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

SCHEDULE 13D
Under the Securities Exchange Act of 1934

Synlogic, Inc.
(Name of Issuer)

Common Stock, par value \$0.001 per share
(Title of Class of Securities)

87166L100
(CUSIP Number)

**OrbiMed Advisors LLC
OrbiMed Capital GP VI LLC
Samuel D. Isaly**

**601 Lexington Avenue, 54th Floor
New York, NY 10022
Telephone: (212) 739-6400**

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

August 28, 2017
(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 .

Note: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See § 240.13d-7(b) for other parties to whom copies are to be sent.

*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).

1	NAME OF REPORTING PERSON OrbiMed Advisors LLC	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (See Instructions) AF	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 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 1,314,996
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 1,314,996
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,314,996	
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) 8.08%*	
14	TYPE OF REPORTING PERSON (See Instructions) IA	

* This percentage is calculated based upon 16,282,496 shares of common stock outstanding of Synlogic, Inc. (the "Issuer"), as set forth in the Issuer's Current Report on Form 8-K filed with the Securities and Exchange Commission on August 28, 2017.

1	NAME OF REPORTING PERSON OrbiMed Capital GP VI LLC	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (See Instructions) AF	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 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 1,314,996
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11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,314,996	
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) 8.08%*	
14	TYPE OF REPORTING PERSON (See Instructions) OO	

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1	NAME OF REPORTING PERSON Samuel D. Isaly	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (See Instructions) AF	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION United States	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 0
	8	SHARED VOTING POWER 1,314,996
	9	SOLE DISPOSITIVE POWER 0
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14	TYPE OF REPORTING PERSON (See Instructions) IN	

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Item 1. Security and Issuer

This Schedule 13D (the “Statement”) relates to the common stock, par value \$0.001 per share (the “Shares”), of Synlogic, Inc., a Delaware corporation formerly known as Mirna Therapeutics, Inc. (the “Issuer”), with its principal offices located at 200 Sidney Street, Suite 320, Cambridge, Massachusetts 02139. The Shares are listed on The NASDAQ Global Market under the ticker symbol “SYBX”.

Item 2. Identity and Background

(a) This Statement is being filed by OrbiMed Advisors LLC (“Advisors”), a limited liability company organized under the laws of Delaware, OrbiMed Capital GP VI LLC (“GP VI”), a limited liability company organized under the laws of Delaware, and Samuel D. Isaly (“Isaly”), an individual (collectively, the “Reporting Persons”).

(b) – (c) Advisors, a registered investment adviser under the Investment Advisers Act of 1940, as amended, is the sole managing member of GP VI, which is the sole general partner of OrbiMed Private Investments VI, LP (“OPI VI”), which holds Shares, as more particularly described in Item 3 below. Advisors has its principal offices at 601 Lexington Avenue, 54th Floor, New York, New York 10022.

GP VI has its principal offices at 601 Lexington Avenue, 54th Floor, New York, New York 10022.

Isaly, a natural person, is the managing member of Advisors and owns a controlling interest in Advisors.

The directors and executive officers of Advisors and GP VI are set forth on Schedules I and II, attached hereto. Schedules I and II set forth the following information with respect to each such person:

(i) name;

(ii) business address;

(iii) present principal occupation or employment and the name, principal business and address of any corporation or other organization in which such employment is conducted; and

(iv) citizenship.

(d) – (e) During the last five years, neither the Reporting Persons nor any person named in Schedule I or II have been (i) convicted in a criminal proceeding (excluding traffic violations or similar misdemeanors) or (ii) 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) Isaly is a citizen of the United States.

Item 3. Source and Amount of Funds or Other Consideration

Prior to the Merger (as defined below), OPI VI had purchased from Synlogic, Inc. (“Old Synlogic”), in a series of private transactions, 2,004,864 shares of Series B Preferred Stock and 372,209 shares of Series C Preferred Stock for an aggregate purchase price of \$17,999,996. On August 28, 2017, the Issuer completed its business combination with Old Synlogic in accordance with the terms of the Agreement and Plan of Merger and Reorganization, dated as of May 15, 2017, by and among the Issuer, Meerkat Merger Sub, Inc. (“Merger Sub”), and Old Synlogic (the “Merger Agreement”), pursuant to which Merger Sub merged with and into Old Synlogic, with Old Synlogic surviving as a wholly owned subsidiary of the Issuer (the “Merger”). On August 25, 2017, in connection with, and prior to the completion of, the Merger, the Issuer effected a 1:7 reverse stock split of its common stock (the “Reverse Stock Split”) and on August 28, 2017, immediately after completion of the Merger, the Issuer changed its name to “Synlogic, Inc.” Under the terms of the Merger Agreement, the Issuer issued Shares to Old Synlogic’s stockholders, at an exchange rate of 0.5532 Shares, after taking into account the Reverse Stock Split, for each share of Old Synlogic common stock and preferred stock outstanding immediately prior to the Merger.

The source of funds for the purchases described above was the working capital of OPI VI and capital contributions made to OPI VI.

As a result of the transactions described in this Item 3, (i) GP VI, as the general partner of OPI VI, (ii) Advisors, as the managing member of GP VI, and (iii) Isaly, as the managing member of Advisors and the owner of a controlling interest in Advisors, may each be deemed to be the beneficial owner of approximately 8.08% of the outstanding Shares.

Item 4. Purpose of Transaction

The Reporting Persons caused OPI VI to acquire Shares for the purpose of making an investment in the Issuer and not with the intention of acquiring control of the Issuer's business on behalf of OPI VI.

The Reporting Persons from time to time intend to review their investment in the Issuer on the basis of various factors, including the Issuer's business, financial condition, results of operations and prospects, general economic and industry conditions, the securities markets in general and those for the Issuer's Shares in particular, as well as other developments and other investment opportunities. Based upon such review, the Reporting Persons will take such actions in the future as the Reporting Persons may deem appropriate in light of the circumstances existing from time to time. If the Reporting Persons believe that further investment in the Issuer is attractive, whether because of the market price of the Shares or otherwise, they may acquire Shares or other securities of the Issuer either in the open market or in privately negotiated transactions. Similarly, depending on market and other factors, the Reporting Persons may determine to dispose of some or all of the Shares currently owned by the Reporting Persons or otherwise acquired by the Reporting Persons either in the open market or in privately negotiated transactions.

Except as set forth in this Statement, the Reporting Persons have not formulated any plans or proposals which relate to or would result in: (a) the acquisition by any person of additional securities of the Issuer or the disposition of securities of the Issuer; (b) an extraordinary corporate transaction, such as a merger, reorganization or liquidation, involving the Issuer or any of its subsidiaries; (c) a sale or transfer of a material amount of the assets of the Issuer or any of its subsidiaries; (d) any change in the present Board of Directors or management of the Issuer, including any plans or proposals to change the number or term of directors or to fill any existing vacancies on the board; (e) any material change in the Issuer's capitalization or dividend policy of the Issuer; (f) any other material change in the Issuer's business or corporate structure; (g) any change in the Issuer's charter or bylaws or other instrument corresponding thereto or other action which may impede the acquisition of control of the Issuer by any person; (h) causing a class of the Issuer's securities to be deregistered or delisted from a national securities exchange or to cease to be authorized to be quoted in an inter-dealer quotation system of a registered national securities association; (i) a class of equity securities of the Issuer becoming eligible for termination of registration pursuant to Section 12(g)(4) of the Act; or (j) any action similar to any of those enumerated above.

Item 5. Interest in Securities of the Issuer

(a)-(b) As of the date of this filing, the Reporting Persons may be deemed, for purposes of Rule 13d-3 of the Securities Exchange Act of 1934, as amended, directly or indirectly, including by reason of their mutual affiliation, to be the beneficial owners of the Shares described in Item 6 below. Based upon information contained in the Issuer's Form 8-K, filed with the Securities and Exchange Commission on August 28, 2017, such Shares deemed to be indirectly beneficially owned by the Reporting Persons constitutes approximately 8.08% of the issued and outstanding Shares. Advisors, pursuant to its authority as the sole managing member of GP VI, the sole general partner of OPI VI, may be deemed to indirectly beneficially own the Shares held by OPI VI. GP VI, pursuant to its authority as the general partner of OPI VI, may be deemed to indirectly beneficially own the Shares held by OPI VI. Isaly, pursuant to his authority as the managing member of Advisors and owner of a controlling interest in Advisors, pursuant to its limited liability company agreement, may also be deemed to indirectly beneficially own the Shares attributable to Advisors. As a result, Isaly, Advisors and GP VI share the power to direct the vote and to direct the disposition of the Shares described in Item 3 above.

- (c) Except as disclosed in Item 3, the Reporting Persons have not effected any transactions in the Shares during the past sixty (60) days.
- (d) Not applicable.
- (e) Not applicable.

Item 6. Contracts, Arrangements, Understandings or Relationship with Respect to Securities of the Issuer

In addition to the relationships between the Reporting Persons described in Items 2, 3 and 5 above, GP VI is the sole general partner of OPI VI, pursuant to the terms of the limited partnership agreement of OPI VI. Advisors is the sole managing member of GP VI, pursuant to the terms of the limited liability company agreement of GP VI. Pursuant to these agreements and relationships, Advisors and GP VI have discretionary investment management authority with respect to the assets of OPI VI. Such authority includes the power of GP VI to vote and otherwise dispose of securities purchased by OPI VI. The number of Shares attributable to OPI VI is 1,314,996. Advisors and GP VI may each be considered to hold indirectly 1,314,996 Shares. Isaly, pursuant to his authority as the managing member of, and owner of a controlling interest in, Advisors, also has shared discretionary power to direct the vote and the disposition of the securities of the Issuer held by OPI V.

Chau Khuong (“Khuong”), a Private Equity Partner of Advisors, was a member of the Board of Directors of Old Synlogic since February 2016 and has been a member of the Board of Directors of the Issuer since August 28, 2017 and, accordingly, the Reporting Persons may have the ability to affect and influence control of the Issuer. From time to time, Khuong may receive stock options or other awards of equity-based compensation pursuant to the Issuer’s compensation arrangements for non-employee directors. Khuong is obligated to transfer any securities issued under any such stock options or other awards, or the economic benefit thereof, to the Reporting Persons, which will in turn ensure that such securities or economic benefits are provided to OPI VI.

Lock-up Agreement

In connection with the Merger, certain of Old Synlogic’s stockholders, including OPI VI, and certain of the Issuer’s pre-merger stockholders entered into agreements (the “Lock-Up Agreements”), pursuant to which such parties have agreed not to, except in limited circumstances, sell or transfer, or engage in swap or similar transactions with respect to, shares of Issuer’s common stock, including, as applicable, shares received in the Merger and issuable upon exercise of certain warrants and options, from the closing of the Merger until 180 days from the closing date of the Merger.

The foregoing description of the Lock-Up Agreements does not purport to be complete and is qualified in its entirety by reference to the full text of the Lock-Up Agreements, a copy of which is included in this Statement as Exhibit 2 and incorporated herein by reference.

Item 7. Materials to Be Filed as Exhibits

Exhibit	Description
1.	Joint Filing Agreement among OrbiMed Advisors LLC, OrbiMed Capital GP VI LLC and Samuel D. Isaly.
2.	Form of Lock-Up Agreement (incorporated by reference to Exhibit 2.4 to the Issuer’s Current Report on Form 8-K (SEC File No. 001-37566), filed with the SEC on May 16, 2017).

SIGNATURE

After reasonable inquiry and to the best of each of the undersigned's knowledge and belief, each of the undersigned certifies that the information set forth in this statement is true, complete and correct.

Dated: September 7, 2017

OrbiMed Advisors LLC

By: /s/ Samuel D. Isaly

Name: Samuel D. Isaly

Title: Managing Member

OrbiMed Capital GP VI LLC

By: OrbiMed Advisors LLC
its Managing Member

By: /s/ Samuel D. Isaly

Name: Samuel D. Isaly

Title: Managing Member

Samuel D. Isaly

By: /s/ Samuel D. Isaly

Name: Samuel D. Isaly

Schedule I

The name and present principal occupation of each of the executive officers and directors of OrbiMed Advisors LLC are set forth below. Unless otherwise noted, each of these persons are United States citizens and have as their business address 601 Lexington Avenue, 54th Floor, New York, NY 10022.

Name	Position with Reporting Person	Principal Occupation
Samuel D. Isaly	Managing Member	Managing Member OrbiMed Advisors LLC
Carl L. Gordon	Member	Member OrbiMed Advisors LLC
Sven H. Borho German and Swedish Citizen	Member	Member OrbiMed Advisors LLC
Jonathan T. Silverstein	Member	Member OrbiMed Advisors LLC
W. Carter Neild	Member	Member OrbiMed Advisors LLC
Geoffrey C. Hsu	Member	Member OrbiMed Advisors LLC
Evan D. Sotiriou	Chief Financial Officer	Chief Financial Officer OrbiMed Advisors LLC

Schedule II

The business and operations of OrbiMed Capital GP VI LLC are managed by the executive officers and directors of its managing member, OrbiMed Advisors LLC, set forth on Schedule I attached hereto.

EXHIBIT INDEX

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JOINT FILING AGREEMENT

The undersigned hereby agree that the Statement on this Schedule 13D, dated September 7, 2017 (the "Schedule 13D"), with respect to the Shares of Synlogic, Inc. is filed, and all amendments thereto will be filed, on behalf of each of us pursuant to and in accordance with the provisions of Rule 13d-1(k) under the Securities and Exchange Act of 1934, as amended, and that this Agreement shall be included as an Exhibit to this Schedule 13D. Each of the undersigned agrees to be responsible for the timely filing of the Schedule 13D, and for the completeness and accuracy of the information concerning itself contained therein. This Agreement may be executed in any number of counterparts, all of which taken together shall constitute one and the same instrument.

IN WITNESS WHEREOF, the undersigned have executed this Agreement as of the 7th day of September, 2017.

OrbiMed Advisors LLC

By: /s/ Samuel D. Isaly

Name: Samuel D. Isaly

Title: Managing Member

OrbiMed Capital GP VI LLC

By: OrbiMed Advisors LLC
its Managing Member

By: /s/ Samuel D. Isaly

Name: Samuel D. Isaly

Title: Managing Member

Samuel D. Isaly

By: /s/ Samuel D. Isaly

Samuel D. Isaly
