

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

SCHEDULE 13G

Under the Securities Exchange Act of 1934
(Amendment No. 2)*

Homology Medicines, Inc.

(Name of Issuer)

Common Stock, par value \$0.0001 per share

(Title of Class of Securities)

438083107

(CUSIP Number)

December 31, 2020

(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 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 5AM Ventures IV, L.P.
<hr/>		
2.		Check the Appropriate Box if a Member of a Group (See Instructions)
	(a)	<u>0</u>
	(b)	<u>x (1)</u>
<hr/>		
3.		SEC Use Only
<hr/>		
4.		Citizenship or Place of Organization Delaware, United States of America
<hr/>		
Number of Shares Beneficially Owned by Each Reporting Person With	5.	Sole Voting Power <u>0 shares</u>
	6.	Shared Voting Power <u>4,354,484 shares (2)</u>
	7.	Sole Dispositive Power <u>0 shares</u>
	8.	Shared Dispositive Power <u>4,354,484 shares (2)</u>
<hr/>		
9.		Aggregate Amount Beneficially Owned by Each Reporting Person <u>4,354,484 shares (2)</u>
<hr/>		
10.		Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions) <u>o</u>
<hr/>		
11.		Percent of Class Represented by Amount in Row (9) <u>9.6% (3)</u>
<hr/>		
12.		Type of Reporting Person (See Instructions) <u>PN</u>
<hr/>		

- (1) This Schedule 13G is filed by 5AM Ventures IV, L.P., a Delaware limited partnership ("Ventures IV"), 5AM Co-Investors IV, L.P., a Delaware limited partnership ("Co-Investors IV"), 5AM Partners IV, LLC, a Delaware limited liability company ("Partners IV"), Dr. John D. Diekman ("Diekman"), Andrew J. Schwab ("Schwab"), and Dr. Scott M. Rocklage ("Rocklage" and together with Ventures IV, Co-Investors IV, Partners IV, Diekman and Schwab, collectively, the "Reporting Persons"). The Reporting Persons expressly disclaim status as a "group" for purposes of this Schedule 13G.
- (2) Partners IV serves as the sole general partner of Ventures IV. Diekman, Schwab and Rocklage are managing members of Partners IV and share voting and dispositive power over the shares held by Ventures IV. The information with respect to the ownership of the Common Stock by the Reporting Persons filing this statement on Schedule 13G is provided as of December 31, 2020.
- (3) This percentage is calculated based upon 45,264,419 shares of Common Stock outstanding as of November 2, 2020 as indicated in the Issuer's Form 10-Q filed on November 9, 2020.

1.	Names of Reporting Persons 5AM Co-Investors IV, L.P.
2.	Check the Appropriate Box if a Member of a Group (See Instructions) (a) <input type="checkbox"/> 0 (b) <input checked="" type="checkbox"/> (1)
3.	SEC Use Only
4.	Citizenship or Place of Organization Delaware, United States of America
5.	Sole Voting Power 0 shares
6.	Shared Voting Power 181,435 shares (2)
7.	Sole Dispositive Power 0 shares
8.	Shared Dispositive Power 181,435 shares (2)
9.	Aggregate Amount Beneficially Owned by Each Reporting Person 181,435 shares (2)
10.	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions) <input type="checkbox"/>
11.	Percent of Class Represented by Amount in Row (9) 0.4% (3)
12.	Type of Reporting Person (See Instructions) PN

- (1) This Schedule 13G is filed by the Reporting Persons. The Reporting Persons expressly disclaim status as a "group" for purposes of this Schedule 13G.
- (2) Partners IV serves as the sole general partner of Co-Investors IV. Diekman, Schwab and Rocklage are managing members of Partners IV and share voting and dispositive power over the shares held by Co-Investors IV. The information with respect to the ownership of the Common Stock by the Reporting Persons filing this statement on Schedule 13G is provided as of December 31, 2020.
- (3) This percentage is calculated based upon 45,264,419 shares of Common Stock outstanding as of November 2, 2020 as indicated in the Issuer's Form 10-Q filed on November 9, 2020.

1.		Names of Reporting Persons 5AM Partners IV, LLC
<hr/>		
2.		Check the Appropriate Box if a Member of a Group (See Instructions)
	(a)	<u>0</u>
	(b)	<u>x (1)</u>
<hr/>		
3.		SEC Use Only
<hr/>		
4.		Citizenship or Place of Organization Delaware, United States of America
<hr/>		
Number of Shares Beneficially Owned by Each Reporting Person With	5.	Sole Voting Power <u>0 shares</u>
	6.	Shared Voting Power <u>4,535,919 shares (2)</u>
	7.	Sole Dispositive Power <u>0 shares</u>
	8.	Shared Dispositive Power <u>4,535,919 shares (2)</u>
<hr/>		
9.		Aggregate Amount Beneficially Owned by Each Reporting Person <u>4,535,919 shares (2)</u>
<hr/>		
10.		Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions) <u>o</u>
<hr/>		
11.		Percent of Class Represented by Amount in Row (9) <u>10.0% (3)</u>
<hr/>		
12.		Type of Reporting Person (See Instructions) <u>OO</u>
<hr/>		

- (1) This Schedule 13G is filed by the Reporting Persons. The Reporting Persons expressly disclaim status as a “group” for purposes of this Schedule 13G.
- (2) Includes 4,354,484 shares of Common Stock held by Ventures IV and 181,435 shares of Common Stock held by Co-Investors IV. Partners IV serves as the sole general partner of Ventures IV and Co-Investors IV. Diekman, Schwab and Rocklage are managing members of Partners IV and share voting and dispositive power over the shares held by Ventures IV and Co-Investors IV. The information with respect to the ownership of the Common Stock by the Reporting Persons filing this statement on Schedule 13G is provided as of December 31, 2020.
- (3) This percentage is calculated based upon 45,264,419 shares of Common Stock outstanding as of November 2, 2020 as indicated in the Issuer’s Form 10-Q filed on November 9, 2020.

1.	Names of Reporting Persons Dr. John D. Diekman	
2.	Check the Appropriate Box if a Member of a Group (See Instructions)	
	(a)	<u>0</u>
	(b)	<u>x (1)</u>
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 <u>0 shares</u>
	6.	Shared Voting Power <u>4,535,919 shares (2)</u>
	7.	Sole Dispositive Power <u>0 shares</u>
	8.	Shared Dispositive Power <u>4,535,919 shares (2)</u>
9.	Aggregate Amount Beneficially Owned by Each Reporting Person <u>4,535,919 shares (2)</u>	
10.	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions) <u>o</u>	
11.	Percent of Class Represented by Amount in Row (9) <u>10.0% (3)</u>	
12.	Type of Reporting Person (See Instructions) <u>IN</u>	

- (1) This Schedule 13G is filed by the Reporting Persons. The Reporting Persons expressly disclaim status as a “group” for purposes of this Schedule 13G.
- (2) Includes 4,354,484 shares of Common Stock held by Ventures IV and 181,435 shares of Common Stock held by Co-Investors IV. Partners IV serves as the sole general partner of Ventures IV and Co-Investors IV. Diekman, Schwab and Rocklage are managing members of Partners IV and share voting and dispositive power over the shares held by Ventures IV and Co-Investors IV. The information with respect to the ownership of the Common Stock by the Reporting Persons filing this statement on Schedule 13G is provided as of December 31, 2020.
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1.	Names of Reporting Persons Andrew J. Schwab	
2.	Check the Appropriate Box if a Member of a Group (See Instructions)	
	(a)	<u>0</u>
	(b)	<u>x (1)</u>
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 <u>0 shares</u>
	6.	Shared Voting Power <u>4,535,919 shares (2)</u>
	7.	Sole Dispositive Power <u>0 shares</u>
	8.	Shared Dispositive Power <u>4,535,919 shares (2)</u>
9.	Aggregate Amount Beneficially Owned by Each Reporting Person <u>4,535,919 shares (2)</u>	
10.	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions) <u>o</u>	
11.	Percent of Class Represented by Amount in Row (9) <u>10.0% (3)</u>	
12.	Type of Reporting Person (See Instructions) <u>IN</u>	

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- (3) This percentage is calculated based upon 45,264,419 shares of Common Stock outstanding as of November 2, 2020 as indicated in the Issuer's Form 10-Q filed on November 9, 2020.

1.	Names of Reporting Persons Dr. Scott M. Rocklage	
2.	Check the Appropriate Box if a Member of a Group (See Instructions)	
	(a)	<u>0</u>
	(b)	<u>x (1)</u>
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 <u>0 shares</u>
	6.	Shared Voting Power <u>4,535,919 shares (2)</u>
	7.	Sole Dispositive Power <u>0 shares</u>
	8.	Shared Dispositive Power <u>4,535,919 shares (2)</u>
9.	Aggregate Amount Beneficially Owned by Each Reporting Person <u>4,535,919 shares (2)</u>	
10.	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions) <u>o</u>	
11.	Percent of Class Represented by Amount in Row (9) <u>10.0% (3)</u>	
12.	Type of Reporting Person (See Instructions) <u>IN</u>	

- (1) This Schedule 13G is filed by the Reporting Persons. The Reporting Persons expressly disclaim status as a “group” for purposes of this Schedule 13G.
- (2) Includes 4,354,484 shares of Common Stock held by Ventures IV and 181,435 shares of Common Stock held by Co-Investors IV. Partners IV serves as the sole general partner of Ventures IV and Co-Investors IV. Diekman, Schwab and Rocklage are managing members of Partners IV and share voting and dispositive power over the shares held by Ventures IV and Co-Investors IV. The information with respect to the ownership of the Common Stock by the Reporting Persons filing this statement on Schedule 13G is provided as of December 31, 2020.
- (3) This percentage is calculated based upon 45,264,419 shares of Common Stock outstanding as of November 2, 2020 as indicated in the Issuer’s Form 10-Q filed on November 9, 2020.

Item 1.

- (a) Name of Issuer
Homology Medicines, Inc.
- (b) Address of Issuer's Principal Executive Offices
On Patriots Park
Bedford, MA 01730
-

Item 2.

- (a) Name of Person Filing
5AM Ventures IV, L.P. ("Ventures IV")
5AM Co-Investors IV, L.P. ("Co-Investors IV")
5AM Partners IV, LLC ("Partners IV")
Dr. John D. Diekman ("Diekman")
Andrew J. Schwab ("Schwab")
Dr. Scott M. Rocklage ("Rocklage")
- (b) Address of Principal Business Office or, if none, Residence
c/o 5AM Ventures
501 Second Street, Suite 350
San Francisco, CA 94107
- (c) Citizenship
- | | | | |
|--------------|---------------------------|---|--------------------------|
| Entities: | 5AM Ventures IV, L.P. | - | Delaware |
| | 5AM Co-Investors IV, L.P. | - | Delaware |
| | 5AM Partners IV, LLC | - | Delaware |
| Individuals: | Diekman | - | United States of America |
| | Schwab | - | United States of America |
| | Rocklage | - | United States of America |
- (d) Title of Class of Securities
Common Stock
- (e) CUSIP Number
438083107
-

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

Provide the following information regarding the aggregate number and percentage of the class of securities of the issuer identified in Item 1.

Reporting Persons	Shares Held Directly	Sole Voting Power	Shared Voting Power	Sole Dispositive Power	Shared Dispositive Power	Beneficial Ownership	Percentage of Class (4)
Ventures IV (1) (3)	4,354,484		4,354,484		4,354,484	4,354,484	9.6%
Co-Investors IV (2) (3)	181,435		181,435		181,435	181,435	0.4%
Partners IV (1) (2) (3)			4,535,919		4,535,919	4,535,919	10.0%
Diekman (1) (2) (3)			4,535,919		4,535,919	4,535,919	10.0%
Schwab (1) (2) (3)			4,535,919		4,535,919	4,535,919	10.0%
Rocklage (1) (2) (3)			4,535,919		4,535,919	4,535,919	10.0%

(1) Includes 4,354,484 shares of Common Stock held by Ventures IV.

(2) Includes 181,435 shares of Common Stock held by Co-Investors IV.

(3) Partners IV serves as the sole general partner of Ventures IV and Co-Investors IV. Diekman, Schwab and Rocklage are managing members of Partners IV and share voting and dispositive power over the shares held by Ventures IV and Co-Investors IV.

(4) This percentage is calculated based upon 45,264,419 shares of Common Stock outstanding as of November 2, 2020 as indicated in the Issuer's Form 10-Q filed on November 9, 2020.

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 .

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

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 16, 2021

5AM Ventures IV, L.P.

By: 5AM Partners IV, LLC
its General Partner

By: /s/ Andrew J. Schwab
Name: Andrew J. Schwab
Title: Managing Member

5AM Co-Investors IV, L.P.

By: 5AM Partners IV, LLC
its General Partner

By: /s/ Andrew J. Schwab
Name: Andrew J. Schwab
Title: Managing Member

5AM Partners IV, LLC

By: /s/ Andrew J. Schwab
Name: Andrew J. Schwab
Title: Managing Member

/s/ Dr. John D. Diekman
Dr. John D. Diekman

/s/ Andrew J. Schwab
Andrew J. Schwab

/s/ Dr. Scott M. Rocklage
Dr. Scott M. Rocklage

ATTENTION

Intentional misstatements or omissions of fact constitute Federal Criminal Violations (See 18 U.S.C. 1001).

Exhibit(s):

A - Joint Filing Statement

EXHIBIT A

JOINT FILING STATEMENT

We, the undersigned, hereby express our agreement that the attached Schedule 13G (or any amendments thereto) relating to the Common Stock of Homology Medicines, Inc. is filed on behalf of each of us.

Dated: February 16, 2021

5AM Ventures IV, L.P.

By: 5AM Partners IV, LLC
its General Partner

By: /s/ Andrew J. Schwab
Name: Andrew J. Schwab
Title: Managing Member

5AM Co-Investors IV, L.P.

By: 5AM Partners IV, LLC
its General Partner

By: /s/ Andrew J. Schwab
Name: Andrew J. Schwab
Title: Managing Member

5AM Partners IV, LLC

By: /s/ Andrew J. Schwab
Name: Andrew J. Schwab
Title: Managing Member

/s/ Dr. John D. Diekman
Dr. John D. Diekman

/s/ Andrew J. Schwab
Andrew J. Schwab

/s/ Dr. Scott M. Rocklage
Dr. Scott M. Rocklage