



SynapCell and Motac Neuroscience Discover New Biomarker of Parkinson's Disease Progression

Biomarker for Prodromal Disease Will Enable Industry to Assess Neuroprotective and Disease-Modifying Drugs

Chicago, IL -- Oct 21, 2019 -- SynapCell and Motac Neuroscience have discovered a new biomarker for progression of Parkinson's Disease (PD). The BetaPark [evo] enables unprecedented opportunities for drug developers to test the neuroprotective or disease-modifying effects of their compounds. This discovery, combining Motac's disease modeling and SynapCell's EEG phenotyping capabilities, is being presented in a poster today in the Circuit Mechanisms of Motor Dysfunction in Parkinson's Disease Session (382.08/F23) of the Society for Neuroscience Annual Meeting in Chicago.

BetaPark [evo] will be commercially available to the pharmaceutical industry for PD preclinical drug discovery by Q2 2020.

"Neuronal degeneration begins years before clinical symptoms of Parkinson's appear. And until now there has been no reliable animal models with relevant biomarkers to track disease progression and screen novel therapies," says Yann Roche, PhD, Chief Innovation Officer at SynapCell. "With BetaPark [evo], we are proud to announce the identification of the first EEG biosignature to address the evolution of Parkinson's disease and support pharmaceutical companies in developing neuroprotective strategies using objective, accurate and longitudinal metrics over time."

SynapCell's Cue® state-of-the-art EEG methodologies have successfully highlighted aberrant Beta oscillations (BetaPark) as an *in vivo* biomarker to assess pharmacodynamics of anti-PD and anti-dyskinetic drug candidates in symptomatic rat models of PD since 2013. BetaPark has since then enabled the pharmaceutical industry to select their most promising anti-PD compounds and to secure their future clinical efficacy trials. The goal of the two-year partnership between the two leaders in the field of brain disorders was to phenotype Motac's Alpha-Synuclein rat model of PD progression using SynapCell's Cue® EEG technology.

Research conducted through this partnership demonstrated the progressive rise of aberrant Beta synchronization over 12 weeks, alongside with disease progression in the clinically-relevant Alpha-Synuclein rat model. A correlation between neuron loss in the substantia nigra and the increase of BetaPark power was found. Moreover, when treated with L-DOPA, animals revealed a statistically significant decrease of BetaPark power, confirming that the biomarker is pharmacosensitive to this standard-of-care.

"The powerful combination of Motac's excellence in Parkinson's modeling and SynapCell's Cue® technology has propelled the drug discovery paradigm forward for Parkinson's disease," says Erwan Bézard, PhD, Chief Scientific Officer at Motac Neuroscience. "We foresee an unprecedented translational power in neuroprotective and symptomatic studies with the synergies of state-of-the-art disease modeling and EEG power analysis in the rat modeling human Parkinson's pathophysiology."

BetaPark [evo] represents a clinically meaningful endpoint for the validation of neuroprotective experimental therapeutics, calling for a clinical validation of this surrogate biomarker for neurodegenerative disorders.

About SynapCell

SynapCell SAS is an innovative, brain-focused biotechnology company that provides pharmaceutical companies with a set of predictive solutions designed to evaluate drug candidates' efficacy on central nervous system disorders. Having first developed solutions for epilepsy, the company has expanded its offerings to address motor (Parkinson's disease, Essential Tremor) and psychiatric disorders (Schizophrenia), providing international clients with go/no go decision capability to progress the discovery of new treatments for CNS disorders.

For more information on SynapCell, please visit: www.synapcell.com

About Motac

Motac Neuroscience Ltd is a preclinical research company dedicated to working with pharmaceutical and biotechnology companies that are developing new treatments for diseases of the central nervous system. Motac scientists include internationally recognized experts in neuroanatomy, neurophysiology, neuropharmacology and neuropsychology with unparalleled expertise in the fields of movement disorders, such as Parkinson's disease and dyskinesia. The company performs customized studies that meet clients' specific requirements, study designs, scientific endpoints and read-outs.

For more information on Motac, please visit: www.motac.com

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