Ascendis Pharma is developing TransCon Growth Hormone, a once-weekly, sustained-release prodrug of recombinant human growth hormone (hGH; somatropin) for the treatment of growth hormone deficiency (GHD) in children and adults.

Current treatment of growth hormone disorders involves daily injections of hGH over many years. Patients are typically diagnosed and initiated on treatment in childhood; adherence is critically important to treatment outcomes. Factors limiting adherence were addressed by developing an easy-to-use electronic autoinjector for once-weekly TransCon GH, currently in Phase 3 development.

Desirable device characteristics include:

- Simple operation with few user steps
- Weekly, single, low-volume injections (<0.6 mL)
- Small needles (31G, 4mm) comparable to daily hGH devices
- Room temperature storage
- No waste, empty-all design
- Long lifespan
- Bluetooth® connectivity

The TransCon GH Auto-Injector was well accepted, easy to use, and eliminated the need for daily injections, cold storage, priming, air shots, dose settings, and double injections. The electronic device also provided automatic reconstitution and facilitated delivery by auto-injection.

The entire preparation process, from mounting the needle to completing an injection, is designed to take ~5 minutes. A human factors validation study will be conducted before the auto-injector and cartridge system is included into the ongoing Ascendis Phase 3 heiGHt trial of once weekly TransCon GH.