
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
SCHEDULE 13D**
Under the Securities Exchange Act of 1934
(Amendment No. 5)

ASCENDIS PHARMA A/S

(Name of Issuer)
Ordinary Shares

(Title of Class of Securities)
04351P101
(CUSIP Number)

**OrbiMed Advisors LLC
OrbiMed Capital GP V 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)

June 17, 2016

(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

CUSIP No. 04351P101

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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 3,300,462
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 3,300,462
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 3,300,462	
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) 13.1%*	
14	TYPE OF REPORTING PERSON (See Instructions) IA	

* This percentage is calculated based upon 25,193,221 of the Issuer's Ordinary Shares outstanding (including any such Ordinary Shares represented by ADSs (as defined below)), as set forth in Exhibit 1.1 to the Issuer's Form 6-K dated June 10, 2016 and filed with the SEC (as defined below) on June 10, 2016.

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1	NAME OF REPORTING PERSONS OrbiMed Capital GP V 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
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13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 13.1%*	
14	TYPE OF REPORTING PERSON (See Instructions) OO	

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1	NAME OF REPORTING PERSONS 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 3,300,462
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 3,300,462
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 3,300,462	
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) 13.1%*	
14	TYPE OF REPORTING PERSON (See Instructions) IN	

* This percentage is calculated based upon 25,193,221 of the Issuer's Ordinary Shares outstanding (including any such Ordinary Shares represented by ADSs (as defined below)), as set forth in Exhibit 1.1 to the Issuer's Form 6-K dated June 10, 2016 and filed with the SEC (as defined below) on June 10, 2016.

Item 1. Security and Issuer

This Amendment No. 5 ("Amendment No. 5") to Schedule 13D supplements and amends the Statement on Schedule 13D of OrbiMed Advisors LLC, OrbiMed Capital GP V LLC and Samuel D. Isaly originally filed with the Securities and Exchange Commission (the "SEC") on February 12, 2015 (the "Statement") and amended by Amendment No. 1 thereto filed with the SEC on November 20, 2015, Amendment No. 2 thereto filed with the SEC on June 7, 2016, Amendment No. 3 thereto filed with the SEC on June 9, 2016 and Amendment No. 4 thereto filed with the SEC on June 17, 2016. The Statement relates to the Ordinary Shares (the "Ordinary Shares") of Ascendis Pharma A/S (the "Issuer"). Certain Ordinary Shares are represented by American Depositary Shares ("ADS"), with each ADS representing one Ordinary Share. The ADSs are listed on the NASDAQ Global Select Market under the ticker symbol "ASND". The Issuer's principal offices are located Tuborg Boulevard 5, DK-2900 Hellerup, Denmark.

This Amendment No. 5 is being filed on a voluntary basis to report certain recent acquisitions of Ordinary Shares by the Reporting Persons (defined in Item 2) and to update the information in the Statement relating to the beneficial ownership of Ordinary Shares (including Ordinary Shares represented by ADSs) by the Reporting Persons.

Item 2. Identity and Background

(a) This Amendment No. 5 is being filed by OrbiMed Advisors LLC ("Advisors"), a limited liability company organized under the laws of Delaware, OrbiMed Capital GP V LLC ("GP V"), 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 V, which is the sole general partner of OrbiMed Private Investments V, LP ("OPIV"), which holds Ordinary Shares, including certain Ordinary Shares represented by ADSs, 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 V 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 V 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

The Shares covered by this Statement have been acquired by the Reporting Persons with working capital of OPI V and capital contributions made to OPI V by its partners.

Item 4. Purpose of Transaction

This Amendment No. 5 to the Statement relates to the transactions by the Reporting Persons more fully described in Item 5 below. The Shares initially had been acquired (and those that continue to be held, are held) 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 Ordinary 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 Ordinary Shares or otherwise, they may acquire Ordinary Shares (including in the form of ADSs) 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 Ordinary 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 Amendment No. 5, 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 Act, directly or indirectly, including by reason of their mutual affiliation, to be the beneficial owners of the Ordinary Shares described in Item 6 below. Based upon information set forth in Exhibit 1.1 to the Issuer's Form 6-K dated June 10, 2016 and filed with the SEC on June 10, 2016, such Ordinary Shares constitute approximately 13.1% of the issued and outstanding Ordinary Shares (of which 1,819,486 are represented by ADSs). Advisors, pursuant to its authority as the sole managing member of GP V, the sole general partner of OPI V, may be deemed to indirectly beneficially own the Ordinary Shares held by OPI V. GP V, pursuant to its authority as the general partner of OPI V, may be deemed to indirectly beneficially own the Ordinary Shares held by OPI V. 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 Ordinary Shares attributable to Advisors. As a result, Isaly, Advisors and GP V share the power to direct the vote and to direct the disposition of the Ordinary Shares described in Item 6 below.

(c)

Date of Transaction	Transaction	Number of Shares	Price Per Share
June 17, 2016	Buy	300,000	\$13.75

Except as disclosed in this Item 5 and as previously disclosed in Amendment Nos. 2, 3, and 4, the Reporting Persons have not effected any transactions in the Ordinary Shares or ADSs 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 V is the sole general partner of OPI V, pursuant to the terms of the limited partnership agreement of OPI V. Advisors is the sole managing member of GP V, pursuant to the terms of the limited liability company agreement of GP V. Pursuant to these agreements and relationships, Advisors and GP V have discretionary investment management authority with respect to the assets of OPI V. Such authority includes the power of GP V to vote and otherwise dispose of securities purchased by OPI V. The number of outstanding Ordinary Shares held by OPI V is 3,300,462 Ordinary Shares (of which 1,819,486 are represented by ADSs). Advisors and GP V may each be considered to hold indirectly 3,300,462 Ordinary 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.

Jonathan Silverstein ("Silverstein"), a Member of Advisors, has been a member of the Board of Directors of the Issuer since November 2014, and, accordingly, the Reporting Persons may have the ability to affect and influence control of the Issuer. From time to time, Silverstein may receive 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 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 benefit are provided to OPI V.

Registration Rights Agreement

OPI V and certain other stockholders of the Issuer entered into a registration rights agreement with the Issuer (the "Registration Rights Agreement"), dated as of November 24, 2014. Pursuant to the Registration Rights Agreement and subject to the terms and conditions therein, the parties agreed that:

Demand Registration Rights

At any time when the Issuer is eligible to use a Form F-3 registration statement, the holders of at least 25% of the shares covered by the Registration Rights Agreement or their transferees, can request that the Issuer register all or a portion of their shares on Form F-3. Such request for registration must cover a number of shares with an anticipated aggregate offering price, net of selling expenses, of at least \$5.0 million. The Issuer will not be required to effect a demand registration during the period that is 30 days before the Issuer's good faith estimate of the date of filing of, and ending on a date that is 90 days after the effective date of, a company-initiated registration of its securities, provided that the Issuer is actively employing in good faith commercially reasonable efforts to cause such registration statement to become effective. In addition, the Issuer will not be required to effect a demand registration if it has effected two such demand registrations within the twelve month period immediately preceding the date of such request.

Piggyback Registration Rights

The Registration Rights Agreement further provides that, in the event that the Issuer determines to register any of its securities under the Securities Act, either for its own account or for the account of other security holders, the stockholders who are party to the Registration Rights Agreement, including OPI V, will be entitled to certain “piggyback” registration rights allowing the holders to include their shares in such registration, subject to certain marketing and other limitations. These rights do not apply with respect to a registration related to employee benefit plans, corporate reorganizations or certain other transactions described in Rule 145 under the Securities Act or a registration in which the only Ordinary Shares being registered are Ordinary Shares issuable upon conversion of debt securities that are also being registered.

Expenses of Registration

The Issuer will pay the registration expenses of the holders of the shares registered pursuant to the demand and piggyback registration rights described above.

Indemnification

The Registration Rights Agreement contains customary cross-indemnification provisions, pursuant to which the Issuer is obligated to indemnify the selling stockholders in the event of material misstatements or omissions in the registration statement attributable to the Issuer, and the selling stockholders are obligated to indemnify the Issuer for material misstatements or omissions attributable to them.

Termination of Registration Rights.

OPI V’s demand and piggyback registration rights described above generally will terminate upon the earlier of: (i) the date five years following the Issuer’s initial public offering; (ii) the closing of a Change in Control, as defined in the Registration Rights Agreement; or (iii) such time as all of the Registrable Securities (as defined in the Registration Rights Agreement) of the Issuer held by OPI V may be sold without any restriction on volume or manner of sale in any three-month period pursuant to Rule 144.

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

Other than as described in this Amendment No. 5, 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 Capital GP V LLC and Samuel D. Isaly
2.	Registration Rights Agreement by and among the Issuer and each of the persons listed on Schedule A thereto, dated as of November 24, 2014 (incorporated by reference to Exhibit 10.6 to the Issuer’s Registration Statement on Form F-1 (SEC File No. 333-201050), filed with the SEC on December 18, 2014).

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 Amendment No. 5 is true, complete and correct.

Dated: June 21, 2016

OrbiMed Advisors LLC

By: /s/ Samuel D. Isaly
Name: Samuel D. Isaly
Title: Managing Member

OrbiMed Capital GP V LLC

By: OrbiMed Advisors LLC

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 V 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

Exhibit	Description
1.	Joint Filing Agreement among OrbiMed Advisors LLC, OrbiMed Capital GP V LLC and Samuel D. Isaly
2.	Registration Rights Agreement by and among the Issuer and each of the persons listed on Schedule A thereto, dated as of November 24, 2014 (incorporated by reference to Exhibit 10.6 to the Issuer's Registration Statement on Form F-1 (SEC File No. 333-201050), filed with the SEC on December 18, 2014).

JOINT FILING AGREEMENT

The undersigned hereby agree that the Statement on this Schedule 13D, dated June 21, 2016 (the "Schedule 13D"), with respect to the Ordinary Shares of Ascendis Pharma A/S 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 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 21th day of June, 2016.

OrbiMed Advisors LLC

By: /s/ Samuel D. Isaly
Name: Samuel D. Isaly
Title: Managing Member

OrbiMed Capital GP V LLC

By: OrbiMed Advisors LLC

By: /s/ Samuel D. Isaly
Name: Samuel D. Isaly
Title: Managing Member

Samuel D. Isaly

By: /s/ Samuel D. Isaly
Samuel D. Isaly
