

OMB APPROVAL	
OMB Number:	3235-0287
Estimated average burden hours per response:	0.5

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

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

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

1. Name and Address of Reporting Person* <u>Mazabraud Yann</u> (Last) (First) (Middle) 222 BERKELEY STREET, 12TH FLOOR (Street) BOSTON MA 02116 (City) (State) (Zip)	2. Issuer Name and Ticker or Trading Symbol <u>RHYTHM PHARMACEUTICALS, INC. [RYTM]</u>	5. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director 10% Owner <input checked="" type="checkbox"/> Officer (give title below) Other (specify below) <u>EVP, Head of International</u>
	3. Date of Earliest Transaction (Month/Day/Year) 04/14/2024	
4. If Amendment, Date of Original Filed (Month/Day/Year)		
Rule 10b5-1(c) Transaction Indication <input type="checkbox"/> Check this box to indicate that a transaction was made pursuant to a contract, instruction or written plan that is intended to satisfy the affirmative defense conditions of Rule 10b5-1(c). See Instruction 10.		

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)		4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5)			5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)	Price			
Common Stock	04/14/2024		M		10,375	D	(1)	34,870	D	

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

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)		5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)		6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4)		8. Price of Derivative Security (Instr. 5)	9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4)	10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)
				Code	V	(A)	(D)	Date Exercisable	Expiration Date	Title	Amount or Number of Shares				
Restricted Stock Units	(1)	04/14/2024		M			10,375	(2)	(2)	Common Stock	10,375	\$0	31,125	D	
Restricted Stock Units	(1)	04/15/2024		D ⁽³⁾			2,031	(4)	(4)	Common Stock	2,031	\$0	0	D	
Restricted Stock Units	(1)	04/15/2024		D ⁽⁵⁾			6,874	(6)	(6)	Common Stock	6,874	\$0	0	D	
Restricted Stock Units	(1)	04/15/2024		A			8,905	(7)	(7)	Common Stock	8,905	\$0	8,905	D	
Restricted Stock Units	(1)	04/15/2024		A			10,000	(8)	(8)	Common Stock	10,000	\$0	10,000	D	

Explanation of Responses:

- Each restricted stock unit represents a contingent right to receive one share of Issuer common stock.
- The restricted stock units vest or have vested as to 25% of the total shares on each of April 14, 2024, April 14, 2025, April 14, 2026 and April 14, 2027. The restricted stock units have no expiration date.
- The restricted stock units were rescinded and cancelled by mutual agreement of the reporting person and Issuer. The reporting person received French-qualified restricted stock units on April 15, 2024 as consideration for the rescission and cancellation of the unvested portion of the restricted stock previously received on February 11, 2021.
- The restricted stock units vest or have vested as to 25% of the total shares on each of February 11, 2022, February 11, 2023, February 11, 2024 and February 11, 2025. The restricted stock units have no expiration date.
- The restricted stock units were rescinded and cancelled by mutual agreement of the reporting person and Issuer. The reporting person received French-qualified restricted stock units on April 15, 2024 as consideration for the rescission and cancellation of the unvested portion of the restricted stock previously received on February 9, 2022.
- The restricted stock units vest or have vested as to 25% of the total shares on each of February 9, 2023, February 9, 2024, February 9, 2025 and February 9, 2026. The restricted stock units have no expiration date.
- The restricted stock units vest in full on April 15, 2025. The restricted stock units have no expiration date.
- The restricted stock units vest or have vested as to 25% of the total shares on each of April 15, 2025, April 15, 2026, April 15, 2027 and April 15, 2028. The restricted stock units have no expiration date.

/s/ Hunter Smith, attorney-in-fact for Yann Mazabraud 04/16/2024

** 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 4 (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.