neuroservices ALLIANCE

THE CNS ELECTROPHYSIOLOGY CRO

In Vitro **Brain Slice Electrophysiology**

Scan to see our documentation

Our Solutions

We provide assays tailored to your specific research needs, focused on electrophysiology recordings of rodent brain and spinal cord acute and organotypic slices and human brain slices.

- Mechanism of action
- Target engagement
- Compound efficacy and potency
- Safety
- Phenotyping of Tg rodent models

About us

Our Brain slice Electrophysiology lab is located in Aix-en-Provence, France.

We have been providing exceptional expertise for the design, performance and analysis of complex electrophysiological / pharmacological protocols for more than 15 years.
Our 20 Patch & MEA rigs allow for fast turnaround.

Contact us

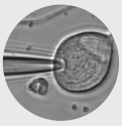
NsA - In Vitro Brain Slice Electrophysiology

Aix-en-Provence (FR) Bordeaux (FR)

San Diego (USA)

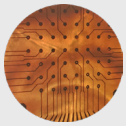
contact@neuroservices-alliance.com

Our Techniques & models



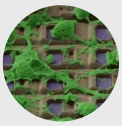
Patch Clamp

In vitro evaluation of compounds under the most physiologically relevant conditions.



Multi Electrode Array

Mid-throughput technique enabling multi-site extracellular recordings & macroscopic view of neuronal networks.



HD-MEA

Recording of neuronal networks at the cellular level. We analyse data with our proprietary AI algorithms.

Protocols

Patch Clamp

- Passive membrane properties
- Active membrane properties
- Synaptic transmission and plasticity

Multi Electrode Array & HD MEA

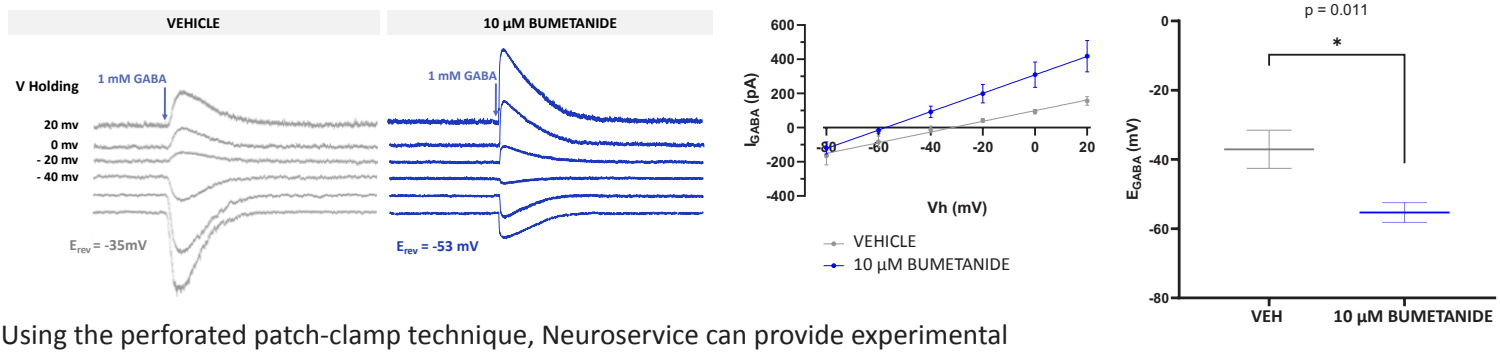
- Spontaneous firing activity
- Short & Long term synaptic plasticity
- NMDA overactivation-induced exotoxicity
- AMPA fEPSP
- 4-AP induced Epileptiform Discharges
- Paired-Pulse inhibition

Sample **Data**

Patch Clamp

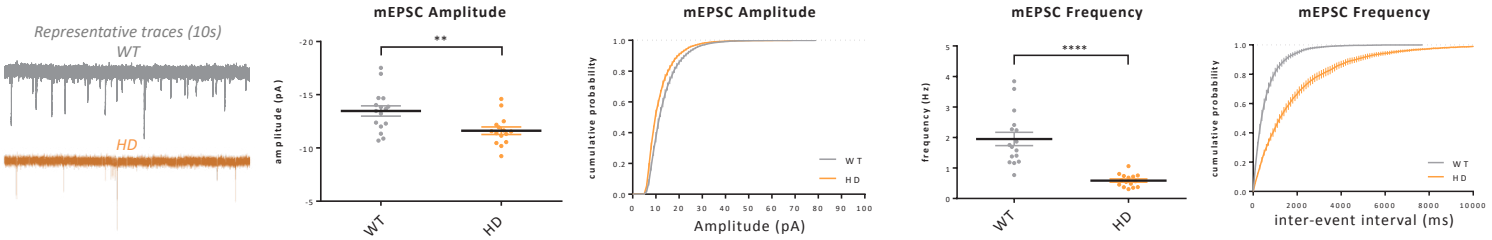
E_{GABA} Measurement using the gramicidin-perforated patch clamp technique

Molecules acting on CCCs such as bumetanide (NKCC1 antagonist) alter E_{GABA} as shown on the figures



Using the perforated patch-clamp technique, Neuroservice can provide experimental scientific support to drug discovery programs targeting cation-chloride cotransporters.

Tg mice phenotyping - R6/2 mice model



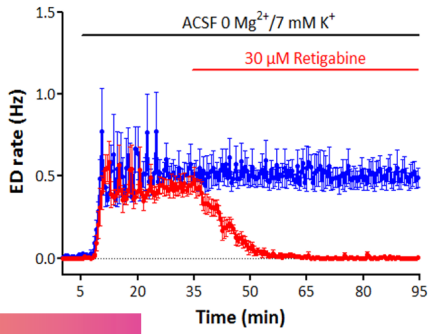
Data used with permission from CHDI Foundation, Inc

MEA

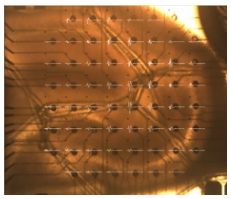
In vitro model for pro- or anti-epileptic drug profiling

Zero-Mg2+-induced Epileptiform Discharges (4-AP, NMDA and bicuculline models also available)

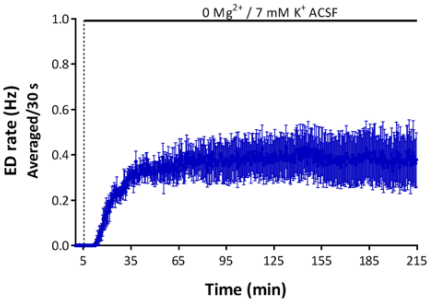
Evaluation of Retigabine (30 µM)



MEA electrodes on hippocampal slice

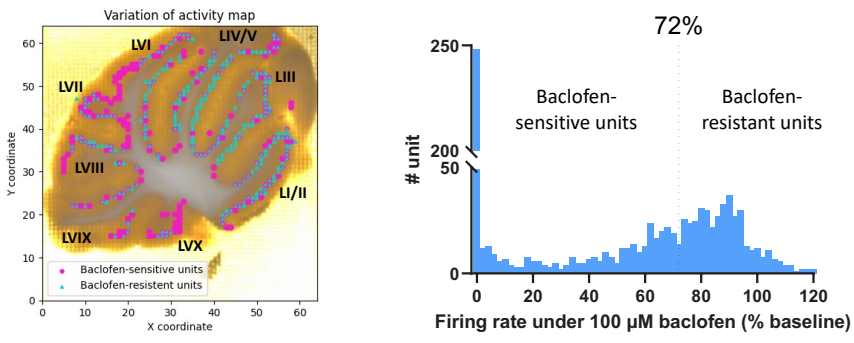


Zero-Mg2+-induced ED



HD-MEA

Profiling cerebellar slices on the 3Brain HD-MEA system



Baclofen changes single-unit activity and allows distinction of anatomical regions.

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