

Umecrine Cognition presents data showing improved symptoms in a model of Parkinson's disease following treatment with golexanolone

Stockholm, January 3, 2023 – Umecrine Cognition AB today announced results showing that the company's clinical drug candidate golexanolone reverses fatigue, anxiety, depression, and some cognitive and motor alterations in a preclinical model of Parkinson's disease. These results further increase the understanding of golexanolone's potential role in the treatment of this progressive and debilitating CNS disease. The study was carried out in collaboration with Dr. Vicente Felipo, at the Laboratory of Neurobiology, Centro de Investigación Príncipe Felipe in Valencia, Spain.

The preclinical model of Parkinson's disease (the unilateral 6-OHDA rat model) used in the present study induced fatigue, anxiety, depression, cognitive impairment, and alterations in motor function, mimicking hallmark symptoms observed in patients with Parkinson's disease. Compared to a control-operated group, models with Parkinson's disease showed increased fatigue in the treadmill test and anxiety in the open field test. Golexanolone reversed the increase in fatigue ($p < 0.05$) and anxiety ($p < 0.05$). In the sucrose preference test, preclinical models with Parkinson's disease showed anhedonia, a symptom of depression, which was also reversed by golexanolone ($p < 0.05$). Preclinical models show impaired short-term memory in the Y maze, which was improved by golexanolone ($p < 0.05$).

Other results showed that golexanolone reversed the impairment in motor coordination in preclinical models in the motorater test ($p < 0.001$) and the models also showed increased initial dual stance and reduced swing. The golexanolone treatment reversed these alterations ($p < 0.05$, respectively). Further analyses of other parameters showed that other locomotor performances and motor coordination symptoms were reversed following treatment with golexanolone. Together, these results indicate that golexanolone could improve several symptoms of Parkinson's disease.

"We hypothesized that golexanolone, a well-tolerated GABAA receptor-modulating steroid antagonist in clinical development, that reduces GABAA receptors activation and neuroinflammation, may improve some motor and non-motor deficits in a widely used model of Parkinson's disease. Together, these results show that golexanolone treatment may be useful to improve a variety of the symptoms that severely affect the quality of life of the patients: anxiety and depression, fatigue, some aspects of motor coordination and of locomotor gait, and some aspects of cognitive function," comments Dr. Vicente Felipo, Centro de Investigación Príncipe Felipe, Valencia.

Enhanced GABAergic neurotransmission and neuroinflammation in the brain of animal models and patients contribute to the pathogenesis of Parkinson's disease and to some associated motor and non-motor symptoms. The beneficial effects obtained in the present study would be the reduction of enhanced GABAergic neurotransmission and neuroinflammation.

"We are proud of our productive collaboration with Dr. Felipe and his renowned research group at the Centro de Investigación Príncipe Felipe in Valencia. The intriguing preclinical results announced today open new possibilities to expand the development of golexanolone from primary biliary cholangitis and hepatic encephalopathy into Parkinson's disease, as well as other CNS diseases that share similar underlying mechanisms," said Anders Karlsson, CEO of Umecrine Cognition.

Umecrine Cognition's drug candidate golexanolone is currently in clinical development for primary biliary cholangitis and hepatic encephalopathy, two indications involving pathogenic accumulation of toxic metabolites, proposedly resulting in neuroinflammation and disturbed neural signaling.

For further information, please contact:

Anders Karlsson, CEO, Umecrine Cognition AB
Phone: +46 70 918 00 10
E-mail: anders.karlsson@umecrine.se

About Parkinson's Disease

Parkinson's disease (PD) is a progressive disorder of the nervous system that affects movement by causing shaking, stiffness, and difficulty with walking, balance, and coordination. PD is associated with motor symptoms involving bradykinesia, rest tremor, rigidity, and postural disturbances, as well as non-motor symptoms including fatigue, cognitive impairment, hyposmia, rapid eye movements, sleep behavior disorder, anxiety, and depression. PD results from the degeneration of dopamine-generating cells in the substantia nigra region of the midbrain and is characterized by the accumulation of a protein called alpha-synuclein into inclusions called Lewy bodies in neurons. In animal models of Parkinson's disease, the GABA levels are increased in substantia nigra pars compacta, leading to reduced expression of tyrosine hydroxylase in neurons which contributes to behavioral deficits. Tyrosine hydroxylase expression may be restored by blocking GABAA receptors, supporting that enhanced activation of GABAA receptors mediates the inhibition of tyrosine hydroxylase expression and some behavioral deficits. Parkinson's disease (PD) affects approximately 1 million people in the US and more than 6 million worldwide, numbers that are expected to rise over the coming decades. There are no drugs available for Parkinson's disease that alter the progression of the disease, and current symptomatic treatments provide limited relief but come with complications and side effects.

About Umecrine Cognition AB

Umecrine Cognition AB develops a completely new class of pharmaceuticals against neurological disturbances in the brain that may arise as a consequence of several underlying diseases, leading to strongly reduced cognitive functions and wakefulness. Results from an internationally recognized clinical Phase 2 study indicate that the company's most advanced drug candidate, golexanolone, normalizes the brain's signaling and improves cognition as well as wakefulness in patients diagnosed with hepatic encephalopathy. The continued drug development will initially focus on patient groups whose symptoms arise from chronic liver diseases. The mode of action is however relevant in a number of other indications some of which are now being investigated. For more information, visit www.umecrinecognition.com.

Attachments

[Umecrine Cognition presents data showing improved symptoms in a model of Parkinson's disease following treatment with golexanolone](#)