

## GeNeuro and Collaborators Publish Data Supporting Role of Retroviral Pathogenic Envelope Protein in Type 1 Diabetes (T1D)

- Data Published in *Journal of Clinical Investigation Insight*
- GeNeuro Conducting Phase 2a Study Targeting Protein with GNbAC1 in Patients with T1D

**Geneva, Switzerland, 11 September 2017 – 07:30 CEST** – GeNeuro (Euronext Paris: CH0308403085 – GNRO), a biopharmaceutical company developing new treatments for autoimmune diseases, announced today that [data supporting the role of pathogenic pHERV-W env in Type 1 diabetes has been published in The Journal of Clinical Investigation Insight](#). Pathogenic pHERV-W env is encoded by a member of the HERV-W family. HERVs are ancestral retroviral DNA insertions in the human genome, thought to account for up to 8% of the human genome.

“These studies show that pHERV-W env has a dual pathophysiological effect in the cascade leading to T1D pathogenesis. A direct effect towards insulin secretion in beta cells is observed, as well as an indirect immune-mediated effect, triggered by the action of pHERV-W env on the TLR4 receptor,” explained Dr. Hervé Perron, Chief Scientific Officer of GeNeuro and one of the authors. “Taken together, these data confirm that neutralizing pHERV-W env is a new therapeutic pathway to explore in T1D. GeNeuro is already conducting a Phase 2a study with GNbAC1, our monoclonal antibody designed to neutralise pHERV-W env.”

In the studies, analysis of human T1D samples show that the pHERV-W env protein was found to be expressed in 75% of pancreas samples, detected in 70% of sera and its corresponding RNA was found in 57% of peripheral blood mononuclear cells. In cultures of human Langerhans islets cells, insulin secretion was inhibited by pHERV-W env in a dose-dependent manner. The authors now consider that this activity may be attributed to the action of pHERV-W env on TLR4 receptors, which are expressed by pancreatic beta cells.

Immuno-histological analysis further revealed a significant correlation between pHERV-W env expression and macrophage infiltrates in the exocrine part of human pancreata. These findings were corroborated by *in vivo* studies on transgenic mice expressing HERV-W-env gene, which displayed hyperglycemia and decreased levels of insulin along with immune cell infiltrates in their pancreas.

These data will also be presented at the [53<sup>rd</sup> Annual Meeting of the European Association for the Study of Diabetes](#) (EASD) in Lisbon on Friday, September 15, 2017.

GeNeuro has initiated a randomized, placebo-controlled Phase 2a study to evaluate GNbAC1 in 60 recently diagnosed adult patients in over 10 centers in Australia. The primary endpoint of the study is the safety of GNbAC1 in this new population of patients. Secondary endpoints will measure the link between treatment response and pHERV-W env biomarkers of pancreatic function, insulin production based on peptide C levels, and other biomarkers associated with type 1 diabetes, such as insulin consumption, glycemia and production of diabetic auto-antibodies. Preliminary results are expected during the third quarter 2018.

## About Type 1 Diabetes

Type 1 diabetes, usually first diagnosed in children, is caused by an immune response directed against the insulin producing cells of the pancreas. There is no cure for this 'autoimmune' disease, which means patients need life-long treatment with insulin replacement. This treatment is often associated with several debilitating complications, including heart disease, blindness, and kidney disease, among others.

## About GeNeuro

GeNeuro's mission is to develop safe and effective treatments against neurological disorders and autoimmune diseases, by neutralizing causal factors encoded by HERVs, which represent 8% of human DNA.

GeNeuro is based in Geneva, Switzerland and has R&D facilities in France at sites in Archamps, Haute-Savoie and in Lyon. It has 31 employees and rights to 16 patent families protecting its technology.

For more information, visit: [www.geneuro.com](http://www.geneuro.com)

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