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

SCHEDULE 13G
Under the Securities Exchange Act of 1934
(Amendment No.)*

Prime Medicine, Inc.

(Name of Issuer)

Common Stock par value \$0.00001 per share

(Title of Class of Securities)

74168J101

(CUSIP Number)

December 31, 2022

(Date of Event Which Requires Filing of This Statement)

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

- Rule 13d-1(b)
 Rule 13d-1(c)
 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 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 PERSON(S) ARCH Venture Fund X, L.P.		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>		
3	SEC USE ONLY		
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0	
	6	SHARED VOTING POWER 12,256,594	
	7	SOLE DISPOSITIVE POWER 0	
	8	SHARED DISPOSITIVE POWER 12,256,594	
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 12,256,594		
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>		
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 12.6%		
12	TYPE OF REPORTING PERSON PN		

1	NAMES OF REPORTING PERSON(S) ARCH Venture Fund X Overage, L.P.		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>		
3	SEC USE ONLY		
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0	
	6	SHARED VOTING POWER 12,256,594	
	7	SOLE DISPOSITIVE POWER 0	
	8	SHARED DISPOSITIVE POWER 12,256,594	
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 12,256,594		
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>		
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 12.6%		
12	TYPE OF REPORTING PERSON PN		

1	NAMES OF REPORTING PERSON(S) ARCH Venture Partners X, L.P.		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>		
3	SEC USE ONLY		
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0	
	6	SHARED VOTING POWER 12,256,594	
	7	SOLE DISPOSITIVE POWER 0	
	8	SHARED DISPOSITIVE POWER 12,256,594	
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 12,256,594		
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>		
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 12.6%		
12	TYPE OF REPORTING PERSON PN		

1	NAMES OF REPORTING PERSON(S) ARCH Venture Partners X Overage, L.P.		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>		
3	SEC USE ONLY		
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0	
	6	SHARED VOTING POWER 12,256,594	
	7	SOLE DISPOSITIVE POWER 0	
	8	SHARED DISPOSITIVE POWER 12,256,594	
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 12,256,594		
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>		
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 12.6%		
12	TYPE OF REPORTING PERSON PN		

1	NAMES OF REPORTING PERSON(S) ARCH Venture Partners X, LLC		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>		
3	SEC USE ONLY		
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0	
	6	SHARED VOTING POWER 12,256,594	
	7	SOLE DISPOSITIVE POWER 0	
	8	SHARED DISPOSITIVE POWER 12,256,594	
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 12,256,594		
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>		
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 12.6%		
12	TYPE OF REPORTING PERSON OO		

1	NAMES OF REPORTING PERSON(S) Keith Crandell		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>		
3	SEC USE ONLY		
4	CITIZENSHIP OR PLACE OF ORGANIZATION United States of America		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0	
	6	SHARED VOTING POWER 12,256,594	
	7	SOLE DISPOSITIVE POWER 0	
	8	SHARED DISPOSITIVE POWER 12,256,594	
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 12,256,594		
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>		
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 12.6%		
12	TYPE OF REPORTING PERSON IN		

1	NAMES OF REPORTING PERSON(S) Steven Gillis		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>		
3	SEC USE ONLY		
4	CITIZENSHIP OR PLACE OF ORGANIZATION United States of America		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0	
	6	SHARED VOTING POWER 12,256,594	
	7	SOLE DISPOSITIVE POWER 0	
	8	SHARED DISPOSITIVE POWER 12,256,594	
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 12,256,594		
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>		
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 12.6%		
12	TYPE OF REPORTING PERSON IN		

1	NAMES OF REPORTING PERSON(S) Kristina Burow		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>		
3	SEC USE ONLY		
4	CITIZENSHIP OR PLACE OF ORGANIZATION United States of America		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0	
	6	SHARED VOTING POWER 12,256,594	
	7	SOLE DISPOSITIVE POWER 0	
	8	SHARED DISPOSITIVE POWER 12,256,594	
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 12,256,594		
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>		
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 12.6%		
12	TYPE OF REPORTING PERSON IN		

1	NAMES OF REPORTING PERSON(S) Robert Nelsen		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>		
3	SEC USE ONLY		
4	CITIZENSHIP OR PLACE OF ORGANIZATION United States of America		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 16,080	
	6	SHARED VOTING POWER 12,256,594	
	7	SOLE DISPOSITIVE POWER 16,080	
	8	SHARED DISPOSITIVE POWER 12,256,594	
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 12,272,674		
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>		
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 12.6%		
12	TYPE OF REPORTING PERSON IN		

Item 1(a). Name of Issuer:

Prime Medicine, Inc. (the "Issuer").

Item 1(b). Address of Issuer's Principal Executive Offices:

21 Erie St., Cambridge, MA 02139 USA

Item 2(a). Name of Person Filing:

ARCH Venture Fund X, L.P. ("AVF X"); ARCH Venture Partners X, L.P. ("AVP X LP"); ARCH Venture Partners X, LLC ("AVP X LLC"); ARCH Venture Fund X Overage, L.P. ("AVF X Overage"); ARCH Venture Partners X Overage, L.P. ("AVP X Overage GP") (collectively, the "Reporting Entities" and individually, each a "Reporting Entity"); and Keith Crandell ("Crandell"), Robert Nelsen ("Nelsen"), Kristina Burow ("Burow") and Steven Gillis ("Gillis") (collectively, the "Investment Committee" and individually, each a "Committee Member"). The Reporting Entities and the Committee Members collectively are referred to as the "Reporting Persons".

Item 2(b). Address of Principal Business Office or, if none, Residence:

8755 W. Higgins Road, Suite 1025, Chicago, IL 60631

Item 2(c). Citizenship:

Each of AVF X, AVP X LP, AVF X Overage and AVP X Overage GP, are limited partnerships organized under the laws of the State of Delaware. AVP X LLC is a limited liability company organized under the laws of the State of Delaware. Each Committee Member is a US citizen.

Item 2(d). Title of Class of Securities.

Common stock, par value \$0.00001 per share.

Item 2(e). CUSIP Number.

74168J101

Item 3. If this statement is filed pursuant to Rule 13d-1(b), or 13d-2(b) or (c), Check Whether the Person Filing is a:

Not Applicable.

Item 4. Ownership:

(a) Amount beneficially owned:

AVF X is the record owner of 6,128,297 shares of Common Stock (the "AVF X Shares") as of December 31, 2022. AVP X LP, as the sole general partner of AVF X, may be deemed to beneficially own the AVF X Shares. AVF X Overage is the record owner of 6,128,297 shares of Common Stock (the "AVF X Overage Shares", combined with AVF X Shares, the "Record Shares") as of December 31, 2022. AVP X Overage GP, as the sole general partner of AVF X Overage, may be deemed to beneficially own the AVF X Overage Shares. AVP X LLC, as the sole general partner of AVP X LP and AVP X Overage GP, may be deemed to beneficially own the Record Shares. As Committee Members of AVP X LLC, each Committee Member may also be deemed to share the power to direct the disposition and vote of the Record Shares.

(b) Percent of class:

See line 11 of the cover sheets. The percentages set forth on the cover sheet for each Reporting Person is based upon 97,208,342 shares of common stock outstanding as of November 8, 2022 as reported on the Issuer's Form 10-Q as filed with the Securities and Exchange Commission on November 14, 2022.

(c) Number of shares as to which such person has:

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

See line 5 of the cover sheets.

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

See line 6 of the cover sheets.

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

See line 7 of the cover sheets.

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

See line 8 of the cover sheets.

Each Reporting Person disclaims beneficial ownership of such shares of Common Stock except for the shares, if any, such Reporting Person holds of record.

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

Not applicable.

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.

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. Certifications.

Not applicable.

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 13, 2023

ARCH VENTURE FUND X, L.P.

By: ARCH Venture Partners X, L.P.
its General Partner

By: ARCH Venture Partners X, LLC
its General Partner

By: _____
*
Keith Crandell
Managing Director

ARCH VENTURE PARTNERS X, L.P.

By: ARCH Venture Partners X, LLC
its General Partner

By: _____
*
Keith Crandell
Managing Director

ARCH VENTURE PARTNERS X, LLC

By: _____
*
Keith Crandell
Managing Director

ARCH VENTURE FUND X OVERAGE, L.P.

By: ARCH Venture Partners X Overage, L.P.
its General Partner

By: ARCH Venture Partners X, LLC
its General Partner

By: _____
*
Keith Crandell
Managing Director

ARCH VENTURE PARTNERS X OVERAGE, L.P.

By: ARCH Venture Partners X, LLC
its General Partner

By: _____
*
Keith Crandell
Managing Director

*

Keith Crandell

*

Robert Nelsen

*

Kristina Burow

*

Steven Gillis

* By: /s/ Mark McDonnell
Mark McDonnell as
Attorney-in-Fact

* This Schedule 13G was executed by Mark McDonnell pursuant to Powers of Attorney filed as Exhibit 24 and 24.1 to the Form 3 relating to the beneficial ownership of shares of Prime Medicine, Inc. by the Reporting Persons filed with the Securities and Exchange Commission on October 19, 2022 and incorporated herein in its entirety by reference.

AGREEMENT

Pursuant to Rule 13d-1-(k)(1) under the Securities Exchange Act of 1934, the undersigned hereby agree that only one statement containing the information required by Schedule 13G need be filed with respect to the ownership by each of the undersigned of shares of stock of Prime Medicine, Inc.

This Agreement may be executed in any number of counterparts, each of which shall be deemed an original.

Dated: February 13, 2023

ARCH VENTURE FUND X, L.P.

By: ARCH Venture Partners X, L.P.
its General Partner

By: ARCH Venture Partners X, LLC
its General Partner

By: _____
*
Keith Crandell
Managing Director

ARCH VENTURE PARTNERS X, L.P.

By: ARCH Venture Partners X, LLC
its General Partner

By: _____
*
Keith Crandell
Managing Director

ARCH VENTURE PARTNERS X, LLC

By: _____
*
Keith Crandell
Managing Director

ARCH VENTURE FUND X OVERAGE, L.P.

By: ARCH Venture Partners X Overage, L.P.
its General Partner

By: ARCH Venture Partners X, LLC
its General Partner

By: _____
*
Keith Crandell
Managing Director

ARCH VENTURE PARTNERS X OVERAGE, L.P.

By: ARCH Venture Partners X, LLC
its General Partner

By: _____
*
Keith Crandell
Managing Director

_____*_____
Keith Crandell

_____*_____
Robert Nelsen

_____*_____
Kristina Burow

_____*_____
Steven Gillis

* By: /s/ Mark McDonnell
Mark McDonnell as
Attorney-in-Fact

* This Agreement was executed by Mark McDonnell pursuant to Powers of Attorney filed as Exhibit 24 and 24.1 to the Form 3 relating to the beneficial ownership of shares of Prime Medicine, Inc. by the Reporting Persons filed with the Securities and Exchange Commission on October 19, 2022 and incorporated herein in its entirety by reference.
