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

**FORM F-3
REGISTRATION STATEMENT**
*UNDER
THE SECURITIES ACT OF 1933*

ASCENDIS PHARMA A/S
(Exact name of Registrant as specified in its charter)

Not Applicable
(Translation of Registrant's name into English)

The Kingdom of Denmark
(State or other jurisdiction of
incorporation or organization)

Not Applicable
(I.R.S. Employer
Identification Number)

**Tuborg Boulevard 5
DK-2900 Hellerup, Denmark
+45 70 22 22 44**
(Address and telephone number of Registrant's principal executive offices)

Scott T. Smith
Senior Vice President, Chief Financial Officer
Ascendis Pharma, Inc.
394 University Avenue
Palo Alto, CA USA 94301
(650) 352-8389
(Name, address and telephone number of agent for service)

Copies to:

Mark V. Roeder, Esq.
Alan C. Mendelson, Esq.
Latham & Watkins LLP
140 Scott Drive
Menlo Park, CA 94025
(650) 328-4600

APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC:
From time to time after the effective date of this registration statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. Registration Statement No. 333-216882

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.C. or a post-effective amendment thereto that shall become effective on filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.C. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933.

Emerging Growth Company

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

CALCULATION OF REGISTRATION FEE

Title of Securities To Be Registered*	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee(3)
Ordinary shares, DKK 1 nominal value per share	\$13,884,961(1)	\$1,729(2)

* The ordinary shares registered hereby may be represented by the Registrant's American Depositary Shares ("ADSs"), each of which represents one ordinary share. ADSs issuable upon deposit of the ordinary shares registered hereby have been registered under a separate registration statement on Form F-6 (Registration No. 333-201695).

- (1) The registrant previously registered securities at an aggregate offering price not to exceed \$400,000,000 on a Registration Statement on Form F-3 (File No. 333-216882), which was filed by the registrant on March 22, 2017 and declared effective by the Securities and Exchange Commission on April 5, 2017 (the "Original Registration Statement"). In accordance with Rule 462(b) under the Securities Act of 1933, as amended, an additional amount of securities having a proposed maximum aggregate offering price of \$13,884,961 is hereby registered, which includes ADSs issuable upon the exercise of the underwriters' option to purchase additional ADSs, representing no more than 20% of the maximum aggregate offering price of unsold securities under the Original Registration Statement. In no event will the maximum aggregate offering price of all securities issued pursuant to this Registration Statement and the Original Registration Statement exceed that registered under such Registration Statements.
- (2) Pursuant to Rule 457(o) of the rules and regulations under the Securities Act of 1933, as amended, the registration fee has been calculated on the basis of the maximum aggregate offering price and the number of securities being registered has been omitted.

The Registration Statement shall become effective upon filing in accordance with Rule 462(b) under the Securities Act of 1933, as amended.

EXPLANATORY NOTE AND INCORPORATION BY REFERENCE

This registration statement is being filed with respect to the registration of additional securities of Ascendis Pharma A/S pursuant to Rule 462(b) promulgated under the Securities Act of 1933, as amended. The contents of the earlier registration statement on Form F-3 (File No. 333-216882) (the "Original Registration Statement"), which was declared effective by the Securities and Exchange Commission on April 5, 2017, are incorporated in this registration statement by reference. This registration statement is being filed solely to increase the amount of securities offered pursuant to the Original Registration Statement.

The required opinions and consents are listed on an Exhibit Index attached hereto.

EXHIBIT INDEX

Exhibit Number	Exhibit Description	Incorporated by Reference to Filings Indicated				Provided Herewith
		Form	File No.	Exhibit No.	Filing Date	
1.1*	Underwriting Agreement.					
4.1	Articles of Association, currently in effect (English translation).	6-K	001-36815	1.1	2/15/2018	
4.2	Deposit Agreement dated January 27, 2015 among Ascendis Pharma A/S The Bank of New York Mellon and Owners and Holders of American Depositary Shares.	F-3	333-209336	4.2	2/2/2016	
4.3	Form of American Depositary Receipt (included in Exhibit 4.2).					
5.1	Opinion of Mazanti-Andersen Korsø Jensen.					X
23.1	Consent of Independent Registered Public Accounting Firm.					X
23.2	Consent of Mazanti-Andersen Korsø Jensen (included in Exhibit 5.1).					X
24.1	Powers of Attorney.	F-3	333-216882	24.1	March 22, 2017	

* To be filed by amendment or incorporated by reference in connection with the offering of the securities.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form F-3 and has duly caused this Registration Statement on Form F-3 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Hellerup, Denmark, on February 21, 2018.

ASCENDIS PHARMA A/S

By: /s/ Jan Møller Mikkelsen
Name: Jan Møller Mikkelsen
Title: President and Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed below by the following persons on behalf of the Registrant in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Jan Møller Mikkelsen</u> Jan Møller Mikkelsen	President, Chief Executive Officer, Board Member and Executive Director <i>(Principal Executive Officer)</i>	February 21, 2018
<u>/s/ Scott T. Smith</u> Scott T. Smith	Senior Vice President, Chief Financial Officer <i>(Principal Financial Officer)</i>	February 21, 2018
<u>*</u> Peter Rasmussen	Vice President, Finance <i>(Principal Accounting Officer)</i>	February 21, 2018
<u>/s/ Michael Wolff Jensen</u> Michael Wolff Jensen, L.L.M.	Chairman of the Board of Directors	February 21, 2018
<u>*</u> Albert Cha, M.D., Ph.D.	Board Member	February 21, 2018
<u>*</u> James I. Healy, M.D., Ph.D.	Board Member	February 21, 2018
<u>*</u> Martin Olin	Board Member	February 21, 2018
<u>*</u> Jonathan T. Silverstein, J.D.	Board Member	February 21, 2018
<u>*</u> Birgitte Volck, M.D., Ph.D.	Board Member	February 21, 2018

*By: /s/ Michael Wolff Jensen
Jan Møller Mikkelsen
Attorney-in-fact

AUTHORIZED REPRESENTATIVE IN THE UNITED STATES

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement on Form F-3 has been signed by the undersigned as the duly authorized representative in the United States of Ascendis Pharma A/S in the City of Palo Alto, State of California, on February 21, 2018.

Ascendis Pharma, Inc.

By: /s/ Scott T. Smith
Name: Scott T. Smith
Title: Senior Vice President, Chief Financial Officer

Ascendis Pharma A/S
Tuborg Boulevard 5
DK-2900 Hellerup, Denmark

Re. Registration with the US Securities and Exchange Commission of American Depositary Shares representing ordinary shares in the share capital of the Issuer

21.2.2018
Ref. 58368
ID 1572

1. Introduction

- 1.1 I act as Danish legal adviser to the Issuer in connection with the (i) issuance and sale of American Depositary Shares, each representing an ordinary share of the Issuer, nominal value DKK 1 each (each an “**ADS**”), with an aggregate offering price not to exceed \$13,884,961 (the “**Registration Shares**”). The Shares are included in the Supplemental Registration Statement, a base prospectus dated 5 April 2017 (the “**Base Prospectus**”) and a preliminary prospectus supplement dated 20 February 2018 (together with the Base Prospectus, the “**Prospectus**”). This opinion is being furnished in connection with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act, and no opinion is expressed herein as to any matter pertaining to the contents of the Registration Statement or the Prospectus, other than as expressly stated herein with respect to the issue of the Registration Shares. Certain terms used in this opinion are defined in Annex 1 (Definitions).

Lars Lüthjohan Jensen
Attorney-at-law
+45 3319 3749
llj@mazanti.dk

Anders Carstensen
Attorney-at-law
+45 3319 3788
anc@mazanti.dk

2. Danish Law

- 2.1 This opinion is limited to Danish law in effect on the date of this opinion and we express no opinion with regard to the laws of any other jurisdiction. The opinion (including all terms **used** in it) is in all respects to be construed in accordance with Danish law. This opinion does not include an assessment or opinion as to whether the Registration Shares have been subscribed at market price in accordance with the Danish Companies Act.

3. Scope of Inquiry

3.1 For the purpose of this opinion, I have examined, and relied upon the accuracy of the factual statements and compliance with the undertakings in, the following documents:

3.1.1 A copy of the Initial Registration Statement and the Supplemental Registration Statement.

3.1.2 A copy of:

- (a) the Issuer's deed of incorporation and articles of association as in effect on today's date;
- (b) a compiled summary from the Danish Business Authority dated as of today's date; and
- (c) the Owners' Register.

3.2 A copy of:

- (a) the Board Resolutions; and
- (b) the form of the Underwriting Agreement.

3.3 In addition, I have examined such documents, and performed such other investigations, as I consider for the purpose of this opinion. My examination has been limited to the text of the documents. With your consent I have relied upon certificates and other assurances of officers of the Company and others as to factual matters without having independently verified such factual matters.

4. Opinion

4.1 Based on the documents and investigations referred to in paragraph 3, I am of the following opinion:

Upon

1. issuance of the Registration Shares against full payment therefor in the circumstances contemplated by the Underwriting Agreement,
2. registration of the Board of Directors' resolutions to increase the share capital with the Danish Business Authority, and

3. the due entry into the Owners' Register of the Registration Shares by the Company's share registrar, the Registration Shares will have been validly issued and will be fully paid and nonassessable. Nonassessable shall in this context mean, in relation to a share, that the issuer of the share has no right to require the holder of the share to pay to the issuer any amount (in addition to the amount required for the share to be fully paid) solely as a result of his shareholding.

5. Reliance

- 5.1 This opinion is for your benefit in connection with the Supplemental Registration Statement and may be relied upon by you and by persons entitled to rely upon it pursuant to the applicable provisions of the Securities Act. It may not be supplied, and its contents or existence may not be disclosed, to any person other than as an exhibit to the Supplemental Registration Statement and may not be relied upon for any purpose other than the Registration.
- 5.2 Any and all liability and other matters relating to this opinion shall be governed exclusively by Danish law and the Danish courts shall have exclusive jurisdiction to settle any dispute relating to this opinion.
- 5.3 The Issuer may:
 - (a) file this opinion as an exhibit to the Supplemental Registration Statement; and
 - (b) refer to Mazanti-Andersen Korsø Jensen Law Firm giving this opinion under the heading "Validity of the securities" in the Prospectus.
- 5.4 The previous sentence is no admittance from me (or Mazanti-Andersen Korsø Jensen) that I am (or Mazanti-Andersen Korsø Jensen is) in the category of persons whose consent for the filing and reference in that paragraph is required under Section 7 of the Securities Act or any rules or regulations of the SEC promulgated under it.

Yours sincerely,

/s/ Lars Lüthjohan Jensen

Lars Lüthjohan Jensen

Annex 1 – Definitions

In this opinion:

“**Board Resolutions**” means (a) the minutes for the meeting of the Board of Directors held on March 22, 2017 including resolutions authorizing the preparation and filing of the Registration Statement, (ii) the minutes for the meeting of the Board of Directors held on February 20, 2018 including resolutions authorizing and approving the Offering, (iii) written consent of the Board of Directors dated February 21, 2018 including resolutions setting the number of ADSs, price, underwriting fees and commissions, number of potential Option Shares and certain other terms for the sale by the Issuer of the ADSs, set forth in the Underwriting Agreement and approving the Underwriting Agreement, and (iv) minutes for the meeting of the Board of Directors held on February 21, 2018 including resolutions authorizing and approving an upsized Offering.

“**Danish law**” means the law directly applicable in Denmark.

“**Issuer**” means Ascendis Pharma A/S, with corporate seat in Gentofte, Denmark.

“**Offering**” means the issuance and sale of the Issuer’s ADSs pursuant to the Underwriting Agreement.

“**Owners’ Register**” means the Issuer’s owners’ register.

“**Registration**” means the registration of the Registration Shares with the SEC under the Securities Act.

“**Initial Registration Statement**” means the registration statement on Form F-3 (Registration No. 333-216882) in relation to the Registration initially filed with the SEC on March 22, 2017 (excluding any documents incorporated by reference in it and any exhibits to it).

“**SEC**” means the U.S. Securities and Exchange Commission.

“**Securities Act**” means the U.S. Securities Act of 1933, as amended.

“**Supplemental Registration Statement**” means a registration statement on Form F-3MEF relating to the Initial Registration Statement to be filed pursuant to Rule 462(b) promulgated under the Securities Act.

“**Underwriting Agreement**” means the form of underwriting agreement pursuant to which the ADSs will be sold and to be entered into among J.P. Morgan Securities LLC, Merrill Lynch, Pierce, Fenner & Smith Incorporated and Credit Suisse Securities (USA) LLC, as representatives of the several underwriters named in the underwriting agreement, and the Issuer.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form F-3, filed pursuant to Rule 462(b) under the Securities Act of 1933, of our report dated March 22, 2017, relating to the consolidated financial statements of Ascendis Pharma A/S appearing in the Annual Report on Form 20-F of Ascendis Pharma A/S for the year ended December 31, 2016, and to the reference to us under the heading “Experts” in the prospectus, which is part of this Registration Statement.

Deloitte Statsautoriseret Revisionspartnerselskab

Copenhagen, Denmark
February 21, 2018

/s/ Henrik Hjort Kjelgaard
State Authorised
Public Accountant

/s/ Max Damborg
State Authorised
Public Accountant