

## Chip platform for measuring cells' electrophysiological activity

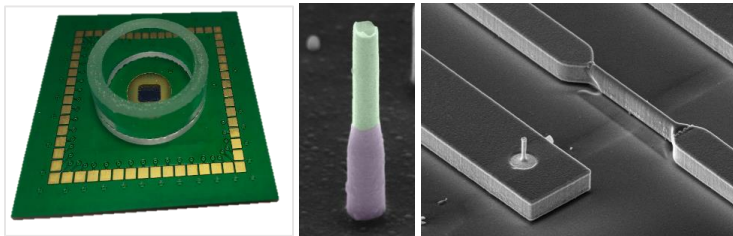
Analyzing the electrical activity of cells is essential in order to understand cells health. There are mainly two standard methods to measure cells electrical activity: either extracellular measurement of action potential using MicroElectrode Arrays (MEAs) or intracellular measurement of action potential using Patch Clamp technique.

Our technology consists in a microlab embedded in one single biochip enable to monitor electrical activity with unprecedented high resolution, and to study cells chemical environment.

### DESCRIPTION\*

The solution involves a biochip embedding vertical nanoprobes and nanoFET transistors

- Main technical specifications:
  - Non-invasive and multisite measurements of electrical activity down to sub-cellular resolution
  - Simultaneous measurements of action potential by nanoprobes and chemical environment by transistors
  - Long-term recording and stimulation of electrical activity



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### TECHNICAL SPECIFICATIONS

Size of chip		1.5 x 1.5 cm <sup>2</sup>
Design of chip		Adapted to the users' needs
Nanoprobes	Characteristics	H=3,5 μm/ Φ=200 nm
	Detection limits	20mV (S/N= 2000)
Nanotransistors	Characteristics	Surface/Volume = 35
	Detection limits	pH : 59mV/pH

### COMPETITIVE ADVANTAGES

- Mature, accurate and reproducible method
- Low manufacturing cost
- More accurate measurement than traditional MEAs (x100)
- Measurement of chemical environment without micromanipulation technique

### APPLICATIONS

- Neurology research
- Cardiology research
- Preclinical studies
- Pharmaceutical studies

### INTELLECTUAL PROPERTY

- Patent pending

### DEVELOPMENT STAGE

- Experimental proof of concept



### LABORATORY



### CONTACT

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