
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 13D

Under the Securities Exchange Act of 1934

RANI THERAPEUTICS HOLDINGS, INC.

(Name of Issuer)

Class A Common Stock, \$0.0001 par value per share

(Title of Class of Securities)

753018100

(CUSIP Number)

**Abrar Hussain
Samsara BioCapital GP, LLC, 628 Middlefield Road
Palo Alto, CA, 94301
(650) 285-4270**

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

10/23/2025

(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. 753018100

1 Name of reporting person

Samsara BioCapital, L.P.

Check the appropriate box if a member of a Group (See Instructions)

2

(a)
 (b)

3 SEC use only
4 Source of funds (See Instructions)

5 WC
6 Check if disclosure of legal proceedings is required pursuant to Items 2(d) or 2(e)

7 Citizenship or place of organization

8 DELAWARE

9 Sole Voting Power

10 0.00

11 Shared Voting Power

12 4,941,239.00

13 Sole Dispositive Power

14 0.00

15 Shared Dispositive Power

16 4,941,239.00

17 Aggregate amount beneficially owned by each reporting person

18 4,941,239.00

19 Check if the aggregate amount in Row (11) excludes certain shares (See Instructions)

20 Percent of class represented by amount in Row (11)

21 5.0 %

22 Type of Reporting Person (See Instructions)

23 PN

SCHEDULE 13D

CUSIP No. 753018100

1 Name of reporting person

2 Samsara BioCapital GP, LLC

3 Check the appropriate box if a member of a Group (See Instructions)

4 (a)
 (b)

5 SEC use only

6 Source of funds (See Instructions)

7 AF

8 Check if disclosure of legal proceedings is required pursuant to Items 2(d) or 2(e)

9 Citizenship or place of organization

10 DELAWARE

11 Sole Voting Power

12 0.00

Owned by 8 Shared Voting Power
Each
Reporting Person
With: 9 Sole Dispositive Power
0.00
Shared Dispositive Power
10 4,941,239.00
Aggregate amount beneficially owned by each reporting person
11 4,941,239.00
Check if the aggregate amount in Row (11) excludes certain shares (See Instructions)
12
Percent of class represented by amount in Row (11)
13 5.0 %
Type of Reporting Person (See Instructions)
14 OO

SCHEDULE 13D

CUSIP No. 753018100

Name of reporting person
1 Samsara Opportunity Fund, L.P.
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 WC
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 4,941,238.00
Owned by Each Sole Dispositive Power
Reporting Person 9 0.00
With: Shared Dispositive Power
10 4,941,238.00
Aggregate amount beneficially owned by each reporting person
11 4,941,238.00
Check if the aggregate amount in Row (11) excludes certain shares (See Instructions)
12



Percent of class represented by amount in Row (11)

13

5.0 %

14

Type of Reporting Person (See Instructions)

14

PN

SCHEDULE 13D

CUSIP No. 753018100

Name of reporting person

1

Samsara Opportunity Fund GP, LLC

Check the appropriate box if a member of a Group (See Instructions)

2

(a)

(b)

3

SEC use only

4

Source of funds (See Instructions)

4

AF

5

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

Number of

0.00

Shares

Shared Voting Power

Beneficially

8

Owned by

4,941,238.00

Each

Sole Dispositive Power

Reporting

9

Person

0.00

With:

Shared Dispositive Power

10

4,941,238.00

11

Aggregate amount beneficially owned by each reporting person

4,941,238.00

12

Check if the aggregate amount in Row (11) excludes certain shares (See Instructions)

12



Percent of class represented by amount in Row (11)

13

5.0 %

14

Type of Reporting Person (See Instructions)

14

OO

SCHEDULE 13D

1 Name of reporting person
Srinivas Akkaraju
2 Check the appropriate box if a member of a Group (See Instructions)
 (a)
 (b)
3 SEC use only
4 Source of funds (See Instructions)
5 AF
6 Check if disclosure of legal proceedings is required pursuant to Items 2(d) or 2(e)

7 Citizenship or place of organization
UNITED STATES
8 Sole Voting Power
Number of Shares Beneficially Owned by Each Reporting Person With: 0.00
9 Shared Voting Power
10 Sole Dispositive Power
11 Shared Dispositive Power
12 Aggregate amount beneficially owned by each reporting person
13 9,882,477.00
14 Check if the aggregate amount in Row (11) excludes certain shares (See Instructions)

Percent of class represented by amount in Row (11)
15 9.9 %
16 Type of Reporting Person (See Instructions)
17 IN

SCHEDULE 13D

Item 1. Security and Issuer
Title of Class of Securities:
(a) Class A Common Stock, \$0.0001 par value per share
Name of Issuer:
(b) RANI THERAPEUTICS HOLDINGS, INC.
Address of Issuer's Principal Executive Offices:
(c) 2051 RINGWOOD AVENUE, SAN JOSE, CALIFORNIA , 95131.

Item 2. Identity and Background
(a) This Schedule 13D is being filed on behalf of Samsara BioCapital, L.P. ("Samsara LP"), Samsara BioCapital GP, LLC

("Samsara GP"), Samsara Opportunity Fund, L.P. ("Samsara Opportunity Fund") Samsara Opportunity Fund GP, LLC ("Samsara Opportunity GP") and Dr. Srinivas Akkaraju ("Dr. Akkaraju"). Samsara LP, Samsara GP, Samsara Opportunity Fund, Samsara Opportunity GP and Dr. Akkaraju are collectively referred to herein as the "Reporting Persons." 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, (the "Act") is attached hereto as Exhibit 99.1. Each of the Reporting Persons expressly disclaims the existence of a "group" for purposes of this Schedule 13D.

(b) The address of the principal business office of each of the Reporting Persons is 628 Middlefield Road, Palo Alto, CA 94301.

(c) The principal business of the Reporting Persons is venture capital investments. Dr. Akkaraju serves as the Managing Member of each of Samsara GP, which is the general partner of Samsara LP, and Samsara Opportunity GP, which is the general partner of Samsara Opportunity Fund.

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

(e) During the last five years, none of the Reporting Persons was a party to a civil proceeding of a judicial or administrative body of competent jurisdiction or were 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) Each of Samsara LP, Samsara GP, Samsara Opportunity Fund and Samsara Opportunity GP was organized in the state of Delaware and Dr. Akkaraju is a citizen of the United States.

Item 3. Source and Amount of Funds or Other Consideration

Securities Purchase Agreement On October 16, 2025, the Issuer entered into a securities purchase agreement (the "Securities Purchase Agreement") with certain accredited investors, including Samsara LP and Samsara Opportunity Fund (the "Purchasers"), pursuant to which the Issuer agreed to issue and sell in a private placement (the "Private Placement") (i) 42,633,337 shares of Class A common stock (the "Shares"); (ii) pre-funded warrants to purchase up to an aggregate of 82,366,667 shares of Class A Common Stock (the "Pre-Funded Warrants"); and associated warrants to purchase up to an additional 125,000,004 shares of Class A common stock or pre-funded warrants (the "Common Warrants" and, together with the Pre-Funded Warrants, the "Warrants"). Pursuant to the Purchase Agreement, the purchase price of the Shares to institutional Purchasers, including Samsara LP and Samsara Opportunity Fund, was \$0.48 per share and associated Common Warrant. The purchase price of the Pre-Funded Warrants to the institutional Purchasers, including Samsara LP and Samsara Opportunity Fund, was \$0.4799 per Pre-Funded Warrant and associated Common Warrant. The Private Placement closed on October 23, 2025 (the "Closing Date"). Each of Samsara LP and Samsara Opportunity Fund purchased 4,250,000 Shares and Pre-Funded Warrants to purchase up to 8,250,000 shares of Class A common stock, along with associated Common Warrants to purchase up to 12,500,000 shares of Class A common stock or Pre-Funded Warrants, for total consideration of \$6,000,000. Each of Samsara LP and Samsara Opportunity Fund funded its purchase of such securities from capital contributions from its respective general and limited partners. The foregoing description of the Securities Purchase Agreement does not purport to be complete and is qualified in its entirety by reference to the Securities Purchase Agreement, a copy of which is filed as Exhibit 99.2 hereto and incorporated by reference herein.

Item 4. Purpose of Transaction

The Reporting Persons purchased the aforementioned securities for investment purposes with the aim of increasing the value of their investments and the Issuer. Subject to applicable legal requirements, one or more of the Reporting Persons may purchase additional securities of the Issuer from time to time in open market or private transactions, depending on its evaluation of the Issuer's business, prospects and financial condition, the market for the Issuer's securities, other developments concerning the Issuer, the reaction of the Issuer to the Reporting Persons' ownership of the Issuer's securities, other opportunities available to the Reporting Persons, and general economic, money market and stock market conditions. In addition, depending upon the factors referred to above, the Reporting Persons may dispose of all or a portion of their securities of the Issuer at any time (including by means of programs adopted pursuant to Rule 10b5-1 under the Securities Exchange Act of 1934 (the "Act")). Each of the Reporting Persons reserve the right to increase or decrease its holdings on such terms and at such times as each may decide. Except as set forth in this Item 4 and Item 6 below, none of the Reporting Persons have a present plan or proposal that relates to or would result in any of the actions specified in clauses (a) through (j) of Item 4 of Schedule 13D of the Act.

However, each of the Reporting Persons reserves the right to propose or participate in future transactions which may result in one or more of such actions, including but not limited to, an extraordinary corporate transaction, such as a merger, reorganization or liquidation, sale of a material amount of assets of the Issuer or its subsidiaries, or other transactions which might have the effect of causing the common stock to become eligible for termination of registration under Section 12(g) of the Act. The Reporting Persons also retain the right to change their investment intent at any time, to acquire additional shares of common stock or other securities of the Issuer from time to time, or to sell or otherwise dispose of all or part of the common stock beneficially owned by them (or any shares of common stock into which such securities are converted) in any manner permitted by law. The Reporting Persons may engage from time to time in ordinary course transactions with financial institutions with respect to the securities described herein. In connection with the Private Placement and pursuant to the Securities Purchase Agreement, as promptly as possible following the closing, but in no event later than ninety (90) days following the Closing Date, the Issuer has agreed to use reasonable best efforts to: (a) amend the Issuer's Amended and Restated Certificate of Incorporation to, among other things (i) reduce the number of votes to which each share of Class B Common Stock is entitled from ten (10) votes to one (1) vote, (ii) eliminate the ability of the Issuer's stockholders to act by written consent, and (iii) include additional stockholder protective provisions (not including a classified board) (which provisions shall be

reasonably acceptable to Samsara BioCapital; (b) make necessary conforming changes to the Issuer's Amended and Restated Bylaws as a result of the amendments contemplated by (a) above; (c) make necessary conforming changes to that certain Fifth Amended and Restated Limited Liability Company Agreement of Rani Therapeutics, LLC, dated August 3, 2021, as a result of the amendments contemplated by (a) above; and (d) terminate that certain Tax Receivable Agreement, dated August 3, 2021. Pursuant to the Securities Purchase Agreement, for so long as entities affiliated with Samsara BioCapital (together, "Samsara") beneficially own securities representing at least 25% of the securities issued to the Reporting Persons at the closing of the Private Placement (including shares issuable upon exercise of the Warrants), Samsara shall have the right, subject to compliance with the applicable rules and regulations of The Nasdaq Stock Market, to designate one member of the Issuer's board of directors. Pursuant to this right, Samsara designated Abraham Basssan, a partner at Samsara, to serve as a director of the Issuer, and the board of directors of the Issuer appointed Mr. Bassan, effective upon closing of the Private Placement, to serve as a director. As a director of the Issuer, Mr. Bassan may have influence over the corporate activities of the Issuer, including activities which may relate to the transactions described in clauses (a) through (j) of Item 4 of Schedule 13D of the Act.

Item 5. Interest in Securities of the Issuer

Rows 11 and 13 of each Reporting Person's cover page to this Schedule 13D set forth the aggregate number of shares of Class A common stock and percentages of the shares of Class A common stock beneficially owned by such Reporting Person and are incorporated by reference. The percentage set forth in each row 13 is based upon 97,541,221 shares of Class A common stock outstanding as of October 23, 2025, as reported in the Issuer's Current Report on Form 8-K filed with the Securities and Exchange Commission (the "SEC") on October 27, 2025, and giving effect to Warrants, to the extent exercisable within 60 days hereof, as referenced herein. As of the date of the filing of this Schedule 13D, Dr. Akkaraju beneficially owns 9.99% of the outstanding Class A common stock. Due to field limitations of the EDGAR filing system, the percentage listed in Row 11 of Dr. Akkaraju's cover page has been rounded down to 9.9%. The Reporting Persons' beneficial ownership of the Issuer's securities consists of (i) 4,250,000 shares of Class A common stock directly held by Samsara LP; (ii) Pre-Funded Warrants exercisable for up to 8,250,000 shares of Class A common directly held by Samsara LP; (iii) Common Warrants exercisable for up to 12,500,000 shares of Class A common stock or Pre-Funded Warrants directly held by Samsara LP; (iv) 4,250,000 shares of Class A common stock directly held by Samsara Opportunity Fund; (v) Pre-Funded Warrants exercisable for up to 8,250,000 shares of Class A common directly held by Samsara Opportunity Fund; and (vi) Common Warrants exercisable for up to 12,500,000 shares of Class A common stock or Pre-Funded Warrants directly held by Samsara Opportunity Fund. Each of the Pre-Funded Warrants and the Common Warrants contains a provision (the "Beneficial Ownership Blockers") which precludes exercise of the Warrants to the extent that, following exercise, the holder, together with its affiliates and other attribution parties, would own more than 9.99% of the Class A common stock outstanding. Additionally, the Common Warrants are not exercisable until the effective date of the approval by the Issuer's stockholders of such exercisability, in accordance with the rules of the Nasdaq Stock Market. Each of Samsara LP and Samsara Opportunity Fund is currently prohibited from exercising the Warrants to the extent that such exercise would result in the Reporting Persons' beneficial ownership of more than 9,882,477 shares of Class A common stock. Samsara GP is the sole general partner of Samsara LP and Dr. Akkaraju is the managing member of Samsara GP. Each of Samsara GP and Dr. Akkaraju possesses power to direct the voting and disposition of the securities held by Samsara LP. Samsara Opportunity GP is the sole general partner of Samsara Opportunity Fund and Dr. Akkaraju is the managing member of Samsara Opportunity GP. Each of Samsara Opportunity GP and Dr. Akkaraju possesses power to direct the voting and disposition of the securities held by Samsara Opportunity Fund.

(a)

Rows 7 through 10 of each Reporting Person's cover page to this Schedule 13D set forth the number of shares of common stock as to which such Reporting Person has the sole or shared power to vote or direct the vote and sole or shared power to dispose or to direct the disposition and are incorporated by reference.

(b)

Except as set forth herein, none of the Reporting Persons has effected any transactions with respect to the securities of the Issuer during the past sixty days.

(c)

No other person is known to have the right to receive or the power to direct the receipt of dividends from, or any proceeds from the sale of, the securities beneficially owned by any of the Reporting Persons.

(d)

Not applicable.

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

Registration Rights Agreement In connection with the private placement, the Issuer and the investors in the private placement, including Samsara LP and Samsara Opportunity Fund, entered into a registration rights agreement (the "Registration Rights Agreement"), pursuant to which the Issuer has agreed to file registration statements under the Securities Act of 1933, as amended (the "Securities Act"), with the SEC, covering the resale of the shares issued in the Private Placement, including the shares underlying the Warrants, no later than 15 days following the Closing Date, and to use reasonable best efforts to have the registration statement declared effective 45 days after the Closing Date, and in any event no later than 90 days following the Closing Date in the event of a "full review" by the SEC. The foregoing description of the Registration Rights Agreement does not purport to be complete and is qualified in its entirety by reference to the form of Registration Rights Agreement, a copy of which is filed as Exhibit 99.3 hereto and incorporated by reference herein. Pre-Funded Warrants Each Pre-Funded Warrant has an exercise price of \$0.0001 per share of Class A common stock, is immediately exercisable and does not expire. Under the terms of the Pre-Funded Warrants, the Issuer may not effect the exercise of any Pre-Funded Warrant, and each of Samsara LP and Samsara Opportunity Fund will not be entitled to exercise any portion of any Pre-Funded Warrant, which, upon giving effect to such exercise, would cause the holder (together with its affiliates) to own more than 9.99% of the number of shares of the Class A common stock outstanding immediately after giving effect to such exercise, as such

percentage ownership is determined in accordance with the terms of the Pre-Funded Warrants. The foregoing description of the Pre-Funded Warrants does not purport to be complete and is qualified in its entirety by reference to the form of Pre-Funded Warrant, a copy of which is filed as Exhibit 99.4 hereto and incorporated by reference herein. Common Warrants The Common Warrants will become exercisable following the effective date of stockholder approval and have a term of five years following the initial exercise date. The Common Warrants have an exercise price of \$0.48 per share. Under the terms of the Common Warrants, the Issuer may not effect the exercise of any Common Warrant, and each of Samsara LP and Samsara Opportunity Fund will not be entitled to exercise any portion of any Common Warrant, which, upon giving effect to such exercise, would cause the holder (together with its affiliates) to own more than 9.99% of the number of shares of the Class A common stock outstanding immediately after giving effect to such exercise, as such percentage ownership is determined in accordance with the terms of the Common Warrants. Additionally, the Common Warrants are not exercisable until the effective date of the approval by the Issuer's stockholders of such exercisability, in accordance with the rules of the Nasdaq Stock Market. In connection with the Private Placement, the Issuer has agreed to seek approval from its stockholders for the issuance of the shares issuable upon exercise of the Common Warrants within 75 days following the Closing Date. The foregoing description of the Common Warrants does not purport to be complete and is qualified in its entirety by reference to the form of Common Warrant, a copy of which is filed as Exhibit 99.5 hereto and incorporated by reference herein.

Item 7. Material to be Filed as Exhibits.

Exhibit 99.1 Joint Filing Agreement Exhibit 99.2 Form of Securities Purchase Agreement, dated October 6, 2025, by and between Rani Therapeutics Holdings, Inc. and the Purchasers (incorporated herein by reference to Exhibit 10.1 to the Issuer's Form 8-K filed with the SEC on October 17, 2025 (File No. 001- 40672) Exhibit 99.3 Form of Registration Rights Agreement, dated October 6, 2025, by and between Rani Therapeutics Holdings, Inc. and the Purchasers (incorporated herein by reference to Exhibit 10.2 to the Issuer's Form 8-K filed with the SEC on October 17, 2025 (File No. 001- 40672) Exhibit 99.4 Form of Pre-Funded Warrant (incorporated herein by reference to Exhibit 10.4 to the Issuer's Form 8-K filed with the SEC on October 17, 2025 (File No. 001-40672) Exhibit 99.5 Form of Common Warrant (incorporated herein by reference to Exhibit 10.3 to the Issuer's Form 8-K filed with the SEC on October 17, 2025 (File No. 001-40672)

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.

Samsara BioCapital, L.P.

Signature: /s/ Srinivas Akkaraju

Name/Title: By Samsara BioCapital GP, LLC, its General Partner, By Srinivas Akkaraju, Managing Member

Date: 10/30/2025

Samsara BioCapital GP, LLC

Signature: /s/ Srinivas Akkaraju

Name/Title: By Srinivas Akkaraju, Managing Member

Date: 10/30/2025

Samsara Opportunity Fund, L.P.

Signature: /s/ Srinivas Akkaraju

Name/Title: By Samsara Opportunity Fund GP, LLC, its General Partner, By Srinivas Akkaraju, Managing Member

Date: 10/30/2025

Samsara Opportunity Fund GP, LLC

Signature: /s/ Srinivas Akkaraju

Name/Title: By Srinivas Akkaraju, Managing Member

Date: 10/30/2025

Srinivas Akkaraju

Signature: /s/ Srinivas Akkaraju

Name/Title: Srinivas Akkaraju

Date: 10/30/2025

JOINT FILING AGREEMENT

We, the undersigned, hereby express our agreement that the Schedule 13D (or any amendments thereto) relating to the Class A common stock of Rani Therapeutics Holdings, Inc. is filed on behalf of each of us.

Dated: October 30, 2025

Samsara BioCapital, L.P.

By: Samsara BioCapital GP, LLC
its General Partner

By: /s/ Srinivas Akkaraju
Name: Srinivas Akkaraju
Title: Managing Member

Samsara BioCapital GP, LLC

By: /s/ Srinivas Akkaraju
Name: Srinivas Akkaraju
Title: Managing Member

Samsara Opportunity Fund, L.P.

By: Samsara Opportunity Fund GP, LLC
its General Partner

By: /s/ Srinivas Akkaraju
Name: Srinivas Akkaraju
Title: Managing Member

Samsara Opportunity Fund GP, LLC

By: /s/ Srinivas Akkaraju
Name: Srinivas Akkaraju
Title: Managing Member

Srinivas Akkaraju

/s/ Srinivas Akkaraju