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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. 4)\***

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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)

**August 14, 2024**  
(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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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 12,757,562
	9.	Sole Dispositive Power 0
	10.	Shared Dispositive Power 12,757,562
11.	Aggregate Amount Beneficially Owned by Each Reporting Person 12,757,562	
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) 19.5%	
14.	Type of Reporting Person (See Instructions) IA	

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 12,757,562
	9.	Sole Dispositive Power 0
	10.	Shared Dispositive Power 12,757,562
11.	Aggregate Amount Beneficially Owned by Each Reporting Person 12,757,562	
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) 19.5%	
14.	Type of Reporting Person (See Instructions) IN	

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 11,469,116
	9.	Sole Dispositive Power 0
	10.	Shared Dispositive Power 11,469,116
11.	Aggregate Amount Beneficially Owned by Each Reporting Person 11,469,116	
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) 17.5%	
14.	Type of Reporting Person (See Instructions) CO	

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) 2.0%	
14.	Type of Reporting Person (See Instructions) CO	

## **Item 2. Identity and Background**

Item 2 of the Schedule 13D is amended and restated as followed:

(a) This Amendment No. 4 to the Schedule 13D is being filed by Perceptive Advisors LLC (“Perceptive Advisors” or “Perceptive”), Joseph Edelman (“Mr. Edelman”), Perceptive Life Sciences Master Fund, Ltd. (the “Master Fund”), and Perceptive LS (A), LLC (“Perceptive LS”), and together with Perceptive Advisors, Mr. Edelman, and the Master Fund, each of the foregoing, a “Reporting Person,” and collectively, the “Reporting Persons”). Perceptive LS GP, LLC (“GP”) is the manager of Perceptive LS. Perceptive Advisors serves as the investment advisor to the Master Fund, and Mr. Edelman is the managing member of Perceptive Advisors and the sole managing member of GP. The agreement among the Reporting Persons to file this Schedule 13D jointly in accordance with Rule 13d-1(k) of the Securities Exchange Act of 1934, as amended, is attached as Exhibit 1 to the initial Schedule 13D filed June 1, 2020.

(b) The address of the principal business office of each of the Reporting Persons is 51 Astor Place 10th Floor, New York, NY 10003.

(c) The principal business of Perceptive Advisors is managing funds in connection with purchasing, holding and selling securities for investment purposes. The principal business of the Master Fund and Perceptive LS is to invest in securities. The principal occupation of Mr. Edelman is as the managing member of Perceptive Advisors and other related entities.

(d) During the last five years, none of the Reporting Persons, nor to the Reporting Persons’ knowledge, any of the persons listed on Schedule A to this Amendment No. 4 to Schedule 13D, has been convicted in a criminal proceeding (excluding traffic violations or similar misdemeanors).

(e) During the last five years, none of the Reporting Persons, nor to the Reporting Persons’ knowledge, any of the persons listed in Schedule A, has been a party to a civil proceeding of a judicial or administrative body of competent jurisdiction and as a result of such proceeding was or is subject to a judgment, decree of final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violation with respect to such laws, other than the previously announced settlement order entered into by Perceptive with the Securities and Exchange Commission dated September 6, 2022 (File No. 3-21031).

(f) Perceptive Advisors is a Delaware limited liability company. Mr. Edelman is a United States citizen. The Master Fund is a Cayman Islands corporation. Perceptive LS is a Delaware limited liability company.

Schedule A to this Amendment No. 4 to Schedule 13D sets forth the information regarding the directors of the Master Fund.

## **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 65,456,735 outstanding shares of Common Stock as of August 1, 2024 as reported by the Issuer in its Form 10-Q filed with the Securities and Exchange Commission on August 14, 2024.

(b) The information set forth in rows 7 through 10 of the cover pages to this Schedule 13D is incorporated by reference.

**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: August 15, 2024

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

**Schedule A**

The following sets forth the name, address, principal occupation, citizenship and beneficial ownership of Ordinary Shares (to the extent not pursuant to Item 5(a)) of each director of the Master Fund (to the extent not set forth in Item 2).

<b>Master Fund</b>			
<b>Name and Citizenship</b>	<b>Position</b>	<b>Principal Business Address</b>	<b>Beneficial Ownership of Ordinary Shares</b>
Scott Dakers (United Kingdom)	Director	c/o Elian Fiduciary Services (Cayman) Limited 190 Elgin Avenue, George Town Grand Cayman KY1-9007 Cayman Islands	None
Ernest A. Morrison (United Kingdom)	Director	Cox Hallett Wilkinson Milner House 18 Parliament Street P.O. Box HM 1561 Hamilton HM FX Bermuda	None
James Nicholas (United States)	Director	c/o GenesisPoint LLC 30 Old Kings Highway S Darien, CT 06820	None