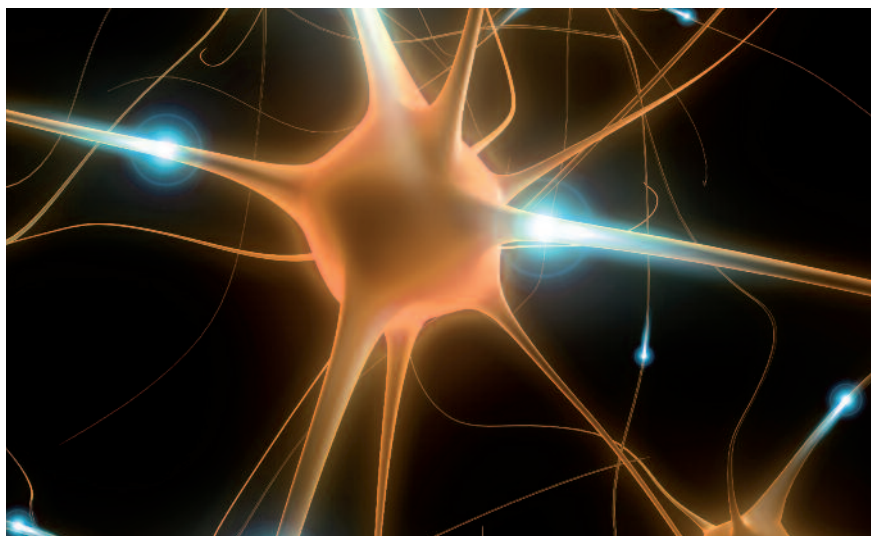


In Vitro **NEUROPROTECTION** Model

**GIVING MOLECULES
THE VALUE THEY DESERVE**



Acute or chronic neurodegenerative disorders are mainly induced by endogenous excitotoxins such as glutamate. Moreover, several studies have shown that N-methyl-D-aspartate (NMDA) receptors are the major mediator of excitotoxicity.

SynapCell's experts measure the functional activity of the hippocampal neuronal network through electrophysiological recordings in excitotoxic conditions.

Several potential neuroprotective agents were identified, such as antagonists to glutamate receptors (e.g. memantine, MK801...) or compounds acting on intracellular pathways (e.g. erythropoietin).

The neuroprotective potential of your compounds is evaluated against glutamate analogs-induced excitotoxicity with:

- Organotypic hippocampal slices: a preserved in vitro neuronal network allowing acute and/or chronic drug incubation
- Customized excitotoxic conditions over a period of hours with glutamate analogs (NMDA, kainate...)
- Multi-electrode arrays: an easy-to-use two-dimensional microelectrode array, providing a functional activity profile of the whole neuronal network

Our solutions

SYNAPCELL provides customized solutions which cover the entire range of customers needs, from early steps to the final answer.

In vivo

We assess the anti-epileptic, anti-epileptogenic or pro-epileptic effects of your drug candidates through :

- PREDICTIVE** animal models of epilepsy
- PROTOCOLS MIMICKING** clinical trials (e.g., cross-over, add-on, chronic treatment)
- QUANTITATIVE RESULTS** using EEG.

In vitro

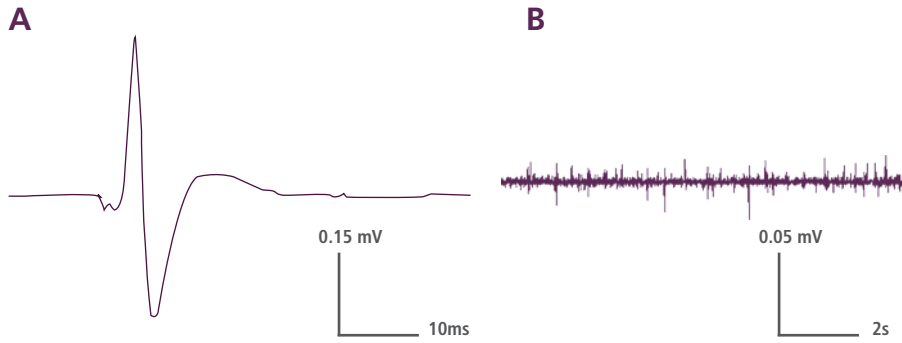
We define the activity profile of your drug candidates on neuronal network through :

- INTEGRATED MODELS** on acute / organotypic brain slices
- VARIOUS EXPERIMENTAL** conditions (e.g., physiological, excitotoxic, epileptic)
- MULTISITE RECORDING** using MEA.

About us

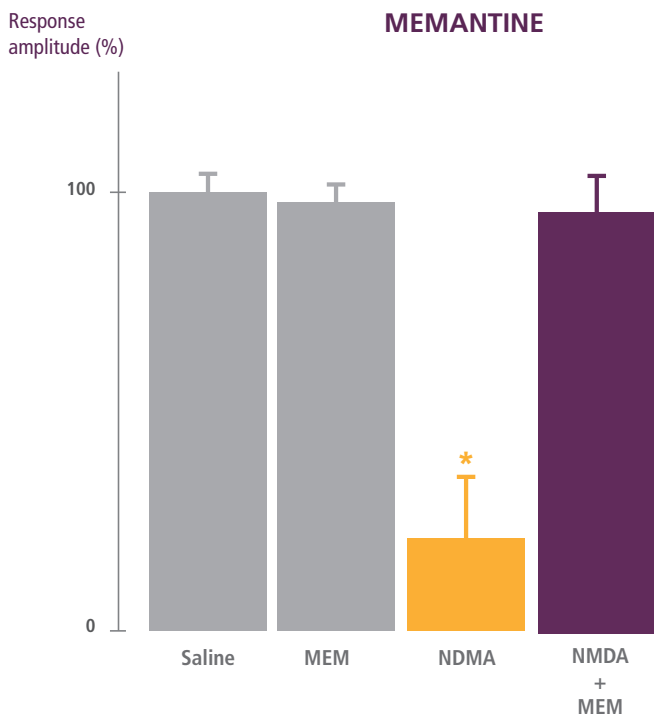
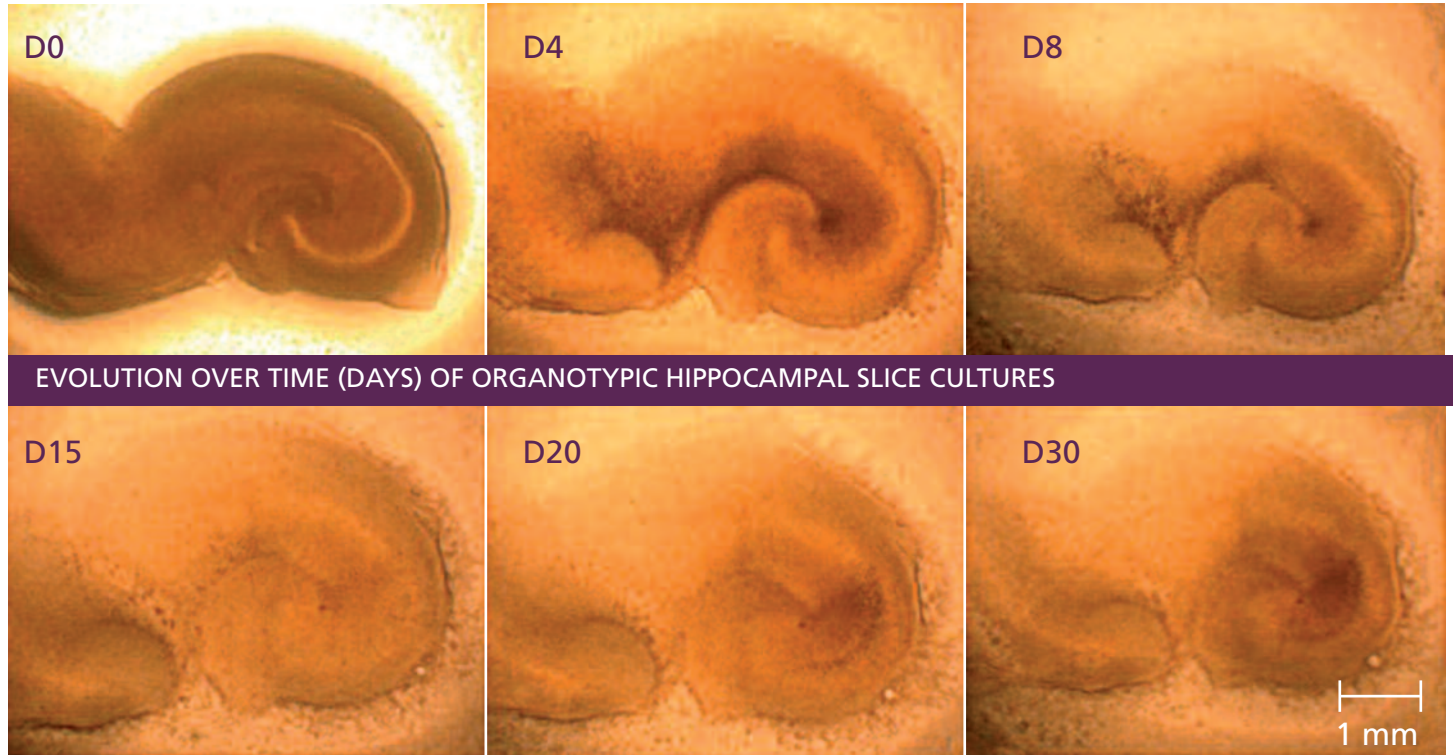
SYNAPCELL is a preclinical CRO which provides highly predictive solutions to evaluate the therapeutic potential of CNS drug candidates in Epilepsy.

SYNAPCELL
www.synapcell.com
contact@synapcell.com



FUNCTIONAL ACTIVITY OF THE WHOLE NEURONAL NETWORK of organotypic hippocampal slices recorded by MEA technology:

A - Evoked activity in response to an electrical stimulation
B - Electrophysiological evaluation of spontaneous activity



EVALUATION OF NEUROPROTECTIVE EFFECT OF MEMANTINE AGAINST NMDA-INDUCED EXCITOTOXICITY ON ORGANOTYPIC HIPPOCAMPAL SLICES
(memantine, 30 μ M; NMDA, 10 μ M)