

---

---

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

**SCHEDULE 13D**  
Under the Securities Exchange Act of 1934

**resTORbio, Inc.**  
(Name of Issuer)

**Common Stock, par value \$0.0001 per share**

---

(Title of Class of Securities)

**76133L103**  
(CUSIP Number)

**OrbiMed Advisors LLC  
OrbiMed Capital GP VI 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)

**January 30, 2018**

---

(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).

---

---

**SCHEDULE 13D**

<b>CUSIP No. 76133L103</b>		
1	NAME OF REPORTING PERSONS 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 4,830,387
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 4,830,387
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 4,830,387	
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) 17.22% *	
14	TYPE OF REPORTING PERSON (See Instructions) IA	

\* This percentage is calculated based upon 28,046,315 shares of common stock outstanding of resTORbio, Inc. (the "Issuer"), as set forth in the Issuer's Form 424B4 Prospectus filed with the Securities and Exchange Commission on January 29, 2018 and giving effect to the additional 850,000 shares of common stock issued and sold by the Issuer to the underwriters pursuant to the underwriters' option.

**SCHEDULE 13D**

<b>CUSIP No. 76133L103</b>		
1	NAME OF REPORTING PERSONS 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 4,830,387
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 4,830,387
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 4,830,387	
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) 17.22%*	
14	TYPE OF REPORTING PERSON (See Instructions) OO	

\* This percentage is calculated based upon 28,046,315 shares of common stock outstanding of resTORbio, Inc. (the "Issuer"), as set forth in the Issuer's Form 424B4 Prospectus filed with the Securities and Exchange Commission on January 29, 2018 and giving effect to the additional 850,000 shares of common stock issued and sold by the Issuer to the underwriters pursuant to the underwriters' option.

## Item 1. Security and Issuer

This Schedule 13D (this “Statement”) relates to the common stock, par value \$0.0001 per share (the “Shares”), of resTORbio, Inc., a corporation organized under the laws of Delaware (the “Issuer”), with its principal offices located at 500 Boylston Street, 12<sup>th</sup> Floor, Boston, MA 02116. The Shares are listed on the NASDAQ Global Market under the ticker symbol “TORC”. Information given in response to each item shall be deemed incorporated by reference in all other items, as applicable.

On January 30, 2018, the Issuer completed its initial public offering pursuant to which the Issuer agreed to issue and sell to the participants 5,666,667 Shares (the “IPO”). The purchase price for each Share was \$15.00. As a result of the IPO, the Issuer’s total number of outstanding Shares increased to 28,046,315.

## 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, and OrbiMed Capital GP VI LLC (“GP VI”), a limited liability company organized under the laws of Delaware (collectively, the “Reporting Persons”).

(b) – (c), (f) 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 described herein. 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.

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.

## Item 3. Source and Amount of Funds or Other Consideration

On January 25, 2018, the Registration Statement on Form S-1/A filed with the Securities and Exchange Commission by the Issuer in connection with its IPO was declared effective.

The closing of the IPO took place on January 30, 2018, and at such closing Advisors and GP VI, pursuant to their authority under the limited partnership agreements of OPI VI, as more particularly described in Item 6 below, caused OPI VI to purchase 533,333 Shares at the IPO price of \$15.00 per Share.

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

---

Prior to the IPO, on October 12, 2017, Advisors and GP VI, pursuant to their authority under the limited partnership agreement of OPI VI, caused OPI VI to purchase 3,105,590 shares of Series A Preferred Stock of the Issuer (“Preferred Stock”). On and prior to the close of November 29, 2017, Advisors and GP VI, pursuant to their authority under the limited partnership agreement of OPI VI, caused OPI VI to purchase an additional 2,396,358 shares of Preferred Stock. Upon closing of the Issuer’s IPO, each share of Preferred Stock converted into Shares on the basis of one Share for each 1.28 shares of Preferred Stock.

As a result of the transactions described in this Item 3, the Reporting Persons may be deemed to be the beneficial owners of approximately 17.22% of the outstanding Shares. GP VI, as the general partner of OPI VI, may be deemed to be the beneficial owner of approximately 17.22% of the outstanding Shares. Advisors, as the managing member of GP VI, may be deemed to be the beneficial owner of approximately 17.22% of the outstanding Shares. None of the Reporting Persons have acquired or disposed of any additional Shares since January 30, 2018.

#### **Item 4. Purpose of Transaction**

The Shares initially have been 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 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 Exchange Act, 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 424B4 Prospectus, filed with the Securities and Exchange Commission on January 29, 2018, such Shares deemed to be indirectly beneficially owned by the Reporting Persons constitutes approximately 17.22% 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. As a result, Advisors and GP VI share the power to direct the vote and to direct the disposition of the Shares held by OPI VI. Advisors exercises this investment and voting power through a management committee comprised of Carl L. Gordon, Sven H. Borho and Jonathan T. Silverstein (“Silverstein”), each of whom disclaims beneficial ownership of the Shares held by OPI VI.

---

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

(c) Except as disclosed in Item 3, none of the Reporting Persons has effected any transaction during the past sixty (60) days in any Shares.

(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 of this Statement, 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 4,830,387. Advisors and GP VI may each be considered to hold indirectly 4,830,387 Shares.

Silverstein, a Member of Advisors, has been a member of the Board of Directors of the Issuer since October 2017, and, accordingly, the Reporting Persons may have the ability to affect and influence control of the Issuer. From time to time, Silverstein may receive additional stock options or other awards of equity-based compensation pursuant to the Issuer's compensation arrangements for non-employee directors. Silverstein is obligated to transfer any Shares 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 shares or economic benefits are provided to OPI VI.

#### ***Lock-Up Agreement***

In connection with the IPO, OPI VI entered into a lock-up agreement with the Issuer (the "Lock-Up Agreement"). The Lock-Up Agreement provides that, subject to limited exceptions, OPI VI will not, during the period ending 180 days after the date of the IPO (the "Lock-Up Period"), directly or indirectly (1) sell, assign, transfer, pledge, contract to sell, or otherwise dispose of, any Shares or securities convertible into or exercisable or exchangeable for Shares with respect to which OPI VI has or acquires the power of disposition or (2) enter into any swap or other agreement that transfers, in whole or in part, the economic risk of ownership of any such Shares.

After the Lock-Up Period expires, the Reporting Persons' Shares will be eligible for sale in the public market, subject to any applicable limitations under Rule 144 under the Securities Act of 1933, as amended (the "Securities Act"), and other applicable U.S. securities laws.

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

#### ***Amended and Restated Investors' Rights Agreement***

In addition, OPI VI and certain other stockholders of the Issuer entered into an amended and restated investors' rights agreement with the Issuer (the "Investor Rights Agreement"), dated as of November 29, 2017. Pursuant to the Investor Rights Agreement and subject to the terms and conditions therein, the parties agreed that:

---

### *Registration Rights*

Following the closing of the IPO, the holders of a certain number of Shares, or their transferees, will be entitled to the registration rights set forth below with respect to registration of the resale of such Shares under the Securities Act pursuant to the Investors Rights Agreement.

### *Demand Registration Rights*

Beginning 180 days after the effective date of the IPO, upon the written request of at least 40% of the holders of the registrable securities (as defined in the Investor Rights Agreement), to file a registration statement and use commercially reasonable efforts to effect the registration of all or a portion of their registrable securities for public resale so long as the total amount of registrable shares requested to be registered has an anticipated aggregate offering price to the public, net of selling expenses, of least \$15.0 million. The Issuer is required to effect only two registrations pursuant to this provision of the Investor Rights Agreement.

### *Form S-3 Registration Rights*

Pursuant to the Investor Rights Agreement, if the Issuer is eligible to file a registration statement on Form S-3, upon the written request of the holders of at least 30% of Issuer's outstanding registrable securities so long as the total amount of registrable securities requested to be registered has an anticipated aggregate offering price to the public, net of selling expenses, of least \$10.0 million. The Issuer is required to effect only two registrations in any twelve-month period pursuant to the Investor Rights Agreement. The right to have such shares registered on Form S-3 is further subject to other specified conditions and limitations.

### *Piggyback Registration Rights*

Pursuant to the Investor Rights Agreement, if the Issuer registers any securities either for its own account or for the account of other security holders, the holders of these Shares are entitled to include their Shares in the registration. Subject to certain exceptions contained in the Investor Rights Agreement, the Issuer and the underwriters may limit the number of Shares included in the underwritten offering to the number of Shares which the Issuer and the underwriters determine in its sole discretion will not jeopardize the success of the offering.

### *Indemnification*

The Investor Rights Agreement contains customary cross-indemnification provisions, under which the Issuer is obligated to indemnify holders of registrable securities in the event of material misstatements or omissions in the registration statement attributable to it, and the holders of registrable securities are obligated to indemnify the Issuer for material misstatements or omissions attributable to them.

### *Termination of Registration Rights*

The demand registration rights and short form registration rights granted under the investor rights agreement will terminate on the fifth anniversary of the completion of this offering.

The foregoing description of the Investor Rights Agreement does not purport to be complete and is qualified in its entirety by reference to the full text of the Investor Rights Agreement, a copy of which is filed as Exhibit 3 and incorporated herein by reference.

Other than as described in this Statement, 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**

<b>Exhibit</b>	<b>Description</b>
1.	Joint Filing Agreement among OrbiMed Advisors LLC and OrbiMed Capital GP VI LLC.
2.	Form of Lock-Up Agreement (incorporated by reference to Exhibit A of Exhibit 1.1 to the Issuer's Amendment No. 1 to the Issuer's Registration Statement on Form S-1/A (SEC File No. 333-222373), filed with the SEC on January 16, 2018).
3.	Amended and Restated Investors' Rights Agreement by and among the Issuer and each of the persons listed on Schedule A thereto, dated as of November 29, 2017 (incorporated by reference to Exhibit 4.2 to the Issuer's Registration Statement on Form S-1 (SEC 333-222373), filed with the SEC on December 29, 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: February 2, 2018

OrbiMed Advisors LLC

By: /s/ Jonathan T. Silverstein  
Name: Jonathan T. Silverstein  
Title: Member of OrbiMed Advisors LLC

By: /s/ Sven H. Borho  
Name: Sven H. Borho  
Title: Member of OrbiMed Advisors LLC

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

OrbiMed Capital GP VI LLC

By: OrbiMed Advisors LLC  
its Managing Member

By: /s/ Jonathan T. Silverstein  
Name: Jonathan T. Silverstein  
Title: Member of OrbiMed Advisors LLC

By: /s/ Sven H. Borho  
Name: Sven H. Borho  
Title: Member of OrbiMed Advisors LLC

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

---

**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**

<b>Exhibit</b>	<b>Description</b>
1.	Joint Filing Agreement among OrbiMed Advisors LLC and OrbiMed Capital GP VI LLC.
2.	Form of Lock-Up Agreement (incorporated by reference to Exhibit A of Exhibit 1.1 to the Issuer's Amendment No. 1 to the Issuer's Registration Statement on Form S-1/A (SEC File No. 333-222373), filed with the SEC on January 16, 2018).
3.	Amended and Restated Investors' Rights Agreement by and among the Issuer and each of the persons listed on Schedule A thereto, dated as of November 29, 2017 (incorporated by reference to Exhibit 4.2 to the Issuer's Registration Statement on Form S-1 (SEC 333-222373), filed with the SEC on December 29, 2017).

---

## JOINT FILING AGREEMENT

The undersigned hereby agree that the Statement on this Schedule 13D, dated February 2, 2018 (the "Schedule 13D"), with respect to the Shares of resTORbio, 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 2nd day of February, 2018.

OrbiMed Advisors LLC

By: /s/ Jonathan T. Silverstein  
Name: Jonathan T. Silverstein  
Title: Member of OrbiMed Advisors LLC

By: /s/ Sven H. Borho  
Name: Sven H. Borho  
Title: Member of OrbiMed Advisors LLC

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

OrbiMed Capital GP VI LLC

By: OrbiMed Advisors LLC  
its Managing Member

By: /s/ Jonathan T. Silverstein  
Name: Jonathan T. Silverstein  
Title: Member of OrbiMed Advisors LLC

By: /s/ Sven H. Borho  
Name: Sven H. Borho  
Title: Member of OrbiMed Advisors LLC

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

---