Umecrine Cognition publishes data showing sustained reversal of neuroinflammation in Parkinson's disease model

STOCKHOLM – September 4, 2025. Umecrine Cognition today announced that the company has published results in the scientific journal Frontiers in Immunology, supporting a key mechanism for golexanolone in alleviating symptoms of Parkinson's disease. The new data show a sustained therapeutic effect of golexanolone in a preclinical model, supporting the use of golexanolone as a chronic treatment in Parkinson's disease.

Activation of brain immune cells (glia) drives chronic neuroinflammation, a key factor in neuronal death and the progression of neurodegenerative diseases such as Parkinson's disease (PD). Over-activation of GABA signaling, one of the brain's most common signaling substances, is also thought to contribute to PD progression. By targeting glial activation and neuroinflammation, new treatment strategies may emerge. Umecrine Cognition is developing golexanolone, a clinical-stage GABA modulator that has been shown to reduce GABAA receptor overactivation, lower neuroinflammation, and improve cognition and motor function in preclinical PD and other disease models.

The study conducted in a preclinical animal model demonstrates that golexanolone completely reverses ($p < 0.05$) the activation of immune cells that drive neuroinflammation in the brain circuit controlling voluntary movement and posture. Further, it was shown that treatment with golexanolone completely reversed the increase of inflammation-promoting proteins (TNFa and IL-1a; $p<0.05$) in the animal model affording robust protection against neuroinflammation already 3 weeks after disease onset.

As a next step, the study investigated whether golexanolone provides lasting protection against neuroinflammation by re-examining the same pathways after 9 weeks. Results showed that golexanolone continued to counteract inflammation at this stage and helped restore protective immune cells in the brains of the treated animal model.

"Our Parkinson's disease research program has found that golexanolone can normalize harmful brain inflammation that worsens symptoms over time. In a preclinical animal model, golexanolone reverses the overactivation of immune cells, reduces damaging inflammatory signals, and stabilizes the brain's supportive cells; an effect that is sustained over time. These results suggest that golexanolone protects key brain regions involved in movement and cognition, offering a promising new approach to treating symptoms of Parkinson's disease. They are further supported by growing evidence that neurosteroid-based therapies could transform how we treat brain disorders driven by inflammation and disrupted communication between nerve cells," comments Dr. Magnus Doverskog, CSO at Umecrine Cognition.

The study was conducted with the company's academic collaborators at Centro de Investigación Príncipe Felipe, Valencia, Spain, and the results of the study were published in the September issue of Frontiers in Immunology, Inflammation. The article is part of the research topic – Neuroinflammation: Mechanisms and Therapeutic Interventions. The article can be found here.

For citation: Mincheva, G., et al., 2025. Frontiers in Immunology. Golexanolone affords sustained microglia and astrocytes activation improvement in a rat model of Parkinson's disease. 16:1654664 (doi.org/10.3389/fimmu.2025.1654664).

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About Umecrine Cognition
Umecrine Cognition AB is developing a completely new class of drugs for the treatment of symptoms in the central nervous system related to chronic neuroinflammation – a devastating brain distortion that can lead to severely impaired cognition and fatigue. Chronic neuroinflammation can occur as a result of a number of underlying conditions, including a range of liver diseases as well as neurodegenerative diseases, such as Parkinson's disease. Results from an internationally acclaimed Phase 2 clinical study indicate that the company's most advanced drug candidate, the GABAA receptor-modulating steroid antagonist golexanolone, normalizes brain signaling and improves cognition and alertness in patients with hepatic encephalopathy. A Phase 2 study is currently ongoing in patients with primary biliary cholangitis. Further, based on intriguing preclinical data, the company is considering pursuing the development of golexanolone in patients with Parkinson's disease. For more information, visit www.umecrinecognition.com.

Attachments

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