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

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**FORM 6-K**

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**REPORT OF FOREIGN PRIVATE ISSUER  
PURSUANT TO SECTION 13a-16 OR 15d-16  
UNDER THE SECURITIES EXCHANGE ACT OF 1934**

For the month of May, 2021

Commission File Number: 001-36815

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**Ascendis Pharma A/S**  
(Exact Name of Registrant as Specified in Its Charter)

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Tuborg Boulevard 12  
DK-2900 Hellerup  
Denmark  
(Address of principal executive offices)

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Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.

Form 20-F       Form 40-F

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1):

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7):

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Ascendis Pharma A/S (the “Company”) is hereby furnishing as Exhibit 99.1 the attached presentation relating to the Company’s preliminary 58-week results from the continuing open-label extension portion of the PaTH Forward Trial, a global phase 2 trial evaluating the safety, tolerability, and efficacy of its investigational product candidate TransCon PTH in adult subjects with hypoparathyroidism.

The furnishing of the attached presentation is not an admission as to the materiality of any information therein. The information contained in the presentation is summary information that is intended to be considered in the context of more complete information included in the Company’s filings with the Securities and Exchange Commission (the “SEC”) and other public announcements that the Company has made and may make from time to time. The Company undertakes no duty or obligation to update or revise the information contained in this report, although it may do so from time to time as its management believes is appropriate. Any such updating may be made through the filing or furnishing of other reports or documents with the SEC or through other public disclosures.

**Exhibit**

99.1 [Company Presentation](#).

**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

**Ascendis Pharma A/S**

Date: May 10, 2021

By: /s/ Michael Wolff Jensen

Michael Wolff Jensen

Chairman and Senior Vice President, Chief Legal Officer



# Ascendis Pharma A/S

TransCon™ PTH – 58-Week Open-Label  
Extension (OLE) Update  
May 10, 2021

# Cautionary Note On Forward-Looking Statements

This presentation contains forward-looking statements. All statements other than statements of historical facts contained in this presentation, such as statements regarding our business strategy, prospective products, clinical trial results, product approvals and regulatory pathways, collaborations, licensing or other arrangements, the scope, progress, results and costs of developing our product candidates or any other future product candidates, timing and likelihood of success, plans and objectives of management for future operations and future results of current and anticipated products are forward-looking statements. These forward-looking statements are based on our current expectations and beliefs, as well as assumptions concerning future events. These statements involve known and unknown risks, uncertainties and other factors that could cause our actual results to differ materially from the results discussed in the forward-looking statements. These risks, uncertainties and other factors are more fully described in our reports filed with or submitted to the Securities and Exchange Commission, including, without limitation, our most recent Annual Report on Form 20-F filed with the SEC on March 10, 2021 particularly in the sections titled "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations". In light of the significant uncertainties in our forward-looking statements, you should not place undue reliance on these statements or regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified timeframe, or at all.

Any forward-looking statement made by us in this presentation speaks only as of the date of this presentation and represents our estimates and assumptions only as of the date of this presentation. Except as required by law, we assume no obligation to update these statements publicly, whether as a result of new information, future events, changed circumstances or otherwise after the date of this presentation.

This presentation concerns product candidates that are or have been under clinical investigation and which have not yet been approved for marketing by the U.S. Food and Drug Administration, European Medicines Agency or other foreign regulatory authorities. These product candidates are currently limited by U.S. Federal law to investigational use, and no representations are made as to their safety or effectiveness for the purposes for which they are being investigated.

# Preliminary PaTH Forward Open-Label Extension (OLE) Data at 58 Weeks

- 58 subjects continue in the open-label extension beyond 58 weeks\*
- Continued treatment with TransCon PTH demonstrated that:
  - 91% of subjects were off standard of care therapy\*\*
  - Urinary calcium maintained in the normal range
  - Bone markers trended towards the mid-normal levels
  - Quality of life benefits measured by SF-36 continued within normal range
- TransCon PTH was well-tolerated at all doses administered
  - No treatment-related serious or severe adverse events occurred, and no treatment-emergent adverse events (TEAEs) led to discontinuation of study drug
  - No change to the safety profile in the OLE portion of the study

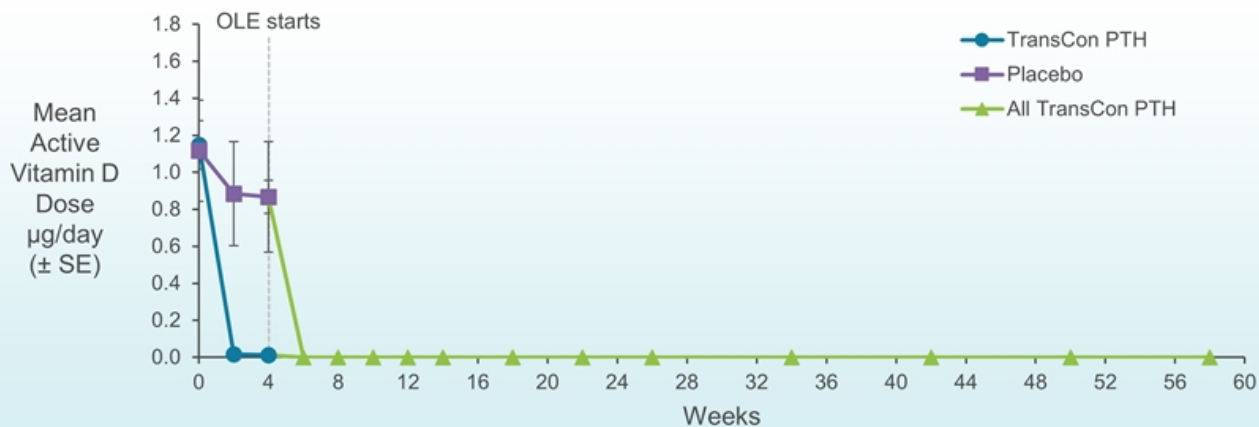
Preliminary data support TransCon PTH as a potential hormone replacement therapy for adult HP

Preliminary PaTH Forward OLE week 58 data from live database snapshot. Data on file.  
\*As of May 7, 2021.

3 | \*\*Not taking active vitamin D and taking ≤600 mg/day of calcium supplements.

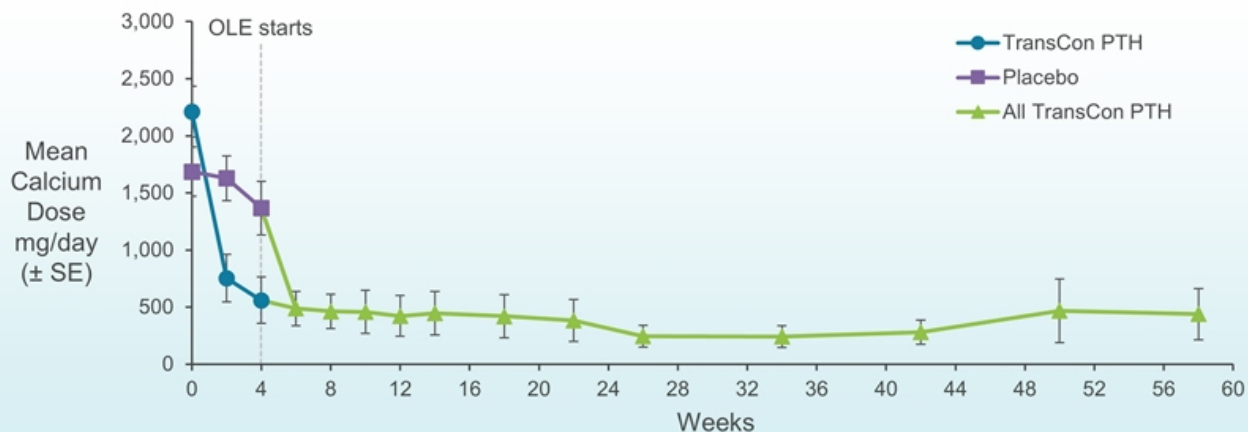
All product candidates are investigational. For investor communication only. Not for use in promotion or product commercialisation.

# PaTH Forward OLE Mean Active Vitamin D Dose



TransCon PTH enabled discontinuation of active vitamin D within two weeks of treatment initiation

# PaTH Forward OLE Mean Calcium Supplement Dose

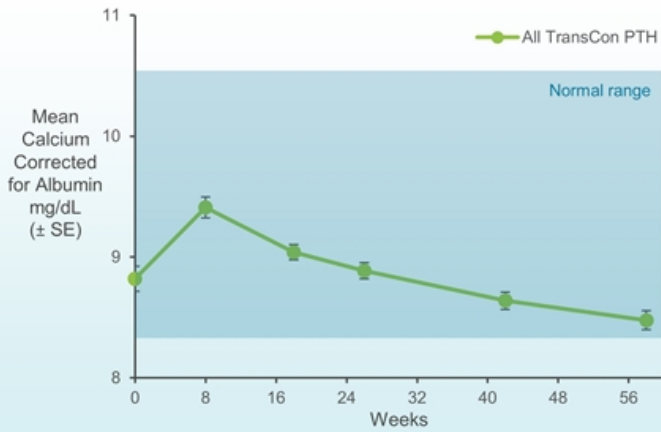


TransCon PTH enabled rapid and continuous calcium supplement reduction; 40 of 58 subjects were taking 0 mg, and 53 of 58 subjects were taking 0 to 600 mg at week 58

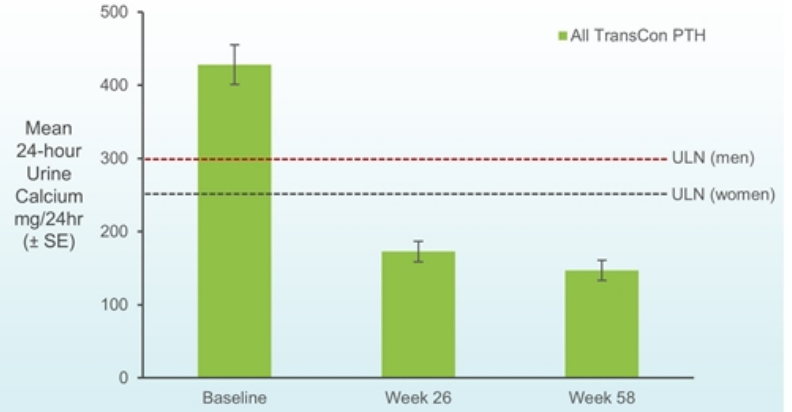


# PaTH Forward OLE Mean Serum Calcium and Mean 24-Hour Urine Calcium

### Mean Serum Calcium



### Mean 24-hour Urine Calcium



Mean 24-hour urine calcium normalized while maintaining normal mean serum calcium

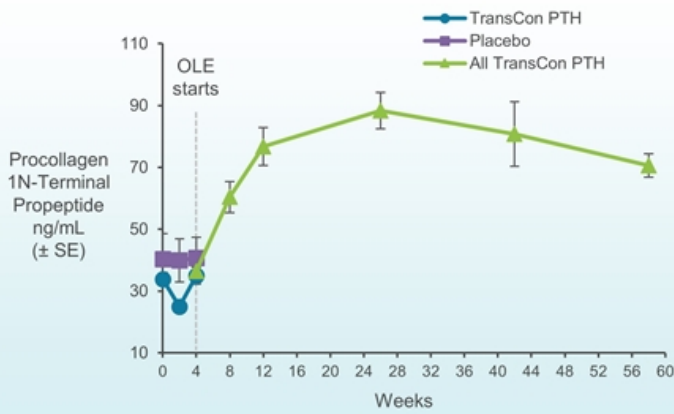
# PaTH Forward OLE SF-36® Health Survey Domain Mean Scores (SD) - Continued Normalization of Quality of Life

SF-36 Domain	All TransCon PTH (N = 59)		
	Baseline	Week 26	Week 58
Physical Function	46 (10)	51 (6)	51 (6)
Role Physical	42 (10)	50 (7)	50 (8)
Bodily Pain	45 (10)	50 (9)	50 (8)
General Health	43 (10)	51 (8)	51 (9)
Vitality	43 (11)	53 (8)	51 (10)
Social Functioning	43 (10)	52 (6)	52 (7)
Role Emotional	43 (13)	50 (7)	49 (8)
Mental Health	46 (9)	52 (7)	50 (9)
<b>Physical Component Summary</b>	<b>44 (11)</b>	<b>50 (8)</b>	<b>51 (8)</b>
<b>Mental Component Summary</b>	<b>44 (11)</b>	<b>52 (8)</b>	<b>50 (9)</b>

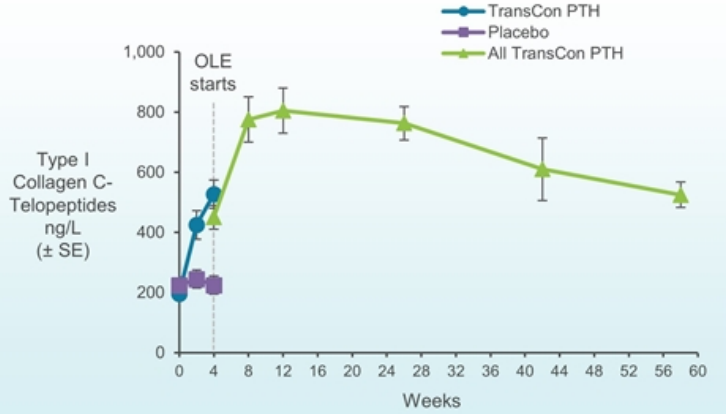
7 | Preliminary PaTH Forward OLE week 58 data from live database snapshot. Data on file.  
Green: Means above lower limit of population norm (47)

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Mean P1NP



Mean CTx



TransCon PTH treatment initially increased the levels of anabolic and catabolic bone markers which were trending to mid-normal levels at 58 weeks

# Preliminary PaTH Forward OLE Safety Summary at 58 Weeks

- TransCon PTH was well-tolerated at all doses administered
- 58 out of 59 randomized subjects currently receiving TransCon PTH in OLE\*
- No drug-related serious TEAEs were reported
- No TEAEs leading to discontinuation of study drug
- TEAEs with TransCon PTH reflect known PTH pharmacology
- Injections were well-tolerated using pen injector planned for commercial presentation
- No change to the safety profile in the OLE portion of the study

No subjects had TEAEs related to hyper- or hypocalcemia leading to ER/urgent care visit and/or hospitalization

Preliminary PaTH Forward OLE week 58 data from live database snapshot. Data on file.  
\*As of May 7, 2021.

9 | TEAE = Treatment emergent adverse event

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# PaTH Forward OLE Overall TEAE Summary

	Up to Week 26 All TransCon PTH (N = 59)	Up to Week 58 All TransCon PTH (N = 59)
<b>Subjects With – n (%)</b>		
<b>Treatment-Emergent Adverse Events (TEAE)</b>	<b>37 (63)</b>	<b>44 (75)</b>
<b>Serious TEAE</b>	<b>2 (3)</b>	<b>3 (5)</b>
<b>Severity</b>		
<b>Severe TEAE</b>	<b>1 (2)</b>	<b>2 (3)</b>
<b>Moderate TEAE</b>	<b>9 (15)</b>	<b>10 (17)</b>
<b>Mild TEAE</b>	<b>27 (46)</b>	<b>32 (54)</b>
<b>Related TEAE*</b>	<b>14 (24)</b>	<b>16 (27)</b>
<b>Serious Related TEAE</b>	<b>0</b>	<b>0</b>
<b>TEAE Related to Hyper- or Hypocalcemia Leading to ER/Urgent Care Visit and/or Hospitalization</b>	<b>0</b>	<b>0</b>
<b>TEAE Leading to Discontinuation of Study Drug</b>	<b>0</b>	<b>0</b>
<b>TEAE Leading to Discontinuation of Trial</b>	<b>0</b>	<b>0</b>
<b>TEAE Leading to Death</b>	<b>0</b>	<b>0</b>

Preliminary PaTH Forward OLE week 58 data from live database snapshot. Data on file. Percentages are calculated based on the number of subjects in the Safety Population. In the severity categories, subjects are displayed for the highest severity only. An AE is considered a TEAE if it occurred after the first dose of TransCon PTH.

\*Headache, hypocalcemia, nausea, dizziness, paresthesia, hypercalcemia and asthenia occurred in two or more subjects.

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# TransCon PTH: A Potential PTH Replacement Therapy

- Preliminary phase 2 PaTH Forward OLE results at 58 weeks demonstrated:
  - Durable benefits of TransCon PTH
  - TransCon PTH was well-tolerated at all doses
- Subjects appeared to be establishing physiologic calcium metabolism\*
  - Bone markers continued to trend towards the mid-normal levels
  - Urine calcium normal
- 58 subjects continue in open-label extension beyond 58 weeks\*\*
  - Further optimization of TransCon PTH dosing being implemented
  - 84-week topline OLE update anticipated in Q4 2021
- Expect to file CTN for Japanese adult HP phase 3 study in Q2 2021
- North American and European phase 3 PaTHway Trial topline results expected Q4 2021

11 | \*Preliminary PaTH Forward OLE week 58 data from live database snapshot. Data on file.  
\*\*As of May 7, 2021.

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