

Company announcement – No. 15 / 2019

Zealand Pharma achieves primary and all key secondary endpoints in confirmatory Phase 3 trial with dasiglucagon for severe hypoglycemia

- **Primary and all key secondary endpoints successfully achieved in the trial**
- **Median time to recovery from low blood glucose was 10 minutes following dasiglucagon injection administered via the HypoPal® rescue pen**
- **The dasiglucagon HypoPal® rescue pen is being developed as an easy-to-use, fast and effective rescue treatment for diabetes patients having a severe hypoglycemic event**

Copenhagen, May 14, 2019 – Zealand Pharma A/S (“Zealand”) (Nasdaq: ZEAL), a Copenhagen-based biotechnology company focused on the discovery and development of innovative peptide-based medicines, announces successful results in the confirmatory Phase 3 trial with dasiglucagon for severe hypoglycemia in diabetes. Dasiglucagon is a potential first-in-class soluble glucagon analog invented and developed by Zealand. It is in development in the ready-to-use HypoPal® rescue pen, an auto-injector for easy, fast and effective treatment of severe hypoglycemia in people with diabetes.

This Phase 3 trial confirms that a single dose of dasiglucagon administered via the HypoPal® rescue pen rapidly increases blood glucose levels in patients with type 1 diabetes following insulin-induced hypoglycemia. The trial compared the glycemic response observed after dosing of dasiglucagon with that of placebo. The primary endpoint was time to plasma glucose recovery, which was defined as first increase in plasma glucose of ≥ 20 mg/dL (1.1 mmol/L) from baseline without administration of rescue intravenous glucose. 45 subjects were included in the trial. Additional details about the trial are found at clinicaltrials.gov.

The primary result demonstrates that the median time to blood glucose recovery was 10 minutes for dasiglucagon, which was superior to placebo (median: 35 min; $p < 0.001$) and identical to a median time to rescue of 10 minutes observed in the pivotal Phase 3 trial which used a pre-filled syringe for administration of dasiglucagon. Likewise, the dasiglucagon pharmacokinetic profiles were consistent between the two trials. Overall, no safety concerns were raised for dasiglucagon within the trial. Nausea and vomiting were reported with dasiglucagon (nausea: 62% and vomiting: 29%) and were on par with the frequency observed in the pivotal Phase 3 trial (nausea: 55% and vomiting: 23%).

Adam Steensberg, Executive Vice President and Chief Medical and Development Officer at Zealand Pharma, commented: “I am very encouraged by the outcome of this Phase 3 trial with dasiglucagon for treatment of severe hypoglycemia in diabetes. The study used the to-be-marketed HypoPal® rescue pen, and the results underscore the fast and effective profile of dasiglucagon also seen in the pivotal Phase 3 trial utilizing a pre-filled syringe.”

This is the third consecutive Phase 3 trial with positive results for dasiglucagon. The previous immunogenicity and pivotal Phase 3 trials established dasiglucagon’s safety profile and fast onset of action when administered via a pre-filled syringe in adult patients with type 1 diabetes. The final Phase 3 trial that will complete our NDA application is in pediatric diabetes patients and is still ongoing. Recruitment for this study involving children has proved challenging and results are now expected in September 2019. Accounting for this delay in pediatric patient recruitment, submission of the new drug application (NDA) to the U.S. FDA is now expected early 2020.



“I am very impressed with the dasiglucagon HypoPal® rescue pen data and believe its innovative features have the potential to significantly transform management of severe hypoglycemia,” said **Emmanuel Dulac, President and Chief Executive Officer at Zealand Pharma**. “Helping a diabetic patient through an acute crisis of severe hypoglycemia can be a highly traumatic experience. Our vision is for every patient at risk of severe hypoglycemia to have the HypoPal® rescue pen readily available.”

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Dasiglucagon (glucagon analog stable in liquid formulation) for use in other indications

Dasiglucagon is a Zealand-invented glucagon analog with a unique stability profile in a ready-to-use aqueous solution. It is also in development for two additional indications: treatment of type 1 diabetes with a next-generation artificial pancreas, and treatment for children born with a genetic mutation that causes congenital hyperinsulinism (CHI).

About type 1 diabetes and hypoglycemia

People with type 1 diabetes suffer from insulin deficiency and inappropriate glucagon secretion. Both hormones are essential to ensure stable and healthy blood glucose levels. Consequently, patients must monitor and adjust their blood glucose levels to remain in proper glycemic control, as both high and low blood glucose may affect their health, both in the short and long term.

Severe hypoglycemia is an acute, life-threatening condition resulting from a critical drop in blood glucose levels associated primarily with insulin therapy. Severe hypoglycemia occurs most frequently in people with type 1 diabetes due to injecting insulin multiple times daily. It is the biggest concern for insulin-dependent patients and the most feared complication of diabetes treatment. The condition is characterized by confusion, seizures, and often loss of consciousness that can result in death if left untreated.

When a patient has a hypoglycemic event, a second person must assist in treatment. Currently marketed formulations of glucagon for the treatment of severe hypoglycemia require mixing first by the person assisting to treat and then immediate administration due to poor drug stability. Dasiglucagon is being developed to offer a stable ready-to-use rescue treatment for severe hypoglycemia.

About Zealand Pharma A/S

Zealand Pharma A/S (Nasdaq Copenhagen and New York: ZEAL) ("Zealand") is a biotechnology company focused on the discovery and development of innovative peptide-based medicines. More than 10 drug candidates invented by Zealand have advanced into clinical development, of which two have reached the market. Zealand's current pipeline of internal product candidates focus on specialty gastrointestinal and metabolic diseases. Zealand's portfolio also includes two clinical license collaborations with Boehringer Ingelheim and pre-clinical license collaboration with Alexion Pharmaceuticals.

Zealand is based in Copenhagen (Glostrup), Denmark. For further information about the Company's business and activities, please visit www.zealandpharma.com or follow Zealand on LinkedIn or Twitter @ZealandPharma.