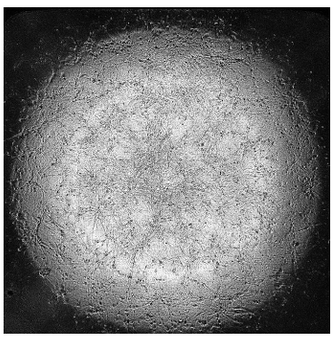
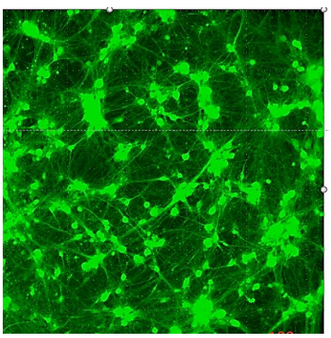
ELIXIRGEN SCIENTIFIC

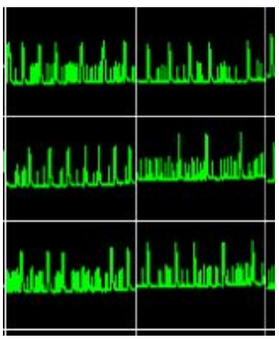
RICOH

Calcium Flux Assay Services

with hiPSC-derived Neurons Generated by Quick-Tissue™ technology







Applications

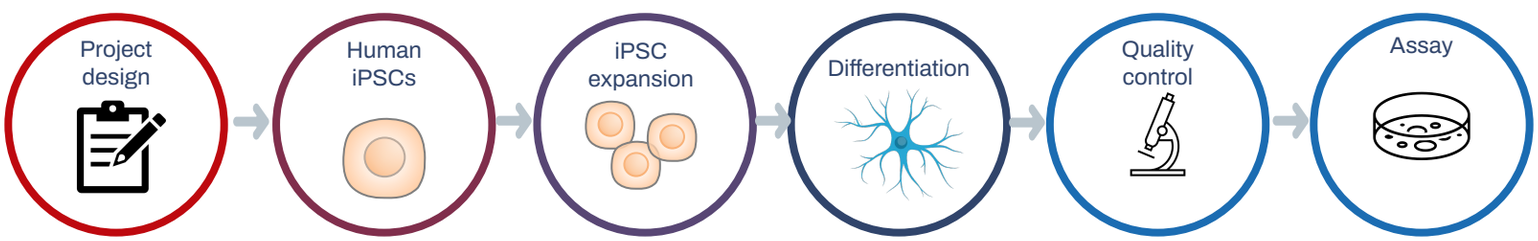
- **Neuronal Characterization**
- **Disease Phenotyping**
- **Neurotoxicity Screening**

Electrophysiological Assay with Calcium Flux Assays

Calcium is an essential intracellular messenger in neurons, generating a multitude of intracellular signals that control key neuronal functions. Calcium Flux assays offer a useful platform for investigating a variety of functional characteristics of neurons in a high-throughput manner. hiPSC-derived neurons generated by our Quick-Tissue™ Technology show strong and consistent synchrony, which is suitable for Calcium Flux assays.

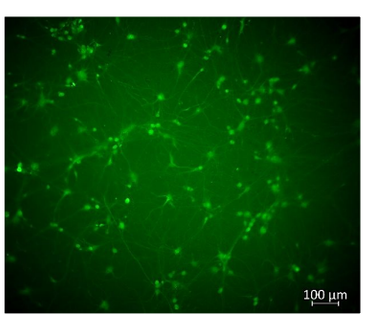
Advantages of Working with Elixirgen Scientific

1. One-Stop Services: We do more than just Assays

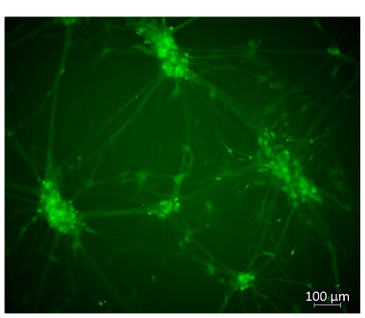


No need to work with multiple service providers! We offer differentiation services with assay services. Assays can be performed with neurons differentiated from customer iPSCs including disease state iPSCs.

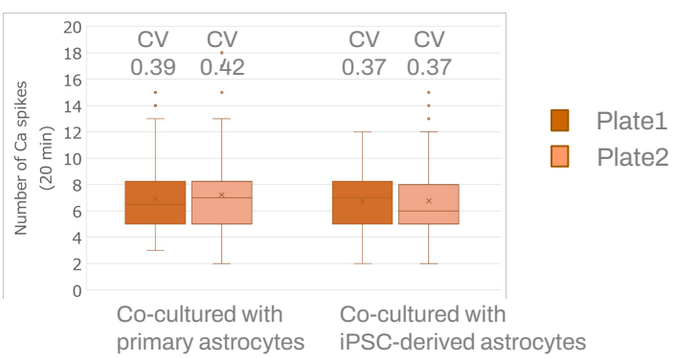
2. Stable assays with a novel coating method



Ricoh's coating



Conventional coating



Ricoh has developed a novel coating method that enables better cell adhesion to the plate and less aggregation compared to the conventional methods. The improved culture conditions offer stable Calcium flux assays with small well-to-well and plate-to-plate variability. Quick-Neuron™ Excitatory Neurons were co-cultured with human primary astrocytes or Quick-Glia™Astrocytes (iPSC-derived astrocytes) on 384-well plates for 6 weeks post-thaw and used for Calcium Flux assays.

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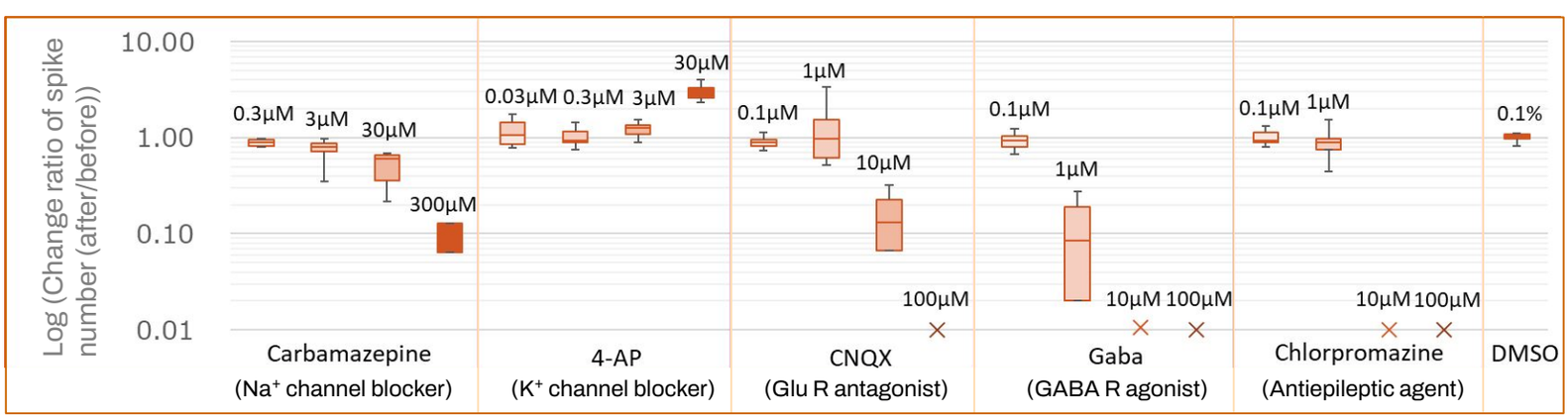
Calcium Flux Assay Services

Key Components of Calcium Flux Assay Services

Cells	**Our standard** Human iPSC-derived excitatory neurons from a healthy control line (EX-SeV-CW50065) co-cultured with human iPSC-derived astrocytes from a control (AS-SeV-CW50065) **Options** • Other neuron subtype: Cholinergic neurons (motor neurons) • Other iPSCs from CIRM iPSC repository: Alzheimer's disease, Epilepsy, Autism, etc. • Starting from customer iPSC lines is also an option.
Calcium Flux Assay	**Our standard** FDSS/µCELL (Hamamatsu Photonics) + 384-well plate 10 compounds at 4 doses with n=6 biological replicates (240 wells per one 384-well plate) Recording 20 min before and after test compound administration **Options** FDSS/µCELL (Hamamatsu Photonics) + 96-well plate 5 compounds at 2 doses with n=6 biological replicates (60 wells per one 96-well plate)
Analysis	**Our standard** Ca^{2+} spike number, base amplitude, Ca^{2+} spike amplitude, Ca^{2+} spike duration, Ca^{2+} spike area, spike to spike time **Options** Other secondary analysis may be possible upon request

Effect of Various Compounds on Number of Ca^{2+} Spikes



Human iPSC-derived neurons co-cultured with human primary astrocytes responded to various neurotransmitters, receptor antagonists and ion channel blockers as expected.

We offer multiple services that can be combined with Calcium Flux Assays. Contact us to request a quote or a consultation.

Check out our website for more information!

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