

PNAS publication supports temelimab's rationale against neurodegeneration in MS

- Research supports neurobiological rationale for evidence of neuroprotection obtained in completed Phase 2b clinical trials
- Protective effects on axonal degeneration and remyelination support potential role of temelimab in treating progressive MS

Geneva, Switzerland, June 26, 2019 – 7:30am CEST – GeNeuro (Euronext Paris: CH0308403085 - GNRO), a biopharmaceutical company developing new treatments for neurodegenerative and autoimmune diseases such as multiple sclerosis (MS) and type-1 diabetes (T1D), is delighted to announce that data supporting the mode of action of its lead product (temelimab) in treating MS was published in the Proceedings of the National Academy of Sciences (PNAS). Temelimab is a monoclonal antibody designed to neutralize a pathogenic, viral envelope protein, pHERV-W Env, which plays a causal role in the development of MS.

The PNAS paper, entitled [“pHERV-W envelope protein fuels microglial cell-dependent damage of myelinated axons in multiple sclerosis”](#), demonstrates that axonal injury in MS can be significantly driven by pHERV-W Env through activation of microglia and this contributes to neurodegeneration, particularly in progressive forms of MS. In addition to the already published data demonstrating that pHERV-W Env may directly inhibit remyelination, these data provide additional neurobiological rationale for the results from recently completed CHANGE-MS and ANGEL-MS Phase 2b trials. In these studies, performed in patients with relapsing remitting MS, temelimab showed consistent neuroprotective effects on MRI measures known to be associated with disability progression in MS, through neutralization of pHERV-W Env.

“This study clearly shows that this pathogenic protein, via microglia, directly harms axons and leads to the neurodegeneration, as is observed in progressive MS,” explained Hervé Perron, PhD, Chief Scientific Officer of GeNeuro. “These data contribute further to our understanding of the pHERV-W Env neutralizing effects of temelimab, particularly with respect to the neuroprotective outcomes seen in our Phase 2b clinical studies.”

About Temelimab

The development of temelimab (GNbAC1) is the result of more than 25 years of research into human endogenous retroviruses (HERVs), including 15 years within Institut Mérieux and INSERM before GeNeuro was founded in 2006. HERVs are present in the human genome and some have been associated with various auto-immune diseases. The viral envelope protein encoded by a HERV in the HERV-W family (pHERV-W Env) has been found in the brains MS patients, and particularly in active lesions, as well as in the pancreas of patients with in type-1 diabetes on pathological examination. By neutralizing pHERV-W Env, temelimab could simultaneously block a pathological, neurodegenerative process and help to restore myelin integrity in MS patients, as well as to maintain insulin production in T1D patients. Given that the pHERV-W Env protein has no known physiological function, temelimab was expected to have a good safety and tolerability profile, with no effect on the patient's immune system, and importantly this has been borne out by all clinical trials carried out to date.

About GeNeuro

GeNeuro's mission is to develop safe and effective treatments against neurological disorders and autoimmune diseases, such as multiple sclerosis, 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 Lyon, France. It has 26 employees and rights to 17 patent families protecting its technology.

For more information, visit: www.geneuro.com

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