PHENOVISTA

READY-2-GO NEUROTOXICITY ASSAY SERVICE

BACKGROUND

Measuring neuronal viability is indispensable to assessing the safety and toxicity of drugs and therapeutic candidates. It is crucial that CNS-targeting drugs do not compromise cell health and that drugs that do not target the CNS do not have off-target effects. Pathways and causes of neuronal death are complex and can manifest as apoptosis or necrosis - two distinct processes that both contribute to the general measurement of cell viability.

KEY FEATURES

- Uses human, iPSC-derived neurons
- Multiplexed measurements of apoptosis and cell viability
- Only 6-8 weeks from assay to report
- Ability to bundle R2G assay services (*i.e.* R2G Neuronal MitoHealth Assay Service) or transition to more complex, bespoke assay services with the same service provider

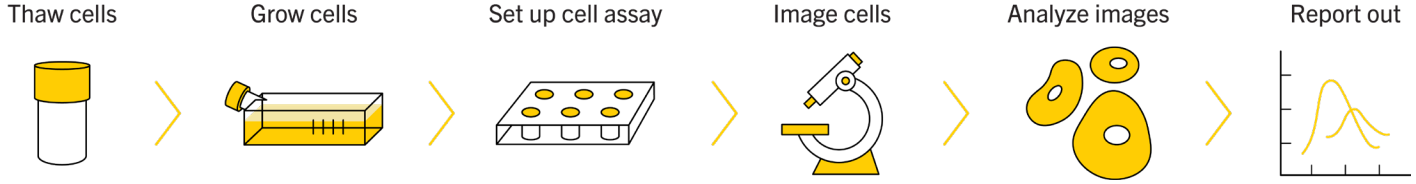
THE CHALLENGE

Evaluating the impacts of drug candidates on cell viability are required for moving therapeutic candidates into the clinic, but distinguishing between mechanisms of death can prove challenging. Furthermore, most cell-viability assays use immortalized neuronal lines, which greatly limits the clinical translatability of the data.

THE SOLUTION

Our Ready-2-Go Neurotoxicity Assay Service uses multiplexed dyes to simultaneously measure apoptosis and viability in human, iPSC-derived, glutamatergic neurons (FUJIFILM CDI). This assay includes reference compounds that trigger apoptosis and excitotoxicity, which can lead to both apoptosis and necrosis.

PROCESS OVERVIEW



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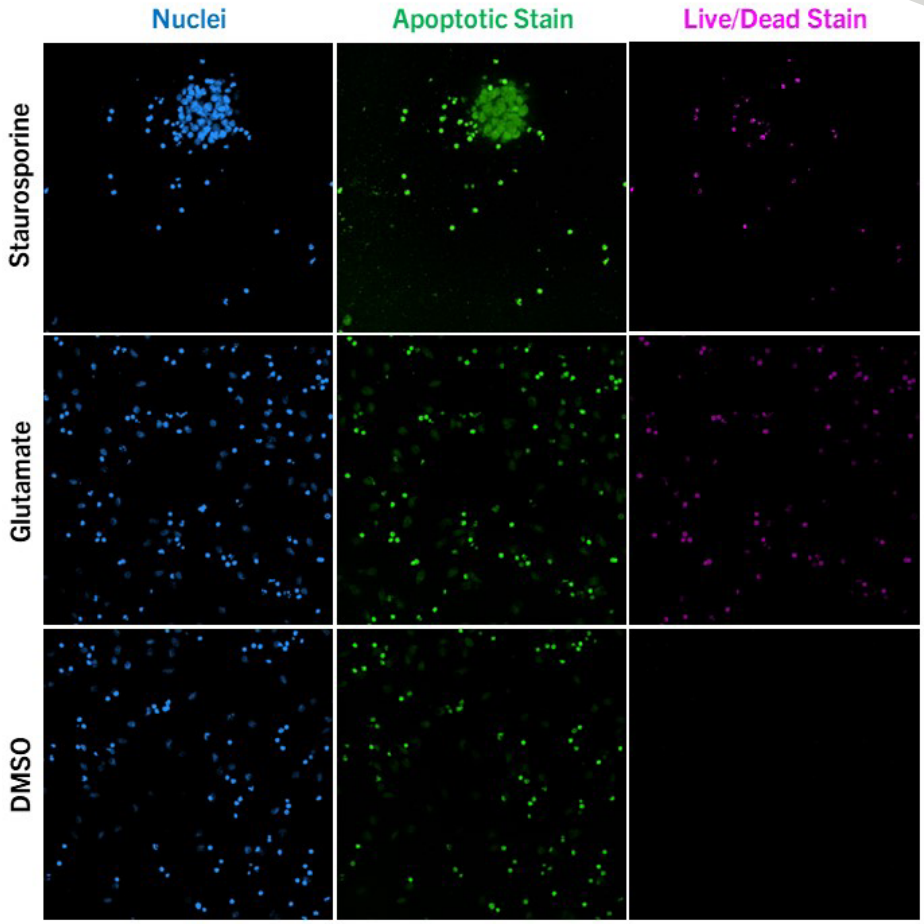
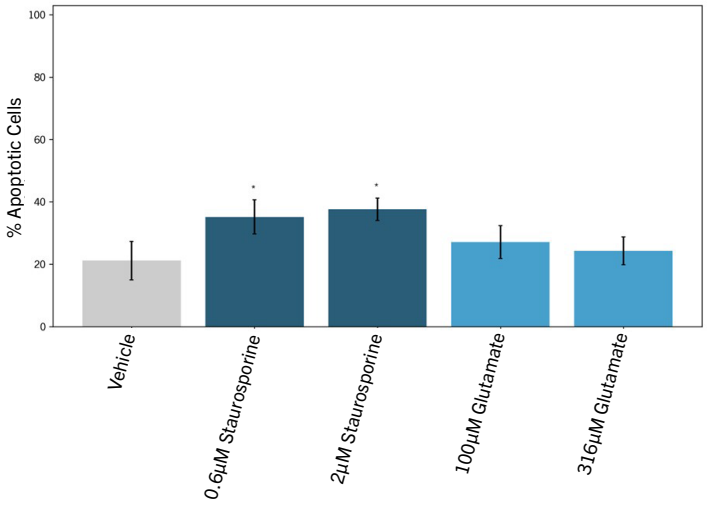
ASSAY OUTLINE

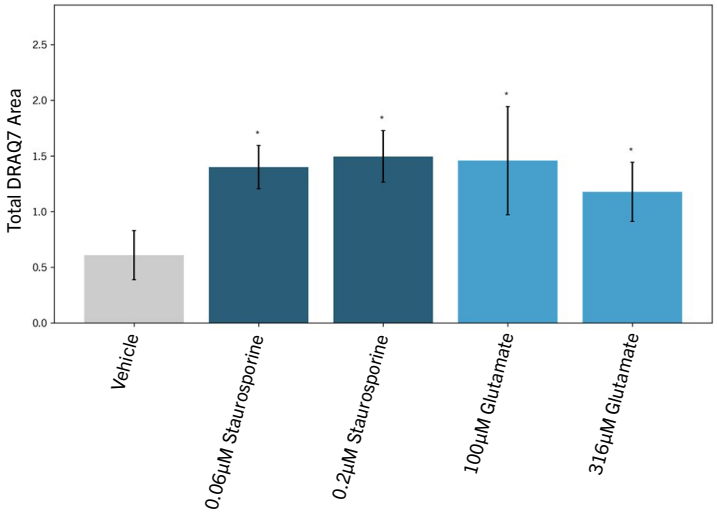
Human, iPSC-derived, glutamatergic neurons are cultured and treated with reference compounds alongside your test articles. Cells are fixed and stained for imaging at various time points, and the images are analyzed and assessed for changes in cell viability induced by the treatments.

Representative Images: Neurons after treatment with DMSO (vehicle) or cellular stressors staurosporine and glutamate.

Quantitative analysis of images reveals increased levels of apoptosis and cell death with compound treatment. Statistical significance was calculated against vehicle.







	Ready-2-Go Neurotoxicity
Cells	Human, iPSC-derived, glutamatergic neurons
Markers	Nuclei, caspase-3/7 activity, cell viability
Dosing	6 doses of each of your test articles
Positive Controls	Staurosporine, glutamate
Negative Control	Vehicle(s)