



SYNAPCELL AND RESERVOIR NEUROSCIENCE ANNOUNCE COLLABORATION FOR DEVELOPMENT OF TREATMENT FOR CHRONIC EPILEPSY

Saint-Ismier, FRANCE, Dec. 15, 2021 – SynapCell, a company providing advanced predictive models for evaluating the efficacy of compounds targeting central nervous system (CNS) diseases and Reservoir Neuroscience, a biotechnology company developing therapeutics to repair dysfunctional blood vessels in the brain as a new approach for treating neurological diseases, today announced a collaboration to test compounds using a translational model of pharmaco-resistant Mesio-Temporal Lobe Epilepsy (MTLE), an epileptic condition for which no effective or satisfactory treatment exists to date.

SynapCell's clinically relevant mouse model mimics the pathophysiological, electrophysiological and pharmacological features of human temporal lobe epilepsy. Importantly, the model shows a profile of drug resistance that is similar to that observed in humans, offering the potential to identify next-generation therapies for patients who suffer from intractable focal seizures. In this collaboration, SynapCell will test drug compounds developed by Reservoir in a chronic paradigm and deliver quantitative, patient-predictive readouts that show their effect on the kinetics of seizure reduction and deliver decision-enabling endpoints to advance candidate compounds into clinical development.

Temporal lobe epilepsy is the most common form of focal epilepsy and while medicines may lower the number of seizures, it is challenging for people with this condition to become seizure-free. MTLE involves the medial structures of the temporal lobe and accounts for nearly 80% of all temporal lobe seizures.ⁱ The patient journey is challenging as many have an inadequate response to antiepileptic drug therapy and among those who do respond, many become medically refractory. For those with medically refractory or drug resistant MTLE, surgical and neurostimulation approaches are the remaining options.

“The need for an effective treatment for MTLE cannot be overstated,” said Vlad Senatorov, PhD, Co-founder and CSO of Reservoir Neuroscience. “A major challenge in developing therapeutics for this condition, however, has been a lack of predictive pre-clinical models that guide selection of candidates for further development. We believe that the MTLE model developed by SynapCell is the most translational to human pathology and will give us an important advantage when selecting compounds to advance into human clinical trials.”

The translational epilepsy model is one of several clinically relevant, validated models of CNS diseases and conditions developed by SynapCell. The *in vivo* MTLE model combines advanced modeling methods, precise EEG recording techniques to capture signals such as hippocampal discharges, deep-learning-based signal processing and expertise in the fields of neuroscience and epilepsy. The MTLE model has been recognized by the National Institute of Neurological Disorders and (NINDS) as a superior translational model for pharmaco-resistant focal epilepsies, and since 2014 has been featured as a key asset to supplement the evaluation capabilities offered by the Epilepsy Therapy Screening Program (ETSP). Researchers from academia and industry can submit compounds to this program for testing in a series of standardized rodent seizure models.

“Using our advanced translational models, we are able to deliver physiologically relevant data with unmatched predictive power to support informed decision-making,” said Corinne Roucard, PhD, CEO of SynapCell. “We are excited to have been selected by Reservoir Neuroscience to provide the critical insights needed to advance compounds into clinical development that have a greater chance of demonstrating efficacy in patients with MTLE.”

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ⁱ <https://www.epilepsy.com/learn/types-epilepsy-syndromes/temporal-lobe-epilepsy-aka-tle>