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

SCHEDULE 13D
Under the Securities Exchange Act of 1934
(Amendment No. 6)*

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
OrbiMed Genesis GP LLC

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)

September 27, 2021
(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).

CUSIP No. 87166L100

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 6,029,995
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 6,029,995
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 6,029,995	
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) 9.0%*	
14	TYPE OF REPORTING PERSON (See Instructions) IA	

* This percentage is calculated based upon 67,375,344 shares of common stock outstanding of Synlogic, Inc. (the "Issuer"), as set forth in the Issuer's Rule 424(b)(5) Prospectus filed with the Securities and Exchange Commission on September 23, 2021.

CUSIP No. 87166L100

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 4,363,295
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 4,363,295
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 4,363,295	
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) 6.5%*	
14	TYPE OF REPORTING PERSON (See Instructions) OO	

* This percentage is calculated based upon 67,375,344 shares of common stock outstanding of Synlogic, Inc. (the "Issuer"), as set forth in the Issuer's Rule 424(b)(5) Prospectus filed with the Securities and Exchange Commission on September 23, 2021.

CUSIP No. 87166L100

1	NAME OF REPORTING PERSON OrbiMed Genesis GP 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 1,666,700
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 1,666,700
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,666,700	
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) 2.5%*	
14	TYPE OF REPORTING PERSON (See Instructions) OO	

* This percentage is calculated based upon 67,375,344 shares of common stock outstanding of Synlogic, Inc. (the "Issuer"), as set forth in the Issuer's Rule 424(b)(5) Prospectus filed with the Securities and Exchange Commission on September 23, 2021.

Item 1. Security and Issuer

This Amendment No. 6 (“Amendment No. 6”) to Schedule 13D supplements and amends the statement on Schedule 13D (the “Statement”) originally filed by OrbiMed Advisors LLC, OrbiMed Capital GP VI LLC, and Samuel D. Isaly with the Securities and Exchange Commission (the “SEC”) on September 7, 2017, as amended by Amendment No. 1 (“Amendment No. 1”) filed with the SEC on January 26, 2018, Amendment No. 2 filed with the SEC on April 12, 2018, Amendment No. 3 filed with the SEC on August 12, 2019, Amendment No. 4 filed with the SEC on March 29, 2021, and Amendment No. 5 filed with the SEC on April 22, 2021 (“Amendment No. 5”). This 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 301 Binney St., Suite 402, Cambridge, Massachusetts 02142. The Shares are listed on The NASDAQ Capital Market under the ticker symbol “SYBX”. Information given in response to each item shall be deemed incorporated by reference in all other items, as applicable. As reported in Amendment No. 1, Samuel D. Isaly has ceased to be a reporting person for purposes of the Statement.

On September 27, 2021, the issuer completed an underwritten public offering of 15,000,000 Shares (the “Offering”) at an offering price of \$3.00 per Share. In addition, the Issuer granted the underwriters an option to purchase, at the public offering price less any underwriting discounts and commissions, up to an additional 2,250,000 Shares. As a result of the participation of OrbiMed Private Investments VI, LP (“OPI VI”) and OrbiMed Genesis Master Fund, L.P. (“Genesis”) in the Offering, the percentage of outstanding Shares that the Reporting Persons may be deemed to beneficially own was increased by more than one percent of the Issuer’s Shares outstanding since the filing of Amendment No. 5.

Item 2. Identity and Background

(a) This Schedule 13D is being filed by OrbiMed Advisors LLC (“OrbiMed Advisors”), OrbiMed Capital GP VI LLC (“GP VI”), and OrbiMed Genesis GP LLC (“OrbiMed Genesis”) (collectively, the “Reporting Persons”).

(b) — (c), (f) GP VI, a limited liability company organized under the laws of Delaware, is the general partner of a limited partnership, as more particularly described in Item 6 below. OrbiMed GP has its principal offices at 601 Lexington Avenue, 54th Floor, New York, New York 10022.

OrbiMed Genesis, a limited liability company organized under the laws of Delaware, is the general partner of a limited partnership, as more particularly described in Item 6 below. OrbiMed Genesis has its principal offices at 601 Lexington Avenue, 54th Floor, New York, New York 10022.

OrbiMed Advisors, a limited liability company organized under the laws of Delaware and a registered investment adviser under the Investment Advisers Act of 1940, as amended, is the managing member of GP VI and OrbiMed Genesis, as more particularly described in Item 6 below. OrbiMed Advisors has its principal offices at 601 Lexington Avenue, 54th Floor, New York, New York 10022.

The directors and executive officers of OrbiMed Advisors, GP VI, and OrbiMed Genesis are set forth on Schedules I, II, and III, attached hereto. Schedules I, II, and III 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, II or III 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.

Item 3. Source and Amount of Funds or Other Consideration

On September 27, 2021, the Issuer closed an underwritten public offering of 15,000,000 Shares at a purchase price of \$3.00 per Share (the “Offering”). OrbiMed Advisors and GP VI, pursuant to their authority under the limited partnership agreement of OPI VI, as more particularly referred to in Item 6 below, caused OPI VI to purchase an aggregate of 666,633 Shares in the Offering. OrbiMed Advisors and OrbiMed Genesis, pursuant to their authority under the limited partnership agreement of Genesis, as more particularly referred to in Item 6 below, caused Genesis to acquire 1,666,700 Shares in the Offering. The source of funds for such purchases was the working capital of OPI VI and Genesis, respectively.

As a result of the transaction described in this Item 3, GP VI, as the general partner of OPI VI, may be deemed to be the beneficial owners of approximately 6.5% of the outstanding Shares and OrbiMed Genesis, as the general partner of Genesis, may be deemed to be the beneficial owner of approximately 2.5% of the outstanding Shares. OrbiMed Advisors, as the managing member of GP VI and OrbiMed Genesis, may be deemed to be the beneficial owner of approximately 9.0% of the outstanding Shares.

Item 4. Purpose of Transaction

The Shares were initially acquired by the Reporting Persons for the purpose of making an investment in the Issuer and not with the intention of acquiring control of the Issuer’s business.

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, OPI VI, a limited partnership organized under the laws of Delaware, holds 4,363,295 Shares, constituting approximately 6.5% of the issued and outstanding Shares. GP VI is the general partner of OPI VI, pursuant to the terms of the limited partnership agreement of OPI VI, and OrbiMed Advisors is the managing member of GP VI, pursuant to the terms of the limited liability company agreement of GP VI. As a result, OrbiMed Advisors and GP VI share power to direct the vote and disposition of the Shares held by OPI VI and may be deemed directly or indirectly, including by reason of their mutual affiliation, to be the beneficial owners of the Shares held by OPI VI. OrbiMed Advisors exercises this investment and voting power through a management committee comprised of Carl L. Gordon, Sven H. Borho, and W. Carter Neild, each of whom disclaims beneficial ownership of the Shares held by OPI VI.

In addition, OrbiMed Advisors and GP VI, pursuant to their authority under the limited partnership agreement of OPI VI, caused OPI VI to enter into the agreements referred to in Item 6 below.

As of the date of this filing, Genesis, a limited partnership organized under the laws of the Cayman Islands, holds 1,666,700 Shares constituting approximately 2.5% of the issued and outstanding Shares. OrbiMed Genesis is the general partner of Genesis, pursuant to the terms of the limited partnership agreement of Genesis, and OrbiMed Advisors is the managing member of OrbiMed Genesis, pursuant to the terms of the limited liability company agreement of OrbiMed Genesis. As a result, OrbiMed Advisors and OrbiMed Genesis share power to direct the vote and disposition of the Shares held by Genesis and may be deemed, directly or indirectly, including by reason of their mutual affiliation, to be the beneficial owners of the Shares held by Genesis. OrbiMed Advisors exercises this investment and voting power through a management committee comprised of Carl L. Gordon, Sven H. Borho, and W. Carter Neild, each of whom disclaims beneficial ownership of the Shares held by Genesis.

In addition, OrbiMed Advisors and OrbiMed Genesis, pursuant to their authority under the limited partnership agreement of Genesis, caused Genesis to enter into the agreements referred to in Item 6 below.

(c) Other than as set forth 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 and 5 above, GP VI is the general partner of OPI VI, pursuant to the terms of the limited partnership agreement of OPI VI. OrbiMed Advisors is the managing member of GP VI, pursuant to the terms of the limited liability company agreement of GP VI. Pursuant to these agreements and relationships, OrbiMed 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 4,363,295. OrbiMed Advisors and GP VI may each be considered to hold indirectly 4,363,295 Shares.

In addition to the relationships between the Reporting Persons described in Items 2 and 5 above, OrbiMed Genesis is the general partner of Genesis, pursuant to the terms of the limited partnership agreement of Genesis. OrbiMed Advisors is the managing member of OrbiMed Genesis, pursuant to the terms of the limited liability company agreement of OrbiMed Genesis. Pursuant to these agreements and relationships, OrbiMed Advisors and OrbiMed Genesis have discretionary investment management authority with respect to the assets of Genesis. Such authority includes the power to vote and otherwise dispose of securities held by Genesis. The number of outstanding Shares of the Issuer attributable to Genesis is 1,666,700. OrbiMed Advisors and OrbiMed Genesis may each be considered to hold indirectly 1,666,700 Shares.

Chau Khuong, formerly an employee of, and currently a venture partner of, OrbiMed Advisors, was a member of the Board of Directors until the end of his term, which concluded on June 10, 2021.

Other than as described in this Amendment No. 6, to the best of the Reporting Persons' knowledge, there are no other contracts, arrangements, understandings or relationships (legal or otherwise) among the persons named in Item 2 and between such persons and any person with respect to any securities of the Issuer.

Item 7. Materials to Be Filed as Exhibits

Exhibit	Description
1.	Joint Filing Agreement among OrbiMed Advisors LLC, OrbiMed Genesis GP LLC, and OrbiMed Capital GP VI LLC.

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: September 29, 2021

ORBIMED ADVISORS LLC

By: /s/ Carl L. Gordon
Name: Carl L. Gordon
Title: Member

ORBIMED CAPITAL GP VI LLC

By: ORBIMED ADVISORS LLC, its managing member

By: /s/ Carl L. Gordon
Carl L. Gordon
Member of OrbiMed Advisors LLC

ORBIMED GENESIS GP LLC

By: ORBIMED ADVISORS LLC, its managing member

By: /s/ Carl L. Gordon
Carl L. Gordon
Member of OrbiMed Advisors LLC

SCHEDULE I

The names and present principal occupations of each of the executive officers and directors of OrbiMed Advisors LLC are set forth below. Unless otherwise noted, each of these persons is a United States citizen and has a business address of 601 Lexington Avenue, 54th Floor, New York, NY 10022.

<u>Name</u>	<u>Position with Reporting Person</u>	<u>Principal Occupation</u>
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
C. Scotland Stevens	Member	Member OrbiMed Advisors LLC
David P. Bonita	Member	Member OrbiMed Advisors LLC
Trey Block	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 in Schedule I attached hereto.

SCHEDULE III

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

EXHIBIT INDEX

Exhibit	Description
1.	Joint Filing Agreement among OrbiMed Advisors LLC, OrbiMed Genesis GP LLC, and OrbiMed Capital GP VI LLC.

JOINT FILING AGREEMENT

The undersigned hereby agree that the Amendment No. 6 to Schedule 13D, dated September 29, 2021, with respect to the ordinary shares of Synlogic, Inc. is filed on behalf of each of us pursuant to and in accordance with the provisions of Rule 13d-1(k) under the Securities Exchange Act of 1934, as amended. Each of the undersigned agrees to be responsible for the timely filing of this Statement, 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 29th day of September 2021.

ORBIMED ADVISORS LLC

By: /s/ Carl L. Gordon
Name: Carl L. Gordon
Title: Member

ORBIMED CAPITAL GP VI LLC

By: ORBIMED ADVISORS LLC, its managing member

By: /s/ Carl L. Gordon
Carl L. Gordon
Member of OrbiMed Advisors LLC

ORBIMED GENESIS GP LLC

By: ORBIMED ADVISORS LLC, its managing member

By: /s/ Carl L. Gordon
Carl L. Gordon
Member of OrbiMed Advisors LLC