



MARKET CHALLENGES

The discovery of new therapeutic compounds is hampered by the pertinence of cellular or animal models used to mimic human pathologies, especially in psychiatry. Behavior tests are time-consuming, expensive, and they often moderately recapitulate human complex disorders.



INNOVATIVE SOLUTIONS

The team of Pierre Vincent developed an expertise on neuronal transmission using brain slices cultured *ex vivo*. They took advantages of FRET-based biosensors to analyze the signaling pathways governing neuronal responses. In-house microscope and analysis software allow Pierre Vincent to test the influence of exogenous compounds on neuronal pathways with high precision.



SUGGESTED APPLICATIONS

At the level of individual, identified, neurons:

- Quantification of the effects of new molecules on signaling pathways (PKA activity, cAMP levels...)
- Analysis of the mechanism of action of new molecules

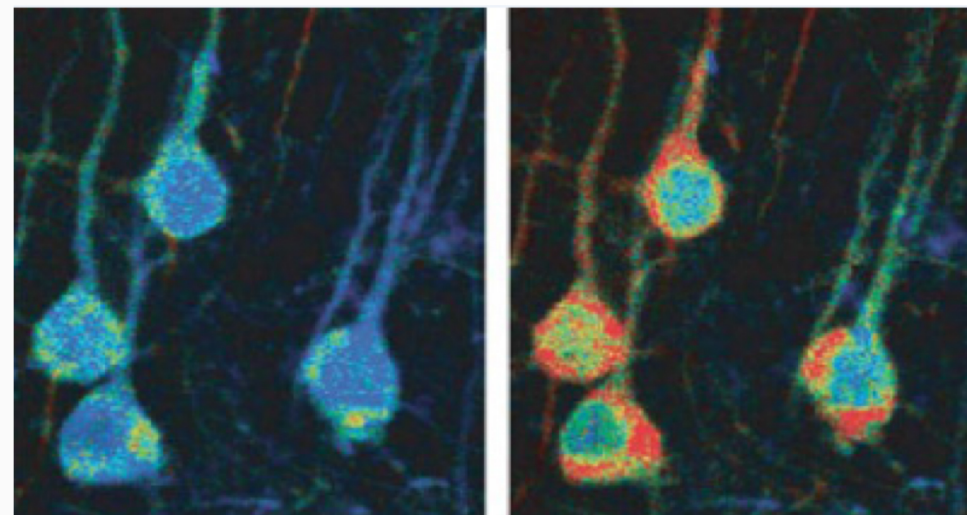


DEVELOPMENT STATUS

The team of Pierre Vincent published many peer-reviewed papers using FRET-based biosensors to analyze wild-type neuronal pathways (6 publications since 2010).

To date, 3 optimized FRET biosensors are routinely used in the lab. Depending on the partner needs, additional probes can be designed and tested.

In-house facilities: animal house, 2-photon microscope, analysis-dedicated computers. The software for image analysis has been developed by Pierre Vincent and allows real-time monitoring as well and rapid data processing.



Neuronal cAMP/PKA signaling with FRET biosensors



COMPETITIVE ADVANTAGES

- Guarantee of confidentiality & property of the results.
- >10-year expertise in FRET-based biosensors.
- Honed workflow allowing rapid results.
- Workflow: Videomicroscopy => automated image analysis => statistical analysis

