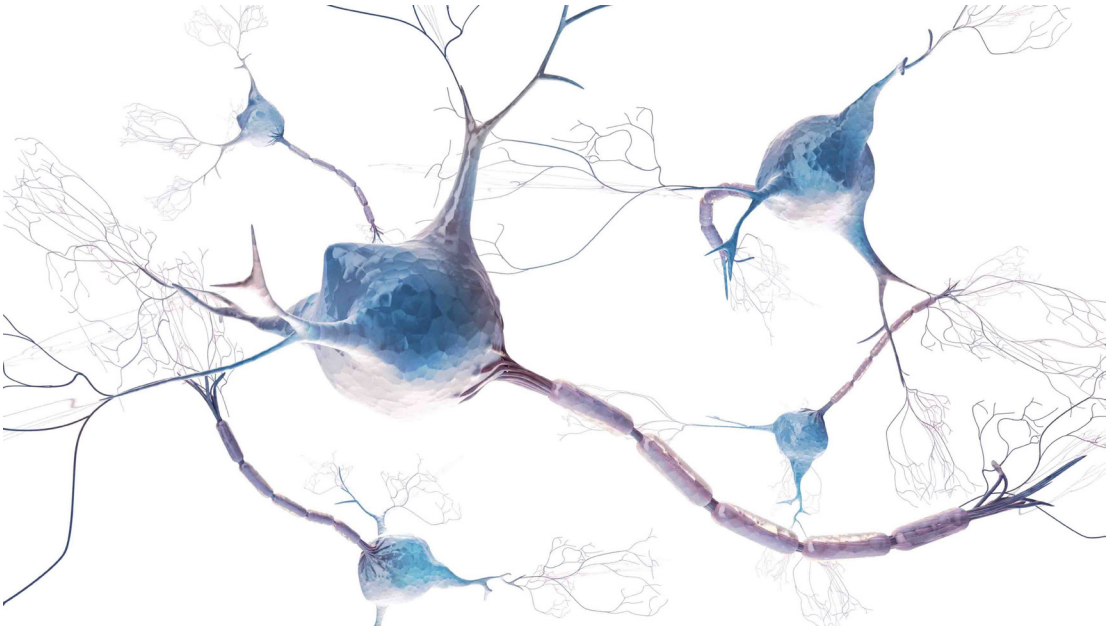
NEURON BIO

Screening Platform



www.neuronbio.com

Screening Platform

Automatized *in vitro* assays for the rapid and efficient assessment of the pharmaceutical properties and safety of any type of compound, mixture or extract.

01 In Silico

Prediction of (a) molecular drug-properties, (b) bioactivity score for the most important drug targets and (c) blood-brain barrier permeability of a molecule.

02 In Vitro

Mycoplasma detection

Neuron Bio guarantees its customers an effective control of their laboratory samples by detecting almost 100% of the mycoplasma strains that produce these contaminations.

BBB permeability

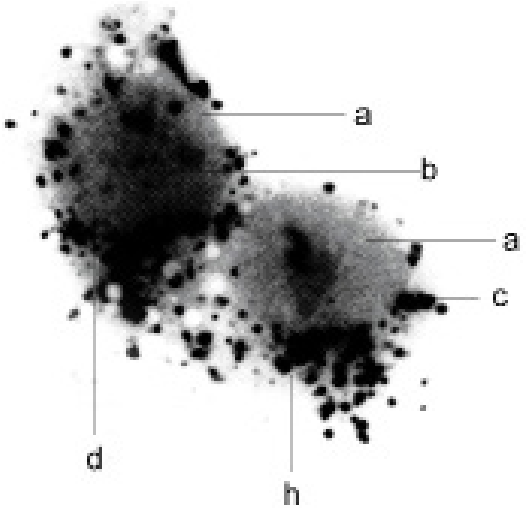
Analysis of blood-brain barrier (BBB) permeability by PAMPA (parallel artificial membrane permeability assay). PAMPA is an *in vitro* model of passive, transcellular permeation of BBB. (See more information)

Antioxidant capacity

Study of antioxidant capacity *in vitro* measured by ORAC (oxygen radical absorbance capacity), TEAC (trolox equivalent antioxidant capacity) and ABTS (cation radical decolorization) assays.

Multiplex assays

We offer multiplex Luminex® assays for quantitification and detection of cytokine and signal transduction molecules. These assays are designed to measure simultaneously multiple targets in each sample (up to 41), with superior performance and reproducible results than ELISA technique.



03 Cell Platform

Safety

- Study of citotoxicity in cell cultures of epithelial, hepatic and neuronal origins from different species (human, mouse, rat, canine...).

Protection from cell death

- Study of the protective capacity against cell death by oxidative stress, UPR-stress, cell cycle arrest and others by metabolic assays measuring (WST-1, LDH).
- Study of the protective capacity against cell death by real-time cell analyzer (RTCA).
- Analysis of anti-apoptotic capacity by propidium iodide staining and flow cytometry. Apoptotic DNA fragmentation is measured in an apoptotic cell model.
- Analysis of anti-apoptotic capacity by caspase-3 activity measured. Caspase-3 activity is measured by a fluorescent probe assay in an apoptotic cell model.

Protection from inflammation

- Study of anti-inflammatory capacity measuring cytokines produced in human monocytes. Cell cultures are treated with inflammatory agents and cytokines are measured by ELISA or multiplex assays.
- Study of anti-inflammatory capacity measuring cytokines produced in murine splenic lymphocytes. Primary cell cultures are treated with inflammatory agents and cytokines are measured by ELISA or multiplex assays.

Antioxidant cellular capacity

- Study of antioxidant capacity in a cell model treated with a pro-oxidant drugs and measuring reactive oxygen species (ROS) production by a fluorescent probe assay.

04 Mechanism-Based Cellular Models

Alzheimer's disease cell model

- Using cell models carrying the APP (amyloid β A4 precursor protein) wild-type and Swedish-type mutant variants.

Inhibition of acetylcholinesterase activity

- Study of acetylcholinesterase activity measuring the inhibition by a spectrophotometric assay in cell lines.

Hypolipidemic capacity

- Study of hypolipidemic capacity measuring cholesterol and triglycerides by a fluorescent probe assay in a hepatic cell lines.
- HMG-CoA Reductase (3-hydroxy-3-methylglutaryl-CoA reductase) activity *in vitro*. HMGCR is the rate-controlling enzyme of the mevalonate pathway.

Effect on Neurite Outgrowth

- Neuroblastoma differentiated cells are used to analyze the effect of the molecules in neurite outgrowth: (a) study of toxicity in differentiated neuronal cells, (b) analysis of morphometric parameters and (c) quantification of neurite number, sum length, mean length and maximum length.

Neuronal plasticity gene expression

- Differentiated human neuronal cells are used for neuronal plasticity assay. Neuronal plasticity gene expression is analyzed by qRT-PCR. Study of modulation of genes related to neuronal survival, synaptic plasticity, neurodegenerative processes and other neuronal functions after treatments with test compounds.

Contact us!

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