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**SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

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**SCHEDULE 13D/A**

Under the Securities Exchange Act of 1934  
(Amendment No. 2)\*

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**Lyra Therapeutics, Inc.**

(Name of Issuer)

**Common Stock, \$0.001 par value**  
(Title of Class of Securities)

**55234L 105**  
(CUSIP Number)

**Alexander Rakitin**  
**Perceptive Advisors LLC**  
**51 Astor Place, 10<sup>th</sup> Floor**  
**New York, NY 10003**  
**(646) 205-5340**  
(Name, Address and Telephone Number of Person  
Authorized to Receive Notices and Communications)

**May 31, 2023**  
(Date of Event Which Requires Filing of this Statement)

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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.

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**Note:** Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See Section 240.13d-7 for other parties to whom copies are to be sent.

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\* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

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, as amended ("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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CUSIP No. 55234L 105

1.	Names of Reporting Persons. Perceptive Advisors LLC	
2.	Check the Appropriate Box if a Member of a Group (See Instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3.	SEC Use Only	
4.	Source of Funds (See Instructions) AF	
5.	Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e) <input type="checkbox"/>	
6.	Citizenship or Place of Organization Delaware	
Number of Shares Beneficially Owned by Each Reporting Person With	7.	Sole Voting Power 0
	8.	Shared Voting Power 12,757,563
	9.	Sole Dispositive Power 0
	10.	Shared Dispositive Power 12,757,563
11.	Aggregate Amount Beneficially Owned by Each Reporting Person 12,757,563	
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) 25.8%	
14.	Type of Reporting Person (See Instructions) IA	

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CUSIP No. 55234L 105

1.	Names of Reporting Persons.  Joseph Edelman	
2.	Check the Appropriate Box if a Member of a Group (See Instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3.	SEC Use Only	
4.	Source of Funds (See Instructions)  AF	
5.	Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e)  <input type="checkbox"/>	
6.	Citizenship or Place of Organization  United States of America	
Number of Shares Beneficially Owned by Each Reporting Person With	7.	Sole Voting Power  0
	8.	Shared Voting Power  12,757,563
	9.	Sole Dispositive Power  0
	10.	Shared Dispositive Power  12,757,563
11.	Aggregate Amount Beneficially Owned by Each Reporting Person  12,757,563	
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)  25.8%	
14.	Type of Reporting Person (See Instructions)  IN	

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CUSIP No. 55234L 105

1.	Names of Reporting Persons. Perceptive Life Sciences Master Fund, Ltd.
2.	Check the Appropriate Box if a Member of a Group (See Instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>
3.	SEC Use Only
4.	Source of Funds (See Instructions) WC
5.	Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e) <input type="checkbox"/>
6.	Citizenship or Place of Organization Cayman Islands
Number of Shares Beneficially Owned by Each Reporting Person With	7. Sole Voting Power 0
	8. Shared Voting Power 11,469,117
	9. Sole Dispositive Power 0
	10. Shared Dispositive Power 11,469,117
11.	Aggregate Amount Beneficially Owned by Each Reporting Person 11,469,117
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) 23.2%
14.	Type of Reporting Person (See Instructions) CO

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CUSIP No. 55234L 105

1.	Names of Reporting Persons. Perceptive LS (A), LLC	
2.	Check the Appropriate Box if a Member of a Group (See Instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3.	SEC Use Only	
4.	Source of Funds (See Instructions) WC	
5.	Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e) <input type="checkbox"/>	
6.	Citizenship or Place of Organization Cayman Islands	
Number of Shares Beneficially Owned by Each Reporting Person With	7.	Sole Voting Power 0
	8.	Shared Voting Power 1,288,446
	9.	Sole Dispositive Power 0
	10.	Shared Dispositive Power 1,288,446
11.	Aggregate Amount Beneficially Owned by Each Reporting Person 1,288,446	
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) 2.6%	
14.	Type of Reporting Person (See Instructions) CO	

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### **Item 3. Source and Amount of Funds or Other Consideration**

Item 3 of the Schedule 13D is amended and supplemented as follows:

The source of the funds used to acquire the securities reported in Item 5(c) hereto was the working capital of the Master Fund.

### **Item 4. Purpose of Transaction**

Item 4 of the Schedule 13D is amended and supplemented as follows:

The information set forth in Item 6 of this Amendment No. 2 to Schedule 13D is incorporated by reference herein.

### **Item 5. Interest in Securities of the Issuer**

Item 5 of the Schedule 13D is amended and supplemented as follows:

- (a) The information set forth in rows 11 and 13 of the cover pages to this Schedule 13D is incorporated by reference. The percentage set forth in row 13 is based on (i) 31,836,815 outstanding shares of Common Stock as of May 1, 2023 as reported by the Issuer in its Form 10-Q filed with the Securities and Exchange Commission (the "SEC") on May 12, 2023, and (ii) 17,652,962 shares of Common Stock issued by the Issuer in the Private Placement (as defined below), as reported by the Issuer in its Form 8-K filed with the SEC on May 31, 2023.
- (b) The information set forth in rows 7 through 10 of the cover pages to this Schedule 13D is incorporated by reference.
- (c) Pursuant to the Securities Purchase Agreement (as defined below) relating to the sale by the Issuer of securities in the Private Placement (as defined below), on May 31, 2023 the Master Fund acquired 3,610,832 units consisting of 3,610,832 shares of Common Stock and 1,805,416 shares of Common Stock underlying Warrants (as defined below) at a purchase price of \$2.4925 per unit for an aggregate purchase price of approximately \$8,999,999 (the "Units"). Each of the Units is comprised of (i) one share of Common Stock and (ii) one common stock purchase warrant exercisable for one-half of one whole share of Common stock at an exercise price of \$2.673 (the "Warrants").

### **Item 6. Contracts, Arrangements, Understandings or Relationships with Respect to Securities of the Issuer**

Item 6 of the Schedule 13D is amended and supplemented as follows:

#### **Securities Purchase Agreement**

On May 25, 2023, the Master Fund, along with certain other purchasers, entered into a Securities Purchase Agreement (the "Securities Purchase Agreement") with the Issuer, pursuant to which the Issuer agreed to sell securities to the Master Fund and the other purchasers in a private placement (the "Private Placement").

#### **Investor Rights Agreement**

In connection with the Securities Purchase Agreement, on May 25, 2023, the Master Fund and certain other investors entered into Amendment No. 1 to the Ninth Amended and Restated Investor Rights Agreement ("Amendment No. 1") with the Issuer, which amended the Issuer's existing Ninth Amended and Restated Investor Rights Agreement, dated as of April 7, 2022 (the "Investor Rights Agreement"). Pursuant to Amendment No. 1, the definition of "Registrable Shares" in the Investor Rights Agreement was amended to include all shares of Common Stock purchased by the Master Fund and certain other purchasers in the Private Placement.

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**Form of Purchase Warrant**

In connection with the Securities Purchase Agreement, on May 31, 2023, the Master Fund was issued Warrants to purchase shares of the Issuer's Common Stock. The Warrants will become exercisable on November 30, 2023 and will expire on November 30, 2028. Each of the Warrants may not be exercised if the Reporting Persons and their affiliates would beneficially own more than 9.9% of the Issuer's outstanding Common Stock following such exercise.

The descriptions of the Securities Purchase Agreement, Amendment No. 1 to the Ninth A&R Investor Rights Agreement and the Form of Purchase Warrant are qualified in their entirety by their respective terms, which are attached hereto as Exhibit 6, Exhibit 7 and Exhibit 8, respectively, and incorporated by reference herein to this Item 6.

**Item 7. Material to be Filed as Exhibits**

Item 7 of the Schedule 13D is amended and supplemented as follows:

Exhibit 6 Securities Purchase Agreement, dated as of May 25, 2023 (incorporated by reference to Exhibit 10.1 to the Issuer's Current Report on Form 8-K filed on May 31, 2023)

Exhibit 7 Amendment No. 1 to the Ninth Amended and Restated Investor Rights Agreement, dated as of May 25, 2023 (incorporated by reference to Exhibit 4.1 to the Issuer's Current Report on Form 8-K filed on May 31, 2023)

Exhibit 8 Form of Purchase Warrant, dated as of May 31, 2023 (incorporated by reference to Exhibit 4.3 to the Issuer's Current Report on Form 8-K filed on May 31, 2023)

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**SIGNATURES**

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.

Dated: June 2, 2023

PERCEPTIVE ADVISORS LLC

By: /s/ Joseph Edelman

Name: Joseph Edelman

Title: Managing Member

/s/ Joseph Edelman

JOSEPH EDELMAN

PERCEPTIVE LIFE SCIENCES MASTER FUND, LTD.

By: Perceptive Advisors LLC

By: /s/ Joseph Edelman

Name: Joseph Edelman

Title: Managing Member

PERCEPTIVE LS (A), LLC

By: Perceptive LS GP, LLC

By: /s/ Joseph Edelman

Name: Joseph Edelman

Title: Member