PRESS RELEASE

Ascendis Pharma Submits TransCon™ PTH New Drug Application to the U.S. FDA for Adult Patients with Hypoparathyroidism

- *TransCon PTH could, if approved, become the first hormone replacement therapy to address the underlying cause of hypoparathyroidism, an area of major unmet medical need for the estimated 70,000-90,000 adults living with chronic disease in the United States alone.*

- *European MAA on track for Q4 2022 submission*

COPENHAGEN, Denmark, August 31, 2022 (GLOBE NEWSWIRE) – Ascendis Pharma A/S (Nasdaq: ASND) today announced it has submitted a New Drug Application (NDA) to the U.S. Food & Drug Administration (FDA) for TransCon PTH, an investigational prodrug designed to restore parathyroid hormone (PTH [1-34]) to physiological levels over 24 hours in adult patients with hypoparathyroidism. TransCon PTH has been granted Orphan designation in the United States and European Union.

"We believe the best way to treat hypoparathyroidism is to replace the missing endogenous hormone at stable, physiological levels 24 hours a day. Accordingly, our data support that TransCon PTH, if approved, could become the first-in-class therapy to address the underlying cause of disease and address the urgent needs of patients in the U.S., who today have no such treatment options available," said Dana Pizzuti, Ascendis Pharma's Senior Vice President and Chief Medical Officer. "Our Phase 2 and Phase 3 trials were the first ever in which most treated patients (86% and 79%, respectively; at 6 months of treatment) achieved normalization of serum calcium and independence from conventional therapy. Further underscoring the potential benefits of our TransCon PTH product candidate, treated patients reported significant reductions in disease-specific physical and cognitive symptoms and significant improvements in their quality of life."

The NDA is based on data from the global Phase 3 PaTHway Trial and the Phase 2 PaTH Forward Trial, as well as data from the Company's ongoing open-label extension studies for both trials. Notably, 57 out of 59 patients continue in the open-label portion of the Phase 2 trial beyond two years of treatment, and 78 out of 79 patients continue in the open-label portion of the Phase 3 trial of TransCon PTH. In these studies, TransCon PTH has been generally well tolerated, with no discontinuations related to study drug.

In the fourth quarter of this year, Ascendis Pharma plans to submit a Marketing Authorisation Application (MAA) for TransCon PTH in hypoparathyroidism to the European Medicines Agency and expects to announce topline results for Pathway Japan, the Phase 3 trial of TransCon PTH in Japan. A phase 3 trial of TransCon PTH in hypoparathyroidism is ongoing in Greater China through VISEN Pharmaceuticals.

About TransCon™ Technology

TransCon refers to "transient conjugation." Ascendis Pharma's proprietary TransCon platform is an innovative technology designed to create new therapies that optimize therapeutic effect, including efficacy, safety and dosing frequency. TransCon molecules have three components: an unmodified parent drug, an inert carrier that protects it, and a linker that temporarily binds the two. When bound, the carrier inactivates and shields the parent drug from clearance. When injected into the body, physiologic conditions (e.g., pH and temperature) initiate the release of the active unmodified parent drug, in a predictable manner and at predictable levels. TransCon technology is designed to be applied broadly to a protein, peptide or small molecule in multiple therapeutic areas, and to be used systemically or locally.

About Hypoparathyroidism [1, 2, 3, 4, 5, 6]

Hypoparathyroidism is a rare endocrine disorder characterized by insufficient levels of parathyroid hormone (PTH), resulting in low calcium and elevated phosphate levels in the blood. Hypoparathyroidism affects approximately 200,000 patients in the United States, Europe, and Japan, most of whom develop the condition following damage to or accidental removal of the parathyroid glands during thyroid surgery. Conventional treatment with calcium supplements and active vitamin D (also called calcitriol) does not effectively address the short-term symptoms, long-term complications, or quality-of-life impacts of hypoparathyroidism.

Short-term symptoms include weakness, severe muscle cramps (tetany), abnormal sensations such as tingling, burning and numbness (paresthesia), memory loss, impaired judgment, and headache. Patients often experience decreased quality of life, and, over the long term, this complex disorder can increase risk of major complications, such as calcium deposits in the brain, blood vessels, eye, and other soft tissues – including the kidneys, which can lead to impaired renal function.

Hypoparathyroidism remains among the few hormonal insufficiency states without a replacement therapy that restores the missing hormone at physiologic levels. Current standard of care with high doses of calcium and active vitamin D does not fully control the disease or address its underlying cause and may contribute to risk of renal disease. Patients with hypoparathyroidism have an estimated 4- to 8-fold greater risk of renal disease compared to healthy populations. Hypoparathyroidism is also associated with a 2-fold increased risk of depression or bipolar disorder compared to healthy populations.

About Ascendis Pharma A/S

Ascendis Pharma is applying its innovative platform technology to build a leading, fully integrated, global biopharmaceutical company focused on making a meaningful difference in patients' lives. Guided by its core values of patients, science and passion, the company uses its TransCon technologies to create new and potentially best-in-class therapies. Ascendis is headquartered in Copenhagen, Denmark, and has additional facilities in Heidelberg and Berlin, Germany; Palo Alto and Redwood City, California; and Princeton, New Jersey. Please visit www.ascendispharma.com to learn more.

Forward-Looking Statements

This press release contains forward-looking statements that involve substantial risks and uncertainties. All statements, other than statements of historical facts, included in this press release regarding Ascendis' future operations, plans and objectives of management are forward-looking statements. Examples of such

statements include, but are not limited to, statements relating to (i) the timing of topline results from PaTHway Japan, (ii) TransCon PTH's ability to restore parathyroid hormone to physiological levels over 24 hours in adult patients with hypoparathyroidism, (iii) the potential for TransCon PTH to become the first hormone replacement therapy to address the underlying cause of hypoparathyroidism, (iv) Ascendis' plan to submit a Marketing Authorisation Application for TransCon PTH in hypoparathyroidism to the European Medicines Agency in the fourth quarter of 2022, (v) Ascendis' ability to apply its platform technology to build a leading, fully integrated global biopharmaceutical company, and (vi) Ascendis' use of its TransCon technologies to create new and potentially best-in-class therapies. Ascendis may not actually achieve the plans, carry out the intentions or meet the expectations or projections disclosed in the forward-looking statements and you should not place undue reliance on these forward-looking statements. Actual results or events could differ materially from the plans, intentions, expectations and projections disclosed in the forward-looking statements. Various important factors could cause actual results or events to differ materially from the forward-looking statements that Ascendis makes, including the following: dependence on third party manufacturers, distributors, and service providers for Ascendis products and product candidates; unforeseen safety or efficacy results in its development programs or on-market products; unforeseen expenses related to commercialization of any approved Ascendis products; expenses related to Ascendis' of its development programs; unforeseen selling, general and administrative expenses, other research and development expenses and Ascendis' business generally; delays in the development of its development programs related to manufacturing, regulatory requirements, speed of patient recruitment or other unforeseen delays; Ascendis' ability to obtain additional funding, if needed, to support its business activities and the effects on its business from the worldwide COVID-19 pandemic and the ongoing conflict in the region surrounding Ukraine and Russia. For a further description of the risks and uncertainties that could cause actual results to differ from those expressed in these forward-looking statements, as well as risks relating to Ascendis' business in general, see Ascendis' Annual Report on Form 20-F filed with the U.S. Securities and Exchange Commission (SEC) on March 2, 2022 and Ascendis' other future reports filed with, or submitted to, the SEC. Forward-looking statements do not reflect the potential impact of any future licensing, collaborations, acquisitions, mergers, dispositions, joint ventures, or investments that Ascendis may enter into or make. Ascendis does not assume any obligation to update any forward-looking statements, except as required by law.

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