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# SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

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## SCHEDULE 13D

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

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### TALARIS THERAPEUTICS, INC.

(Name of Issuer)

Common Stock, \$0.0001 par value per share  
(Title of Class of Securities)

87410C104  
(CUSIP Number)

Patrick G. Enright  
Managing Member  
Longitude Capital Partners III, LLC  
2740 Sand Hill Road, 2nd Floor  
Menlo Park, CA 94025  
(650) 854-5700

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

May 11, 2021  
(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 .

\* 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 ("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).

(Continued on following pages)

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1	NAMES OF REPORTING PERSONS Longitude Capital Partners III, 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 ITEM 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 3,220,775(1)
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 3,220,775(1)
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 3,220,775(1)	
12	CHECK BOX 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 7.8% (2)	
14	TYPE OF REPORTING PERSON (see instructions) OO	

- (1) All shares are held of record by LVPIII (as defined in Item 2(a) below). LCPIII (as defined in Item 2(a) below) is the general partner of LVPIII and may be deemed to have voting, investment and dispositive power with respect to these securities. Patrick G. Enright, Juliet Tammenoms Bakker and Sandip Agarwala, a member of the Issuer's board of directors, are each members of LCPIII and may each be deemed to share voting, investment and dispositive power with respect to these securities. Patrick G. Enright and Juliet Tammenoms Bakker are the managing members of LCPIII.
- (2) Based on 41,236,910 shares of Common Stock outstanding (assuming no exercise by the underwriters of their option to purchase additional shares in full or in part), as reported by the Issuer in its final prospectus dated May 6, 2021 and filed with the Securities and Exchange Commission (the "Commission") on May 10, 2021 pursuant to Rule 424(b)(4) under the Securities Act of 1933, as amended.

1	NAMES OF REPORTING PERSONS  Longitude Venture Partners III, L.P.	
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 ITEM 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  3,220,775(1)
	9	SOLE DISPOSITIVE POWER  0
	10	SHARED DISPOSITIVE POWER  3,220,775(1)
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  3,220,775(1)	
12	CHECK BOX 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  7.8% (2)	
14	TYPE OF REPORTING PERSON (see instructions)  PN	

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1	NAMES OF REPORTING PERSONS	
	Patrick G. Enright	
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 ITEM 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 3,220,775(1)
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 3,220,775(1)
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 3,220,775(1)	
12	CHECK BOX 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 7.8% (2)	
14	TYPE OF REPORTING PERSON (see instructions) IN	

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1	NAMES OF REPORTING PERSONS  Juliet Tammenoms Bakker	
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 ITEM 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  3,220,775(1)
	9	SOLE DISPOSITIVE POWER  0
	10	SHARED DISPOSITIVE POWER  3,220,775(1)
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  3,220,775(1)	
12	CHECK BOX 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  7.8% (2)	
14	TYPE OF REPORTING PERSON (see instructions)  IN	

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1	NAMES OF REPORTING PERSONS  Sandip Agarwala	
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 ITEM 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  3,220,775(1)
	9	SOLE DISPOSITIVE POWER  0
	10	SHARED DISPOSITIVE POWER  3,220,775(1)
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  3,220,775(1)	
12	CHECK BOX 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  7.8% (2)	
14	TYPE OF REPORTING PERSON (see instructions)  IN	

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- (2) Based on 41,236,910 shares of Common Stock outstanding (assuming no exercise by the underwriters of their option to purchase additional shares in full or in part), as reported by the Issuer in its final prospectus dated May 6, 2021 and filed with the Commission on May 10, 2021 pursuant to Rule 424(b)(4) under the Securities Act of 1933, as amended.

**Item 1. Security and Issuer.**

This joint statement on Schedule 13D (this “Statement”) is filed with respect to the common stock, par value \$0.0001 per share (“Common Stock”), of Talaris Therapeutics, Inc., a Delaware corporation (the “Issuer”). The address of the principal executive offices of the Issuer is 570 S. Preston St, Louisville, KY 40202.

**Item 2. Identity and Background.**

(a) This Statement is being filed by Longitude Venture Partners III, L.P. (“LVPIII”), Longitude Capital Partners III, LLC (“LCPIII”, and together with LVPIII, the “Reporting Entities”) and Patrick G. Enright (“Enright”) and Juliet Tammenoms Bakker (“Tammenoms Bakker” and together with Enright, the “Managing Members”) and Sandip Agarwala (“Agarwala” and together with the Managing Members, the “Reporting Individuals”), a member of the Issuer’s board of directors (the “Board”). The Reporting Entities and the Reporting Individuals are collectively referred to as the “Reporting Persons.” The agreement among the Reporting Persons to file jointly in accordance with the provisions of Rule 13d-1(k)(1) under the Act is attached hereto as Exhibit 1. Each Reporting Person disclaims beneficial ownership of all securities reported in this Statement except to the extent of such Reporting Person’s pecuniary interest therein, other than those securities reported herein as being held directly by such Reporting Person.

(b) The address of the principal offices of each Reporting Entity and the business address of each Reporting Individual is 2740 Sand Hill Road, Second Floor, Menlo Park, California 94025.

(c) Each Reporting Entity is a venture capital investment entity. Each Reporting Individual is engaged through venture capital investment entities in acquiring, holding and disposing of interests in various companies for investment purposes. The Reporting Individuals are members of LCPIII and the Managing Members are managing members of LCPIII, the general partner of LVPIII.

(d) During the past five years, none of the Reporting Persons have been convicted in a criminal proceeding (excluding traffic violations or similar misdemeanors).

(e) None of the Reporting Persons are, nor during the last five years have 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 or 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.

(f) LCPIII is a limited liability company organized under the laws of the State of Delaware. LVPIII is a limited partnership organized under the laws of the State of Delaware. Each of the Reporting Individuals is a citizen of the United States of America.

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

On November 1, 2018, LVPIII purchased 735,981 shares of the Issuer’s Series A preferred stock for a purchase price of \$5.35 per share and an aggregate purchase price of \$3,937,500.

On December 5, 2019, LVPIII purchased 572,429 shares of the Issuer’s Series A preferred stock for a purchase price of \$5.35 per share and an aggregate purchase price of \$3,062,500.

On December 5, 2019 and August 21, 2020, LVPIII purchased an aggregate of 1,271,027 shares of the Issuer’s Series A-1 preferred stock for a purchase price of \$6.69 per share and an aggregate purchase price of \$8,500,000.

On September 22, 2020, LVPIII purchased 406,338 shares of the Issuer’s Series B preferred stock for a purchase price of \$9.84 per share and an aggregate purchase price of \$4,000,000.

On May 11, 2021, effective upon the closing of the Issuer’s initial public offering of its Common Stock (the “Offering”), each series of the Issuer’s preferred stock automatically converted into shares of the Issuer’s Common Stock on a 5.35-for-1 basis for no consideration, which resulted in LVPIII holding 2,985,775 shares of Common Stock (the “Conversion”). The share numbers and prices above are reflected on a post-conversion basis.

In addition, on May 11, 2021 in connection with the Offering, LVPIII purchased an additional 235,000 shares of the Issuer's Common Stock for a purchase price of \$17.00 per share and an aggregate purchase price of \$3,995,000 (the "Purchase"). Following the Conversion and the Purchase, LVPIII directly held an aggregate of 3,220,775 shares of Common Stock.

All shares of the capital stock of the Issuer purchased by LVPIII have been purchased using investment funds provided to LVPIII by its limited partner and general partner investors. Unless noted above, no part of the purchase price was borrowed by any Reporting Person for the purpose of acquiring any securities discussed in this Item 3.

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

The information set forth in Item 3 of this Statement is incorporated herein by reference. The Reporting Persons hold the securities of the Issuer for general investment purposes. The Reporting Persons may, from time to time, depending on prevailing market, economic and other conditions, acquire additional shares of Common Stock or other securities of the Issuer, dispose of any such securities, or engage in discussions with the Issuer concerning such acquisitions or dispositions or further investments in the Issuer. The Reporting Persons intend to review their investment in the Issuer on a continuing basis and, depending upon the price and availability of shares of Common Stock or other securities of the Issuer, subsequent developments affecting the Issuer, the Issuer's business and prospects, other investment and business opportunities available to the Reporting Persons, general stock market and economic conditions, tax considerations and other factors considered relevant, may decide at any time to increase or to decrease the size of their investment in the Issuer in the open market, in privately negotiated transactions, pursuant to 10b5-1 trading plans or otherwise.

Agarwala is a member of the Board. In addition, Agarwala, in his capacity as a director, may be entitled to receive cash compensation and equity compensation, including stock option or other equity awards, pursuant to the Issuer's nonemployee director compensation policy, which became effective upon the completion of the Offering.

Except as set forth above, the Reporting Persons have no present plans or intentions which would result in or relate to any of the transactions described in subparagraphs (a) through (j) of Item 4 of Schedule 13D.

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

(a) and (b) See Items 7-11 of the cover pages of this Statement and Item 2 above.

(c) Except as reported in this Statement, none of the Reporting Persons has effected any transactions in the Issuer's securities within the past 60 days.

(d) Under certain circumstances set forth in the limited partnership agreement of LVPIII, the general partner and limited partners of LVPIII may be deemed to have the right to receive dividends from, or the proceeds from, the sale of shares of the Issuer owned by such entity of which they are a partner.

(e) Not applicable.

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

The information set forth in Items 3 and 4 of this Statement is incorporated herein by reference.

In connection with its purchase of shares of the Issuer's Series B preferred stock, LVPIII and certain of the Issuer's other investors entered into an Amended and Restated Investors' Rights Agreement, dated September 22, 2020, with the Issuer (the "Rights Agreement"). After the closing of the Offering, the stockholders party thereto are entitled to certain registration rights, including the right to demand that the Issuer file a registration statement or request that their shares be covered by a registration statement that the Issuer is otherwise filing. The terms and provisions of the Rights Agreement are described more fully in the Issuer's Registration Statement on Form S-1 (File No. 333- 255316) declared effective by the Commission on May 6, 2021 (the "Registration Statement"), and the above summary is qualified by reference to such description and the full text of the Rights Agreement, which is filed as Exhibit 2 to this Statement and is incorporated herein by reference.



In connection with the Offering, each of LVPIII and Agarwala has entered into a lock-up agreement, pursuant to which each such party agreed, subject to certain exceptions, not to sell, transfer or otherwise convey any of the Issuer's securities held by LVPIII for 180 days following the date of the final prospectus for the Offering. The terms and provisions of such lock-up agreement are described more fully in the Registration Statement, and the above summary is qualified by reference to such description and the full text of the lock-up agreement, a form of which is filed as Exhibit 3 to this Statement and is incorporated herein by reference.

The Issuer has entered into an indemnification agreement with each of its directors and executive officers, including Agarwala. The indemnification agreement requires the Issuer, among other things, to indemnify Agarwala for some expenses, including attorneys' fees, judgments, fines and settlement amounts incurred by Agarwala in any action or proceeding arising out of her service as a director. The terms and provisions of the indemnification agreement are described more fully in the Registration Statement, and the above summary is qualified by reference to such description and the full text of the indemnification agreement, a form of which is filed as Exhibit 4 to this Statement and is incorporated herein by reference.

Agarwala, in his capacity as a director, may be entitled to receive cash compensation and equity compensation, including stock option or other equity awards, pursuant to each of the Issuer's 2021 Stock Option and Incentive Plan (the "Option Plan"), the Issuer's Non-Employee Director Compensation Plan (the "Compensation Plan"), which became effective upon the completion of the Offering. The terms and provisions of each of the Option Plan and the Compensation Plan are described in the Registration Statement and the full text of the which are filed as Exhibit 5 and Exhibit 6, respectively to this Statement and is incorporated herein by reference.

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

- Exhibit 1: Joint Filing Agreement, dated May 21, 2021, by and among the Reporting Persons (filed herewith).
- Exhibit 2: Amended and Restated Investors' Rights Agreement, dated September 22, 2020, by and among the Issuer and certain of its stockholders (filed as Exhibit 4.2 to the Issuer's Registration Statement on Form S-1 as filed with the Commission on April 16, 2021 (SEC File No. 333-255316) and incorporated herein by reference).
- Exhibit 3: Form of Lock-Up Agreement for certain directors, officers and other stockholders of the Issuer (included as Exhibit A to the form of Underwriting Agreement filed as Exhibit 1.1 to the Issuer's Registration Statement on Form S-1/A as filed with the Commission on May 3, 2021 (SEC File No. 333- 255316) and incorporated herein by reference).
- Exhibit 4: Form of Indemnification Agreement by and between the Issuer and its directors and officers (filed as Exhibit 10.4 to the Issuer's Registration Statement on Form S-1/A as filed with the Commission on May 3, 2021 (SEC File No. 333- 255316) and incorporated herein by reference).
- Exhibit 5: 2021 Stock Option and Incentive Plan (filed as Exhibit 10.2 to the Issuer's Registration Statement on Form S-1/A as filed with the Commission on May 3, 2021 (SEC File No. 333- 255316) and incorporated herein by reference).
- Exhibit 6: Non-Employee Director Compensation Policy (filed as Exhibit 10.7 to the Issuer's Registration Statement on Form S-1/A as filed with the Commission on May 3, 2021 (SEC File No. 333- 255316) and incorporated herein by reference).

**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.

Dated: May 21, 2021

**LONGITUDE VENTURE PARTNERS III, L.P.**

**By: LONGITUDE CAPITAL PARTNERS III, LLC**  
**Its: General Partner**

By: /s/ Patrick G. Enright  
Patrick G. Enright, Managing Member

**LONGITUDE CAPITAL PARTNERS III, LLC**

By: /s/ Patrick G. Enright  
Patrick G. Enright, Managing Member

/s/ Patrick G. Enright  
Patrick G. Enright

/s/ Juliet Tammenoms Bakker  
Juliet Tammenoms Bakker

/s/ Sandip Agarwala  
Sandip Agarwala

**JOINT FILING AGREEMENT**

The undersigned hereby agree that the foregoing statement on Schedule 13D is filed on behalf of each of the undersigned, and any amendments thereto executed by the undersigned shall be filed on behalf of each of the undersigned without the necessity of filing any additional joint filing agreement. The undersigned acknowledge that each is responsible for the timely filing of such statement on Schedule 13D and any amendments thereto, and for the completeness and accuracy of the information concerning him, her or it contained therein, but shall not be responsible for the completeness or accuracy of the information concerning the others of the undersigned, except to the extent that it knows or has reason to believe that such information is inaccurate or incomplete. This Joint Filing Agreement may be executed in any number of counterparts, all of which taken together shall constitute one and the same instrument.

Dated: May 21, 2021

**LONGITUDE VENTURE PARTNERS III, L.P.**

**By: LONGITUDE CAPITAL PARTNERS III, LLC**  
**Its: General Partner**

By: /s/ Patrick G. Enright  
Patrick G. Enright, Managing Member

**LONGITUDE CAPITAL PARTNERS III, LLC**

By: /s/ Patrick G. Enright  
Patrick G. Enright, Managing Member

/s/ Patrick G. Enright  
Patrick G. Enright

/s/ Juliet Tammenoms Bakker  
Juliet Tammenoms Bakker

/s/ Sandip Agarwala  
Sandip Agarwala