



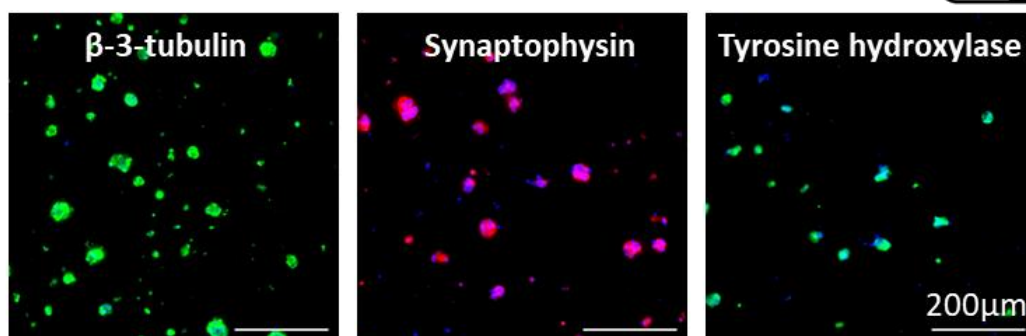
HCS Pharma

IMAGING PLATFORM FOR NEUROTOXICITY ASSESSMENT

34% of safety failure in clinical trials concern the Central Nervous system. HCS Pharma has developed human 3D cellular model including the matricial microenvironment, in the aim to better select drug candidates. This model is available for High Content Screening on our Robotic Platform.

BIOMIMESYS® *Brain hydroscaffold*™ is a hyaluronic acid-based matrix, grafted with structural and adhesion molecules, which mimics the extracellular matrix. It allows to culture cells in 3D in a relevant microenvironment. In this matrix, neuroblastoma cells form spheroids and express neuronal markers like β -3-tubulin, synaptophysin and tyrosin hydroxylase after neuronal differentiation in a serum-free medium:

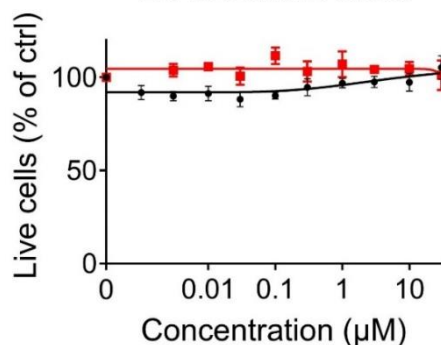
Neuroblastoma cell line differentiated into neurons in **BioMIMESYS®**



These neuronal cells cultured in BIOMIMESYS® *Brain* allow to detect toxicity, with a shift in the Lethal Concentration 50% (LC50%) compared to 2D culture:

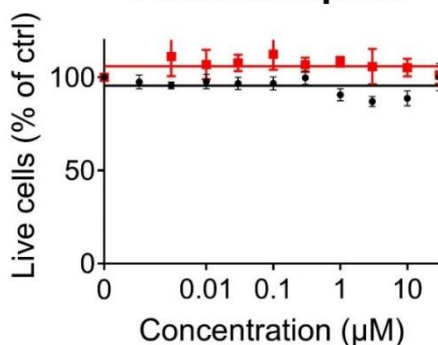
Known as non-toxic:

L-Ascorbic acid



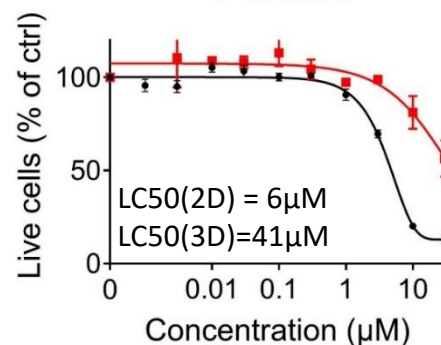
Known toxic but non-neurotoxic:

Acetaminophen



Known as neurotoxic:

6-OHDA



● 2D ■ BIOMIMESYS Brain

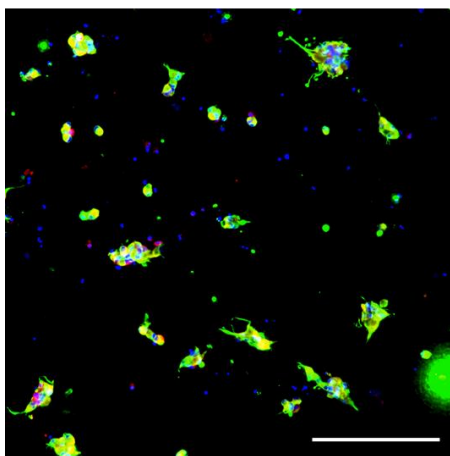


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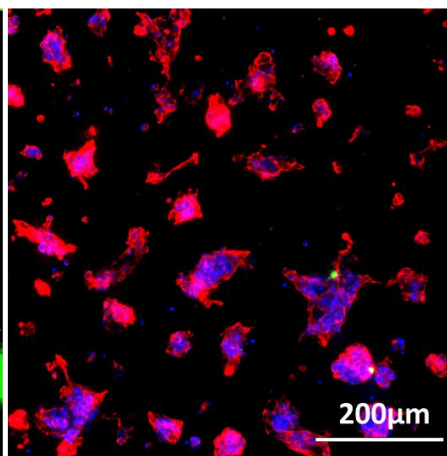
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Other neuronal cell types can also be used for your neurotoxicity assesment, including dopaminergic neuronal cell line, and primary human astrocytes.

Astrocytes



Dopaminergic neurons



3D culture in

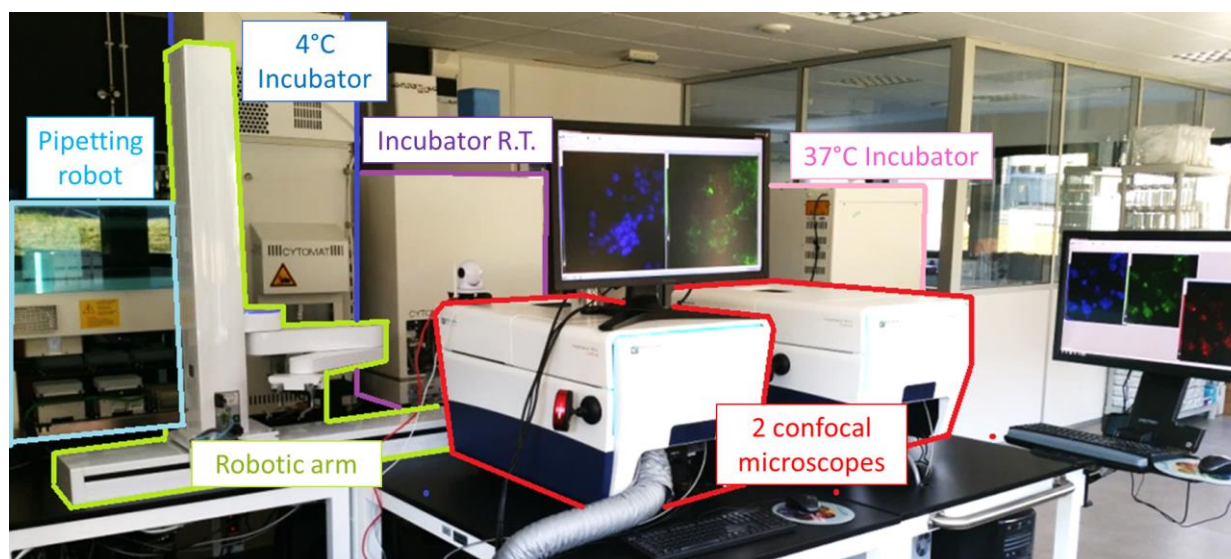
BioMIMESYS®
Brain

Nuclei

GFAP

β -3-tubulin

These models are available in 96-well plate, compatible with immunostaining and with our robotic platforme, and thus can be used for High Content Screening of your molecules.



Read out : **cell viability**

Check our other brochures for more details on each model, or visit our website.