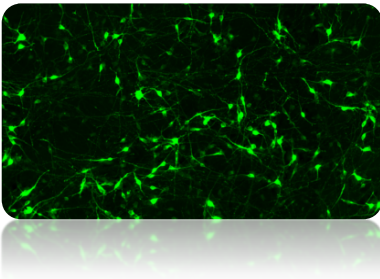


## HIPSC PARKINSON'S DISEASE MODEL

### SCIENTIFIC BACKGROUND

Parkinson's disease (PD) affects 1-2 per 1000 of the general population. PD prevalence is increasing with age and PD affects 1% of the population above 60 years. Most symptoms are the consequence of the loss of dopaminergic neurons in the substantia nigra, manifesting as an impairment of voluntary movements.

Fluofarma set up *in vitro* models to support drug discovery projects targeting Parkinson's disease. We offer to identify & characterize neuroprotective compounds in Parkinson's disease models based on Human dopaminergic neurons.



Example of iCellDopa staining using anti Tyrosine hydroxylase antibody revealing dopaminergic neurons.

Tyrosine Hydroxylase is the rate limiting enzyme in the synthesis of catecholamines such as dopamine

### LEARN MORE ONLINE

- Click for more data on our *in vitro* and *in vivo* services here:  
[www.fluofarma.com](http://www.fluofarma.com)  
[contact@fluofarma.com](mailto:contact@fluofarma.com)

### ASSAY INFORMATION

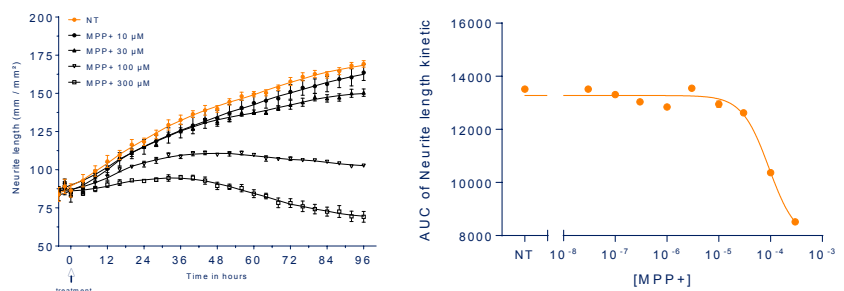
Cell type	iCellDOPA® – dopaminergic neurons derived from Human induced pluripotent stem ( <i>hiPS</i> )
Method	Live Cells imaging
Read-outs	Neurite Outgrowth and apoptosis or cytolysis
Neurotoxin	MPP+ (active MPTP metabolite), 6-OHDA and rotenone

### ASSAY PRINCIPLE

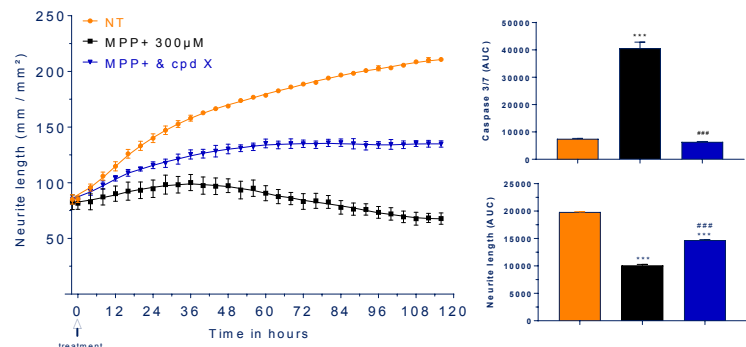
Human iPSC derived dopaminergic neurons (iCell® DOPA neurons) are plated in 384 well plates. After 24 hours, MPP+ +/- test compounds is added and neurite outgrowth (neurite length, branch points) followed kinetically using phase contrast live content imaging. Specific cytolysis or Caspase 3/7 apoptosis reagents are included in the medium to kinetically follow cell death / apoptosis using an additional fluorescent channel during live content imaging. An alternative protocol when dopaminergic neurons are treated with neurotoxins after 8 days is available, with cytolysis measurements.

### REPRESENTATIVE RESULTS

Example of MPP+ dose-dependent toxicity on dopaminergic neurons. Left: neurite length kinetics. Right, Area Under the Curve (AUC) of neurite length kinetic.



Examples of neurite outgrowth measurement (*neurite length*) and caspase 3/7 activity using MPP+ at 300µM +/- a neuroprotective compound (X). Left: neurite length kinetics. Right, Top: AUC of neurite length kinetics. Right, bottom: AUC of apoptosis kinetics.



### CONTACT



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