

INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES

OMB APPROVAL	
OMB Number:	3235-0104
Estimated average burden hours per response:	0.5

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

1. Name and Address of Reporting Person* <u>NEW ENTERPRISE ASSOCIATES 13 LP</u> (Last) (First) (Middle) <u>1954 GREENSPRING DRIVE</u> <u>SUITE 600</u> (Street) <u>TIMONIUM MD 21093</u> (City) (State) (Zip)	2. Date of Event Requiring Statement (Month/Day/Year) <u>10/04/2017</u>	3. Issuer Name and Ticker or Trading Symbol <u>RHYTHM PHARMACEUTICALS, INC. [RYTM]</u>	
		4. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director <input checked="" type="checkbox"/> 10% Owner Officer (give title below) Other (specify below)	5. If Amendment, Date of Original Filed (Month/Day/Year) 6. Individual or Joint/Group Filing (Check Applicable Line) Form filed by One Reporting Person <input checked="" type="checkbox"/> Form filed by More than One Reporting Person

Table I - Non-Derivative Securities Beneficially Owned

1. Title of Security (Instr. 4)	2. Amount of Securities Beneficially Owned (Instr. 4)	3. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	4. Nature of Indirect Beneficial Ownership (Instr. 5)
Common Stock	29,378 ⁽¹⁾	D ⁽²⁾	

Table II - Derivative Securities Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 4)	2. Date Exercisable and Expiration Date (Month/Day/Year)		3. Title and Amount of Securities Underlying Derivative Security (Instr. 4)	4. Conversion or Exercise Price of Derivative Security	5. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	6. Nature of Indirect Beneficial Ownership (Instr. 5)
	Date Exercisable	Expiration Date				
Series A Preferred Stock	(3)	(3)	Common Stock 1,402,870	(3)	D ⁽²⁾	
Series A-1 Junior Preferred Stock	(3)	(3)	Common Stock 2,927,708	(3)	D ⁽²⁾	

1. Name and Address of Reporting Person*
NEW ENTERPRISE ASSOCIATES 13 LP
 (Last) (First) (Middle)
1954 GREENSPRING DRIVE
SUITE 600
 (Street)
TIMONIUM MD 21093
 (City) (State) (Zip)

1. Name and Address of Reporting Person*
NEA Partners 13, Limited Partnership
 (Last) (First) (Middle)
1954 GREENSPRING DRIVE
SUITE 600
 (Street)
TIMONIUM MD 21093
 (City) (State) (Zip)

1. Name and Address of Reporting Person*
NEA 13 GP, Ltd
 (Last) (First) (Middle)
1954 GREENSPRING DRIVE
SUITE 600

(Street)		
TIMONIUM	MD	21093
(City)	(State)	(Zip)

Explanation of Responses:

1. Reflects a 1-for-9.17 reverse split effective as of September 29, 2017.
2. The securities are directly held by New Enterprise Associates 13, L.P. ("NEA 13") and are indirectly held by NEA Partners 13, L.P. ("NEA Partners 13"), the sole general partner of NEA 13, NEA 13 GP, LTD ("NEA 13 LTD"), the sole general partner of NEA Partners 13 and each of the individual directors of NEA 13 LTD (NEA Partners 13, NEA 13 LTD and the individual directors of NEA 13 LTD (collectively, the "Directors") together, the "Indirect Reporting Persons"). The Directors of NEA 13 LTD are M. James Barrett, Peter J. Barris, Forest Baskett, Patrick J. Kerins, David M. Mott, Scott D. Sandell and Ravi Viswanathan. The Indirect Reporting Persons disclaim beneficial ownership within the meaning of Section 16 of the Securities Exchange Act of 1934, as amended, or otherwise of such portion of the NEA 13 securities in which the Indirect Reporting Persons have no pecuniary interest.
3. Each share of Series A Convertible Preferred Stock and Series A-1 Junior Preferred Stock is convertible, at any time, at the holder's election, into Common Stock of the Issuer on a 9.17-for-one basis. In addition, effective upon the closing of the Issuer's initial public offering of its Common Stock, each share of preferred stock will automatically convert on a 9.17-for-one basis without payment of consideration. The preferred stock has no expiration date.

Remarks:

/s/ Sasha Keough, attorney-in-
fact 10/04/2017

** Signature of Reporting Person Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

* If the form is filed by more than one reporting person, see Instruction 5 (b)(v).

** Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

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.