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

**SCHEDULE 13D**

Under the Securities Exchange Act of 1934

**(Amendment No. 5)\***

**Neuphoria Therapeutics Inc.**

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**(Name of Issuer)**

**Common Stock, par value \$0.00001 per share**

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**(Title of Class of Securities)**

**64136E102**

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**(CUSIP Number)**

**Lynx1 Capital Management LP  
D81 Calle C, STE 301, PMB 1202  
Dorado, PR, 00646-2051  
929-888-7476**

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**(Name, Address and Telephone Number of Person Authorized to Receive Notices and Communications)**

**12/26/2025**

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**(Date of Event Which Requires Filing of This Statement)**

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of §§ 240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

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**SCHEDULE 13D**

**CUSIP No. 64136E102**

Name of reporting person

1

Lynx1 Capital Management LP

2

Check the appropriate box if a member of a Group (See Instructions)

(a)

(b)

3 SEC use only  
Source of funds (See Instructions)

4 AF  
Check if disclosure of legal proceedings is required pursuant to Items 2(d) or 2(e)

5   
Citizenship or place of organization

6 DELAWARE  
Sole Voting Power

7 0.00  
Number of Shares Beneficially Owned by Each Reporting Person With:

8 875,328.00  
Shared Voting Power  
Sole Dispositive Power

9 0.00  
Shared Dispositive Power

10 875,328.00  
Aggregate amount beneficially owned by each reporting person

11 875,328.00  
Check if the aggregate amount in Row (11) excludes certain shares (See Instructions)

12   
Percent of class represented by amount in Row (11)

13 16.3 %  
Type of Reporting Person (See Instructions)

14 PN

**Comment for Type of Reporting Person:** The percentage of Common Stock reported as beneficially owned by the Reporting Person is based on 5,377,329 shares of Common Stock outstanding as of November 13, 2025, as reported in the Company's quarterly report on Form 10-Q for the quarterly period ended September 30, 2025, filed with the SEC on November 14, 2025.

## SCHEDULE 13D

**CUSIP No.** 64136E102

1 Name of reporting person  
Weston Nichols  
Check the appropriate box if a member of a Group (See Instructions)

2  (a)  
 (b)

3 SEC use only  
Source of funds (See Instructions)

4 AF  
Check if disclosure of legal proceedings is required pursuant to Items 2(d) or 2(e)

5

6 Citizenship or place of organization

UNITED STATES

Sole Voting Power

7

Number of  
Shares

0.00

Shared Voting Power

Beneficially

8

Owned by

875,328.00

Each

Sole Dispositive Power

Reporting

9

Person

0.00

With:

Shared Dispositive Power

10

875,328.00

Aggregate amount beneficially owned by each reporting person

11

875,328.00

Check if the aggregate amount in Row (11) excludes certain shares (See Instructions)

12



Percent of class represented by amount in Row (11)

13

16.3 %

Type of Reporting Person (See Instructions)

14

IN

**Comment for Type of Reporting Person:** The percentage of Common Stock reported as beneficially owned by the Reporting Person is based on 5,377,329 shares of Common Stock outstanding as of November 13, 2025, as reported in the Company's quarterly report on Form 10-Q for the quarterly period ended September 30, 2025, filed with the SEC on November 14, 2025.

## SCHEDULE 13D

Item 1. Security and Issuer

Title of Class of Securities:

(a)

Common Stock, par value \$0.00001 per share

Name of Issuer:

(b)

Neuphoria Therapeutics Inc.

Address of Issuer's Principal Executive Offices:

(c)

100 SUMMIT DR, BURLINGTON, MASSACHUSETTS , 01803.

**Item 1 Comment:** Pursuant to Rule 13d-2(a) under the Securities Exchange Act of 1934, as amended, this Amendment No. 5 to the Schedule 13D ("Amendment No. 5") amends certain items of the Schedule 13D filed with the Securities and Exchange Commission (the "SEC") on October 23, 2025 (the "Original Schedule 13D"), as amended and supplemented by Amendment No. 1 filed with the SEC on November 10, 2025, Amendment No. 2 filed with the SEC on November 18, 2025, Amendment No. 3 filed with the SEC on November 28, 2025, and Amendment No. 4 filed with the SEC on December 2, 2025 (collectively, the "Schedule 13D"), relating to the Common Stock, par value \$0.00001 per share (the "Common Stock"), of Neuphoria Therapeutics Inc. (the "Issuer" or the "Company"). All capitalized terms contained herein but not otherwise defined shall have the meanings ascribed to such terms in the Schedule 13D. Except as specifically provided herein, this Amendment No. 5 does not modify any of the information previously reported in the Schedule 13D.

Item 4. Purpose of Transaction

Item 4 of the Schedule 13D is hereby amended and supplemented as follows: On December 26, 2025, the Reporting Persons made an offer to the Board to acquire, through one or more managed investment funds and vehicles affiliated with the Investment Manager, certain intellectual-property-related assets of the Company in an all-cash transaction, or if the Company prefers, through the delivery by the Reporting Persons to the Company of shares of Common Stock of the Company with equivalent value (the "IP Rights Proposal"). The IP Rights Proposal is subject to the Reporting Persons' due diligence and agreement on definitive documentation for the acquisition. Neither the Reporting Persons

nor the Company is obligated to complete a transaction in connection with the IP Rights Proposal, and there can be no assurance (i) as to the outcome of any discussions related to the IP Rights Proposal; (ii) that any agreement will be reached between the Company and the Reporting Persons; (iii) that the terms of any transaction will not differ from the terms contemplated by the IP Rights Proposal; or (iv) that the Reporting Persons will not from time to time make offers for other assets of the Company. The IP Rights Proposal may result in one or more of the actions specified in clauses (a)-(j) of Item 4 of Schedule 13D, including the disposition of securities of the Company and/or a sale or transfer of a material amount of the Company's assets. The Reporting Persons may further consider pursuing other plans, proposals or other courses of action with the Company's management, the Board, other Company stockholders, advisors or other persons which could relate to, or result in, several of the matters referred to in clauses (a)-(j) of Item 4 of Schedule 13D.

#### SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Lynx1 Capital Management LP

Signature: /s/ Weston Nichols

Name/Title: By: Lynx1 Capital Management GP LLC, General Partner, By: Weston Nichols, Sole Member

Date: 12/29/2025

Weston Nichols

Signature: /s/ Weston Nichols

Name/Title: Weston Nichols, individually

Date: 12/29/2025