UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

SCHEDULE 13G/A

Under the Securities Exchange Act of 1934 (Amendment No. 1)*

Taysha Gene Therapies, Inc.

(Name of Issuer)

Common stock, par value \$0.00001 per share

(Title of Class of Securities)

877619106

(CUSIP Number)

December 31, 2023

(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

- $\square \qquad \text{Rule 13d-1(b)}$
- \boxtimes Rule 13d-1(c)
- $\square \qquad \text{Rule 13d-1(d)}$

*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 the disclosures provided in a prior cover page.

The information required in 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).

1.	Names of Reporting Persons Venrock Healthcare Capital Partners III, L.P.			
2.	Check the a (a) \boxtimes (1) (iate Box if a Member of a Group (See Instructions)	
3.	SEC Use O	nly		
4.	Citizenship or Place of Organization Delaware			
Number	r of	5.	Sole Voting Power 0	
Shares Benefic Owned		6.	Shared Voting Power 10,412,872 (2)	
Each Reporti	-	7.	Sole Dispositive Power 0	
Person		8.	Shared Dispositive Power 10,412,872 (2)	
9.	Aggregate Amount Beneficially Owned by Each Reporting Person 10,412,872 (2)			
10.	D. Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)			
11.	. Percent of Class Represented by Amount in Row (9) 5.6% (3)			
12.	. Type of Reporting Person (See Instructions) PN			

(1) Venrock Healthcare Capital Partners III, L.P., VHCP Co-Investment Holdings III, LLC, Venrock Healthcare Capital Partners EG, L.P., VHCP Management III, LLC, VHCP Management EG, LLC, Nimish Shah and Bong Koh are members of a group for the purposes of this Schedule 13G/A.

- (2) Consists of (i) 2,737,543 shares held by Venrock Healthcare Capital Partners III, L.P.; (ii) 273,860 shares held by VHCP Co-Investment Holdings III, LLC; and (iii) 7,401,469 shares held by Venrock Healthcare Capital Partners EG, L.P.
- (3) This percentage is calculated based upon 186,960,193 shares of Common Stock outstanding as of November 14, 2023 as reported in the Issuer's Quarterly Report on Form 10-Q filed with the SEC on November 14, 2023.

1.	Names of Reporting Persons VHCP Co-Investment Holdings III, LLC			
2.	 Check the Appropriate Box if a Member of a Group (See Instructions) (a) ⊠ (1) (b) □ 			
3.	SEC Use O	nly		
4.	Citizenship Delaware	or Plac	e of Organization	
Number	r of	5.	Sole Voting Power 0	
Shares Benefic Owned		6.	Shared Voting Power 10,412,872 (2)	
Each Reporti	2	7.	Sole Dispositive Power 0	
Person		8.	Shared Dispositive Power 10,412,872 (2)	
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12.	Type of Reporting Person (See Instructions) OO			

- (1) Venrock Healthcare Capital Partners III, L.P., VHCP Co-Investment Holdings III, LLC, Venrock Healthcare Capital Partners EG, L.P., VHCP Management III, LLC, VHCP Management EG, LLC, Nimish Shah and Bong Koh are members of a group for the purposes of this Schedule 13G/A.
- (2) Consists of (i) 2,737,543 shares held by Venrock Healthcare Capital Partners III, L.P.; (ii) 273,860 shares held by VHCP Co-Investment Holdings III, LLC; and (iii) 7,401,469 shares held by Venrock Healthcare Capital Partners EG, L.P.
- (3) This percentage is calculated based upon 186,960,193 shares of Common Stock outstanding as of November 14, 2023 as reported in the Issuer's Quarterly Report on Form 10-Q filed with the SEC on November 14, 2023.

1.	Names of Reporting Persons Venrock Healthcare Capital Partners EG, L.P.			
2.	 2. Check the Appropriate Box if a Member of a Group (See Instructions) (a) ⊠ (1) (b) □ 			
3.	SEC Use O	nly		
4.	Citizenship Delaware	or Plac	e of Organization	
Number	r of	5.	Sole Voting Power 0	
Shares Benefic Owned	-	6.	Shared Voting Power 10,412,872 (2)	
Each Reporti	-	7.	Sole Dispositive Power 0	
Person	-	8.	Shared Dispositive Power 10,412,872 (2)	
9.	Aggregate Amount Beneficially Owned by Each Reporting Person 10,412,872 (2)			
10.	. Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)			
11.	Percent of Class Represented by Amount in Row (9) 5.6% (3)			
12.	Type of Reporting Person (See Instructions) PN			

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- (2) Consists of (i) 2,737,543 shares held by Venrock Healthcare Capital Partners III, L.P.; (ii) 273,860 shares held by VHCP Co-Investment Holdings III, LLC; and (iii) 7,401,469 shares held by Venrock Healthcare Capital Partners EG, L.P.
- (3) This percentage is calculated based upon 186,960,193 shares of Common Stock outstanding as of November 14, 2023 as reported in the Issuer's Quarterly Report on Form 10-Q filed with the SEC on November 14, 2023.

1.	Names of Reporting Persons VHCP Management III, LLC			
2.	 Check the Appropriate Box if a Member of a Group (See Instructions) (a) ⊠ (1) (b) □ 			
3.	SEC Use O	nly		
4.	Citizenship Delaware	or Plac	e of Organization	
Number	r of	5.	Sole Voting Power 0	
Shares Benefic Owned		6.	Shared Voting Power 10,412,872 (2)	
Each Reporti	-	7.	Sole Dispositive Power 0	
Person		8.	Shared Dispositive Power 10,412,872 (2)	
9.	Aggregate Amount Beneficially Owned by Each Reporting Person 10,412,872 (2)			
10.	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)			
11.	Percent of Class Represented by Amount in Row (9) 5.6% (3)			
12.	Type of Reporting Person (See Instructions) OO			

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- (2) Consists of (i) 2,737,543 shares held by Venrock Healthcare Capital Partners III, L.P.; (ii) 273,860 shares held by VHCP Co-Investment Holdings III, LLC; and (iii) 7,401,469 shares held by Venrock Healthcare Capital Partners EG, L.P.
- (3) This percentage is calculated based upon 186,960,193 shares of Common Stock outstanding as of November 14, 2023 as reported in the Issuer's Quarterly Report on Form 10-Q filed with the SEC on November 14, 2023.

1.	Names of Reporting Persons VHCP Management EG, LLC			
2.	 Check the Appropriate Box if a Member of a Group (See Instructions) (a) ⊠ (1) (b) □ 			
3.	SEC Use O	nly		
4.	Citizenship Delaware	or Plac	e of Organization	
Numbe	r of	5.	Sole Voting Power 0	
Shares Benefic Owned		6.	Shared Voting Power 10,412,872 (2)	
Each Reporti	2	7.	Sole Dispositive Power 0	
Person		8.	Shared Dispositive Power 10,412,872 (2)	
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10.	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)			
11.	Percent of Class Represented by Amount in Row (9) 5.6% (3)			
12.	Type of Reporting Person (See Instructions) OO			

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- (2) Consists of (i) 2,737,543 shares held by Venrock Healthcare Capital Partners III, L.P.; (ii) 273,860 shares held by VHCP Co-Investment Holdings III, LLC; and (iii) 7,401,469 shares held by Venrock Healthcare Capital Partners EG, L.P.
- (3) This percentage is calculated based upon 186,960,193 shares of Common Stock outstanding as of November 14, 2023 as reported in the Issuer's Quarterly Report on Form 10-Q filed with the SEC on November 14, 2023.

1.	Names of Reporting Persons Shah, Nimish			
2.	Check the Appropriate Box if a Member of a Group (See Instructions) (a) \boxtimes (1) (b) \square			
3.	SEC Use O	nly		
4.	Citizenship United Stat		e of Organization	
Number	r of	5.	Sole Voting Power 0	
Shares Benefic Owned		6.	Shared Voting Power 10,412,872 (2)	
Each Reporti	2	7.	Sole Dispositive Power 0	
Person		8.	Shared Dispositive Power 10,412,872 (2)	
9.	Aggregate Amount Beneficially Owned by Each Reporting Person 10,412,872 (2)			
10.	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)			
11.	Percent of Class Represented by Amount in Row (9) 5.6% (3)			
12.	Type of Reporting Person (See Instructions) IN			

- (1) Venrock Healthcare Capital Partners III, L.P., VHCP Co-Investment Holdings III, LLC, Venrock Healthcare Capital Partners EG, L.P., VHCP Management III, LLC, VHCP Management EG, LLC, Nimish Shah and Bong Koh are members of a group for the purposes of this Schedule 13G/A.
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- (3) This percentage is calculated based upon 186,960,193 shares of Common Stock outstanding as of November 14, 2023 as reported in the Issuer's Quarterly Report on Form 10-Q filed with the SEC on November 14, 2023.

1.	Names of Reporting Persons Koh, Bong			
2.	Check the Appropriate Box if a Member of a Group (See Instructions) (a) \boxtimes (1) (b) \square			
3.	SEC Use O	nly		
4.	Citizenship United Stat		e of Organization	
Number	r of	5.	Sole Voting Power 0	
Shares Benefic Owned		6.	Shared Voting Power 10,412,872 (2)	
Each Reporti	-	7.	Sole Dispositive Power 0	
Person	-	8.	Shared Dispositive Power 10,412,872 (2)	
9.	Aggregate Amount Beneficially Owned by Each Reporting Person 10,412,872 (2)			
10.	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)			
11.	Percent of Class Represented by Amount in Row (9) 5.6% (3)			
12.	Type of Reporting Person (See Instructions) IN			

- (1) Venrock Healthcare Capital Partners III, L.P., VHCP Co-Investment Holdings III, LLC, Venrock Healthcare Capital Partners EG, L.P., VHCP Management III, LLC, VHCP Management EG, LLC, Nimish Shah and Bong Koh are members of a group for the purposes of this Schedule 13G/A.
- (2) Consists of (i) 2,737,543 shares held by Venrock Healthcare Capital Partners III, L.P.; (ii) 273,860 shares held by VHCP Co-Investment Holdings III, LLC; and (iii) 7,401,469 shares held by Venrock Healthcare Capital Partners EG, L.P.
- (3) This percentage is calculated based upon 186,960,193 shares of Common Stock outstanding as of November 14, 2023 as reported in the Issuer's Quarterly Report on Form 10-Q filed with the SEC on November 14, 2023.

Introductory Note: This Schedule 13G/A is filed on behalf of Venrock Healthcare Capital Partners III, L.P., a limited partnership organized under the laws of the State of Delaware ("VHCP III LP"), VHCP Co-Investment Holdings III, LLC, a limited liability company organized under the laws of the State of Delaware ("VHCP Co-Investment III"), Venrock Healthcare Capital Partners EG, L.P., a limited partnership organized under the laws of the State of Delaware ("VHCP EG"), VHCP Management III, LLC, a limited liability company organized under the laws of the State of Delaware ("VHCP EG"), VHCP Management EG, LLC, a limited liability company organized under the laws of the State of Delaware ("VHCP Management EG, LLC, a limited liability company organized under the laws of the State of Delaware ("VHCP Management EG, LLC, a limited liability company organized under the laws of the State of Delaware ("VHCP Management EG, LLC, a limited liability company organized under the laws of the State of Delaware ("VHCP Management EG, LLC, a limited liability company organized under the laws of the State of Delaware ("VHCP Management EG" and collectively with VHCP III LP, VHCP Co-Investment III, VHCP EG and VHCP Management III, the "Venrock Entities"), Nimish Shah ("Shah") and Bong Koh ("Koh") in respect of the Common Stock of Taysha Gene Therapies, Inc.

Item 1.

(a) Name of Issuer

Taysha Gene Therapies, Inc.

(b) Address of Issuer's Principal Executive Offices

3000 Pegasus Park Drive Ste 1430 Dallas, TX 75247

Item 2.

(a) Name of Person Filing

Venrock Healthcare Capital Partners III, L.P. VHCP Co-Investment Holdings III, LLC Venrock Healthcare Capital Partners EG, L.P. VHCP Management III, LLC VHCP Management EG, LLC Nimish Shah Bong Koh

(b) Address of Principal Business Office or, if none, Residence

New York Office:

Palo Alto Office:

7 Bryant Park 23rd Floor New York, NY 10018 3340 Hillview Avenue Palo Alto, CA 94304

(c) Citizenship

All of the Venrock Entities were organized in Delaware. The individuals are both United States citizens.

(d) Title of Class of Securities

Common stock, par value \$0.00001 per share par value

(e) CUSIP Number

877619106

Item 3. If this statement is filed pursuant to §§240.13d-1(b) or 240.13d-2(b) or (c), check whether the person filing is a:

Not applicable

Item 4. Ownership

(a) Amount beneficially owned as of December 31, 2023:

Venrock Healthcare Capital Partners III, L.P.	10,412,872 (1)
VHCP Co-Investment Holdings III, LLC	10,412,872 (1)
Venrock Healthcare Capital Partners EG, L.P.	10,412,872 (1)
VHCP Management III, LLC	10,412,872 (1)
VHCP Management EG, LLC	10,412,872 (1)
Nimish Shah	10,412,872 (1)
Bong Koh	10,412,872 (1)

(b) Percent of class as of December 31, 2023:

Venrock Healthcare Capital Partners III, L.P.	5.6% (2)
VHCP Co-Investment Holdings III, LLC	5.6% (2)
Venrock Healthcare Capital Partners EG, L.P.	5.6% (2)
VHCP Management III, LLC	5.6% (2)
VHCP Management EG, LLC	5.6% (2)
Nimish Shah	5.6% (2)
Bong Koh	5.6% (2)

(c) Number of shares as to which the person has, as of December 31, 2023:

(i) Sole power to vote or to direct the vote:

Venrock Healthcare Capital Partners III, L.P.	0
VHCP Co-Investment Holdings III, LLC	0
Venrock Healthcare Capital Partners EG, L.P.	0
VHCP Management III, LLC	0
VHCP Management EG, LLC	0
Nimish Shah	0
Bong Koh	0

(ii) Shared power to vote or to direct the vote:

Venrock Healthcare Capital Partners III, L.P.	10,412,872 (1)
VHCP Co-Investment Holdings III, LLC	10,412,872 (1)
Venrock Healthcare Capital Partners EG, L.P.	10,412,872 (1)
VHCP Management III, LLC	10,412,872 (1)
VHCP Management EG, LLC	10,412,872 (1)
Nimish Shah	10,412,872 (1)
Bong Koh	10,412,872 (1)

(iii) Sole power to dispose or to direct the disposition of:

Venrock Healthcare Capital Partners III, L.P.	0
VHCP Co-Investment Holdings III, LLC	0
Venrock Healthcare Capital Partners EG, L.P.	0
VHCP Management III, LLC	0
VHCP Management EG, LLC	0
Nimish Shah	0
Bong Koh	0

(iv) Shared power to dispose or to direct the disposition of:

Venrock Healthcare Capital Partners III, L.P.	10,412,872 (1)
VHCP Co-Investment Holdings III, LLC	10,412,872 (1)
Venrock Healthcare Capital Partners EG, L.P.	10,412,872 (1)
VHCP Management III, LLC	10,412,872 (1)
VHCP Management EG, LLC	10,412,872 (1)
Nimish Shah	10,412,872 (1)
Bong Koh	10,412,872 (1)

(1) Consists of (i) 2,737,543 shares held by Venrock Healthcare Capital Partners III, L.P.; (ii) 273,860 shares held by VHCP Co-Investment Holdings III, LLC; and (iii) 7,401,469 shares held by Venrock Healthcare Capital Partners EG, L.P.

VHCP Management III, LLC is the general partner of Venrock Healthcare Capital Partners III, L.P. and the manager of VHCP Co-Investment Holdings III, LLC. VHCP Management EG, LLC is the general partner of Venrock Healthcare Capital Partners EG, L.P. Messrs. Shah and Koh are the voting members of VHCP Management III, LLC and VHCP Management EG, LLC.

(2) This percentage is calculated based upon 186,960,193 shares of Common Stock outstanding as of November 14, 2023 as reported in the Issuer's Quarterly Report on Form 10-Q filed with the SEC on November 14, 2023.

Item 5. Ownership of Five Percent or Less of a Class

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following \Box

Item 6. Ownership of More than Five Percent on Behalf of Another Person

Not applicable

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on By the Parent Holding Company or Control Person

Not applicable

Item 8. Identification and Classification of Members of the Group

Not applicable

Item 9. Notice of Dissolution of Group

Not applicable

Item 10. Certification

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having such purpose or effect.

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: February 14, 2024

Venrock Healthcare Capital Partners III, L.P.

- By: VHCP Management III, LLC
- Its: General Partner
- By: /s/ Sherman G. Souther Name: Sherman G. Souther Its: Authorized Signatory

VHCP Co-Investment Holdings III, LLC

- By: VHCP Management III, LLC
- Its: Manager
- By: /s/ Sherman G. Souther Name: Sherman G. Souther Its: Authorized Signatory

VHCP Management III, LLC

By: /s/ Sherman G. Souther Name: Sherman G. Souther Its: Authorized Signatory

Nimish Shah

/s/ Sherman G. Souther Sherman G. Souther, Attorney-in-fact

Bong Koh

/s/ Sherman G. Souther Sherman G. Souther, Attorney-in-fact

Venrock Healthcare Capital Partners EG, L.P.

- By: VHCP Management EG, LLC
- Its: General Partner
- By: /s/ Sherman G. Souther Name: Sherman G. Souther Its: Authorized Signatory

VHCP Management EG, LLC

By: /s/ Sherman G. Souther Name: Sherman G. Souther Its: Authorized Signatory

EXHIBITS

- A: Joint Filing Agreement (incorporated by reference to Exhibit A to Schedule 13G filed on August 28, 2023)
- B: Power of Attorney for Nimish Shah (incorporated by reference to Exhibit B to Schedule 13G filed August 28, 2023)
- <u>C:</u> Power of Attorney for Bong Koh (incorporated by reference to Exhibit C to Schedule 13G filed on August 28, 2023).