Necessary):

16. Use of Proceeds

Provide the amount of the gross proceeds of the offering that has been or is proposed to be used for payments to any of the persons required to be named as executive officers, directors or promoters in response to Item 3 above. If the amount is unknown, provide an estimate and check the box next to the amount.

\$0 USD Estimate

Clarification of Response (if Necessary):

Signature and Submission

Please verify the information you have entered and review the Terms of Submission below before signing and clicking SUBMIT below to file this notice.

Terms of Submission

In submitting this notice, each issuer named above is:

- Notifying the SEC and/or each State in which this notice is filed of the offering of securities described and undertaking to furnish them, upon written request, in the accordance with applicable law, the information furnished to offerees.*
- Irrevocably appointing each of the Secretary of the SEC and, the Securities Administrator or other legally designated officer of the State in which the issuer maintains its principal place of business and any State in which this notice is filed, as its agents for service of process, and agreeing that these persons may accept service on its behalf, of any notice, process or pleading, and further agreeing that such service may be made by registered or certified mail, in any Federal or state action, administrative proceeding, or arbitration brought against it in any place subject to the jurisdiction of the United States, if the action, proceeding or arbitration (a) arises out of any activity in connection with the offering of securities that is the subject of this notice, and (b) is founded, directly or indirectly, upon the provisions of: (i) the Securities Act of 1933, the Securities Exchange Act of 1934, the Trust Indenture Act of 1939, the Investment Company Act of 1940, or the Investment Advisers Act of 1940, or any rule or regulation under any of these statutes, or (ii) the laws of the State in which the issuer maintains its principal place of business or any State in which this notice is filed.
- Certifying that, if the issuer is claiming a Regulation D exemption for the offering, the issuer is not disqualified from relying on Regulation D for one of the reasons stated in Rule 505(b)(2)(iii) or Rule 506(d).

Each Issuer identified above has read this notice, knows the contents to be true, and has duly caused this notice to be signed on its behalf by the undersigned duly authorized person.

For signature, type in the signer's name or other letters or characters adopted or authorized as the signer's signature.

Issuer	Signature	Name of Signer	Title	Date
RHYTHM PHARMACEUTICALS, INC.	/s/ Bart Henderson	Bart Henderson	President of the Issuer	2017-01-19

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.

* This undertaking does not affect any limits Section 102(a) of the National Securities Markets Improvement Act of 1996 ("NSMIA") [Pub. L. No. 104-290, 110 Stat. 3416 (Oct. 11, 1996)] imposes on the ability of States to require information. As a result, if the securities that are the subject of this Form D are "covered securities" for purposes of NSMIA, whether in all instances or due to the nature of the offering that is the subject of this Form D, States cannot routinely require offering materials under this undertaking or otherwise and can require offering materials only to the extent NSMIA permits them to do so under NSMIA's preservation of their anti-fraud authority.