
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 13D

Under the Securities Exchange Act of 1934

Neuphoria Therapeutics Inc.

(Name of Issuer)

Common Stock, par value \$0.00001 per share

(Title of Class of Securities)

64136E102

(CUSIP Number)

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

**Ele Klein & Adriana Schwartz
McDermott Will & Schulte LLP, 919 Third Avenue
New York, NY, 10022
212-756-2000**

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

10/21/2025

(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).

SCHEDULE 13D

CUSIP No. 64136E102

Lynx1 Capital Management LP

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

Citizenship or place of organization

6

DELAWARE

Sole Voting Power

7

0.00

Number of
Shares

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

37.1 %

Type of Reporting Person (See Instructions)

14

PN

SCHEDULE 13D

CUSIP No. 64136E102

Name of reporting person

1

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

Citizenship or place of organization

6

UNITED STATES

| | |
|--|--|
| | Sole Voting Power |
| 7 | |
| Number of Shares Beneficially Owned by Each Reporting Person | 0.00 |
| | Shared Voting Power |
| 8 | |
| | 875,328.00 |
| | Sole Dispositive Power |
| 9 | |
| With: | 0.00 |
| | Shared Dispositive Power |
| 10 | |
| | 875,328.00 |
| 11 | Aggregate amount beneficially owned by each reporting person |
| | 875,328.00 |
| 12 | Check if the aggregate amount in Row (11) excludes certain shares (See Instructions) |
| | <input type="checkbox"/> |
| 13 | Percent of class represented by amount in Row (11) |
| | 37.1 % |
| 14 | Type of Reporting Person (See Instructions) |
| | IN |

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 2. Identity and Background

(i) Lynx1 Capital Management LP (the "Investment Manager"), a Delaware limited partnership, and the investment manager to Lynx1 Master Fund LP (the "Lynx1 Fund"), with respect to the shares of common stock, par value \$0.00001 per share ("Common Stock") of Neuphoria Therapeutics Inc., a Delaware corporation (the "Company"), directly held by the Lynx1 Fund; and (ii) Mr. Weston Nichols ("Mr. Nichols"), the sole member of Lynx1 Capital Management GP LLC (the "GP"), the general partner of the Investment Manager, with respect to the shares of Common Stock directly held by the Lynx1 Fund. The foregoing persons are hereinafter sometimes collectively referred to as the "Reporting Persons." The filing of this statement should not be construed as an admission that any of the foregoing persons or any Reporting Person is, for the purposes of Section 13 of the Securities Exchange Act of 1934, the beneficial owner of the securities reported herein.

(b) The principal business address of each of the Reporting Persons and the GP is D81 Calle C, STE 301, PMB 1202, Dorado, P.R., 00646-2051.

(c) The principal business of the Investment Manager is to serve as investment manager to the Lynx1 Fund. The principal business of the GP is to serve as the general partner of the Investment Manager. The principal occupation of Mr. Nichols is to serve as Chief Investment Officer of the Investment Manager.

(d) None of the Reporting Persons or the GP have, during the last five years, been convicted in a criminal proceeding (excluding traffic violations or similar misdemeanors).

(e) None of the Reporting Persons or the GP have, during the past five years, been party to a civil proceeding of a judicial or administrative body of competent jurisdiction and, as a result of such proceedings, were or are subject to a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or violation with respect to such laws.

(f) Each of the Investment Manager and the GP is a Delaware limited partnership. Mr. Nichols is a United States citizen.

Item 3. Source and Amount of Funds or Other Consideration

Funds for the purchase of the securities reported herein were derived from the general working capital of the Lynx1 Fund. A total of approximately \$4,524,327 was paid to acquire such securities. Positions in the shares of Common Stock may be held in margin accounts. Because other securities may be held in such margin accounts, it may not be possible to determine the amounts, if any, of margin used to purchase the shares of Common Stock.

Item 4. Purpose of Transaction

The Reporting Persons acquired the securities reported herein because they believe the securities are undervalued and represent an attractive investment opportunity. The Reporting Persons may communicate with the Company's management and board of directors (the "Board") about, and may enter into negotiations and agreements with them regarding, among other things, the Company's operations, management, Board composition, ownership, capital or corporate structure, sale transactions, dividend and buyback policies, strategy and plans, including any transactions involving the Company or certain of the Company's businesses or assets, including transactions in which the Reporting Persons may seek to participate and potentially engage in, and may communicate with other shareholders or third parties, regarding the Company and the foregoing, and the exploration and/or development of plans and/or proposals (whether preliminary or final) with respect to the foregoing. The Reporting Persons may exchange information with any such persons pursuant to appropriate confidentiality or similar agreements. The Reporting Persons may change its intentions with respect to any and all matters referred to in this Item 4. The Reporting Persons may also take steps to explore and prepare for various plans and actions, and propose transactions, before forming an intention to engage in such plans or actions or proceed with such transactions. The Reporting Persons intend to review their investment in the Company on a continuing basis and depending upon various factors, including without limitation, the Company's financial position and strategic direction, the outcome of any discussions referenced above, overall market conditions, other investment opportunities available to the Reporting Persons, and the availability of securities of the Company at prices that would make the purchase or sale of such securities desirable, the Reporting Persons may endeavor (i) to increase or decrease their position in the Company through, among other things, the purchase or sale of securities of the Company, including through transactions involving shares of Common Stock and/or other equity, debt, notes, other securities, or derivative or other instruments that are based upon or relate to the value of securities of the Company in the open market or in private transactions, on such terms and at such times as the Reporting Persons may deem advisable and/or (ii) to enter into transactions that increase or decrease their economic exposure to the shares of Common Stock without affecting their beneficial ownership of the shares of Common Stock or adjust their exposure to the shares of Common Stock in ways that would affect their beneficial ownership of the shares of Common Stock. In addition, the Reporting Persons may, at any time and from time to time, (i) review or reconsider their position and/or change their purpose and/or formulate plans or proposals with respect thereto and (ii) consider or propose one or more of the actions described in subparagraphs (a) - (j) of Item 4 of Schedule 13D.

Item 5. Interest in Securities of the Issuer

See rows (11) and (13) of the cover pages to this Schedule 13D for the aggregate number of shares of Common Stock and percentages of shares of Common Stock beneficially owned by the Reporting Persons. The aggregate percentage of shares of Common Stock reported to be beneficially owned by the Reporting Persons is based upon 2,357,613 shares of Common Stock outstanding as of September 29, 2025, as reported in the Company's Annual Report on Form 10-K for the fiscal ended June 30, 2025, filed with the Securities and Exchange Commission (the "SEC") on September 29, 2025.

(a)

See rows (7) through (10) of the cover page to this Schedule 13D for the number of shares of Common Stock as to which the Reporting Persons have the sole or shared power to vote or direct the vote and sole or shared power to dispose or to direct the disposition.

(b)

(c)

All transactions in the shares of Common Stock effected by the Reporting Persons during the past sixty (60) days, which were all in the open market, are set forth in Schedule A, and are incorporated herein by reference.

(d)

No person other than the Reporting Persons and the Lynx1 Fund are known to have the right to receive, or the power to direct the receipt of dividends from, or proceeds from the sale of, the shares of Common Stock held by the Lynx1 Fund.

(e)

Not applicable.

Item 6. Contracts, Arrangements, Understandings or Relationships With Respect to Securities of the Issuer

Except as set forth herein, there are no contracts, arrangements, understandings or relationships (legal or otherwise) among the persons named in Item 2 hereof and between such persons and any person with respect to any securities of the Company, including any class of the Company's securities used as a reference security, in connection with any of the following: call options, put options, security-based swaps or any other derivative securities, transfer or voting of any of the securities, finder's fees, joint ventures, loan or option arrangements, guarantees of profits, division of profits or loss, or the giving or withholding of proxies.

Item 7. Material to be Filed as Exhibits.

Exhibit 99.1: Joint Filing Agreement, dated October 23, 2025.

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: 10/23/2025

Weston Nichols

Signature: /s/ Weston Nichols

Name/Title: Weston Nichols, individually

Date: 10/23/2025

**TRANSACTIONS OF THE COMPANY
DURING THE PAST SIXTY (60) DAYS**

The following table sets forth all transactions in the shares of Common Stock during the past sixty (60) days by the Reporting Persons. All such transactions were effected in the open market through brokers and the price per share excludes commissions. The shares of Common Stock were purchased or sold in multiple transactions at prices indicated in the column Price Per Share (\$). Where a price range is provided in the column Price Range (\$), the price reported in that row's Price Per Share (\$) column is a weighted average price. The shares of Common Stock were purchased or sold in multiple transactions at prices between the price ranges indicated in the Price Range (\$) column. The Reporting Persons will undertake to provide to the staff of the SEC, upon request, full information regarding the number of shares of Common Stock purchased or sold at each separate price.

| <u>Trade Date</u> | <u>Shares Purchased (Sold)</u> | <u>Price per Share (\$)</u> | <u>Price Range (\$)</u> |
|-------------------|--------------------------------|-----------------------------|-------------------------|
| 08/27/2025 | (1,926) | 10.6700 | |
| 09/17/2025 | (1,000) | 11.0570 | 11.0000 - 11.0700 |
| 09/18/2025 | (900) | 10.6322 | 10.5000 - 10.9000 |
| 09/19/2025 | (7,950) | 10.1517 | 10.1000 - 10.2500 |
| 09/22/2025 | (1,841) | 10.1978 | 10.1000 - 10.2250 |
| 09/23/2025 | (20,511) | 10.8079 | 10.4000 - 11.3850 |
| 09/23/2025 | (6,335) | 11.5486 | 11.4000 - 12.0100 |
| 09/24/2025 | (3,363) | 11.1836 | 11.0000 - 11.6800 |
| 10/20/2025 | 3,366 | 4.9500 | |
| 10/21/2025 | 869,982 | 5.0883 | 4.7900 – 5.2000 |

Joint Filing Agreement, dated October 23, 2025

PURSUANT TO RULE 13d-1(k)

The undersigned acknowledge and agree that the foregoing statement on Schedule 13D is filed on behalf of each of the undersigned and that all subsequent amendments to such statement on Schedule 13D may be filed on behalf of each of the undersigned without the necessity of filing additional joint filing agreements. The undersigned acknowledge that each shall be responsible for the timely filing of such amendments, and for the completeness and accuracy of the information concerning him or it contained herein and therein, but shall not be responsible for the completeness and accuracy of the information concerning the other except to the extent that he or it knows that such information is inaccurate.

DATE: October 23, 2025

LYNX1 CAPITAL MANAGEMENT LP

By: Lynx1 Capital Management GP LLC, its general partner

By: /s/ Weston Nichols

Name: Weston Nichols

Title: Sole Member

/s/ Weston Nichols

WESTON NICHOLS