

L-Glutamate mediated Toxicity in Primary Chicken Telencephalic Neurons

Compound testing for the following indications:

- Stroke
- Ischemia
- Alzheimer's Disease
- Neuroprotection

Model 1: primary chicken telencephalic neurons

Primary E8 chicken telencephalic neurons are cultured until DIV 8 and are exposed to 1mM L-glutamate for 24 hours. The effect of test compounds on L-glutamate mediated lesions can be evaluated for viability by using the MTT assay, for apoptosis (YO-PRO-1 labelling), or other customized endpoints.

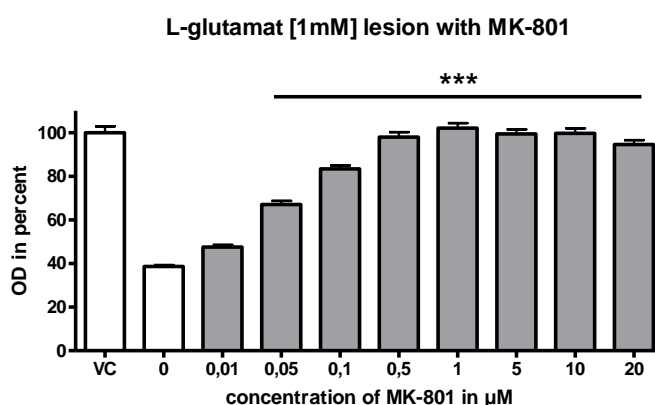


Fig.1. Effect of MK-801 on primary telencephalic chicken neurons lesioned with 1mM L-glutamate. Viability was assessed by the MTT assay. The NMDA receptor antagonist MK-801 significantly improved cell viability in a dose dependent manner.

Model 2: primary rat hippocampal neurons

Primary E18 rat hippocampal neurons are cultured until DIV 14 and are exposed to 200 μ M L-glutamate for 10 minutes or 24 hours. The effect of test compounds on L-glutamate mediated lesions can be evaluated for viability by using the MTT assay, for apoptosis (YO-PRO-1 labelling), necrosis (PI labelling) or other customized endpoints.

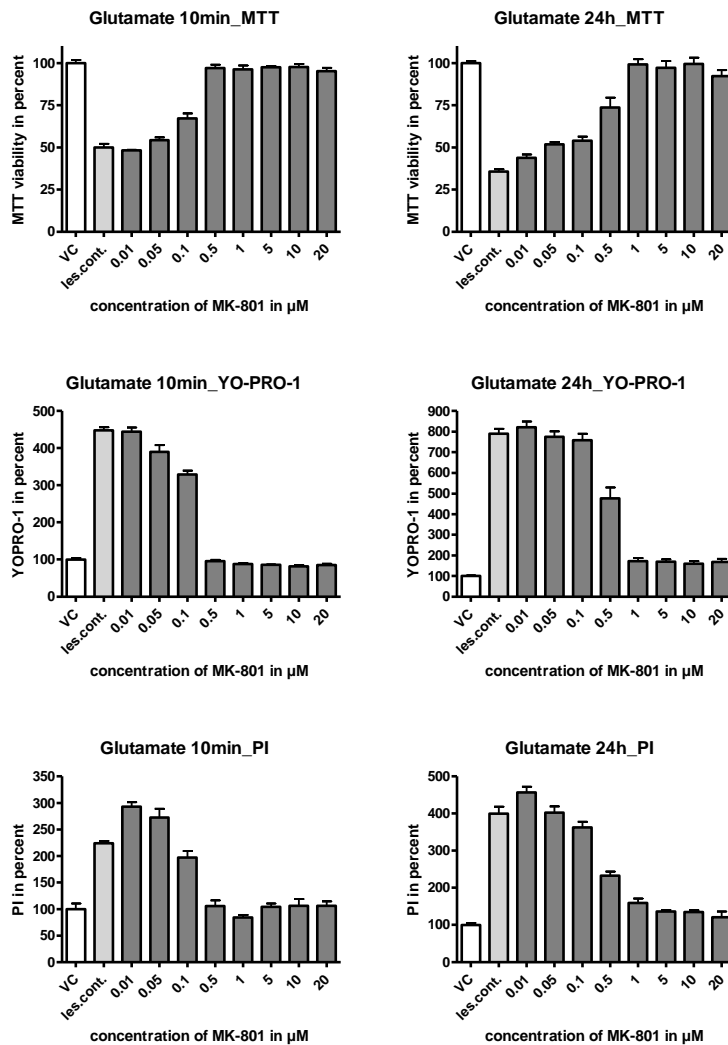


Fig.2. Effect of MK-801 on primary rat hippocampal neurons lesioned with 200 μ M L-glutamate for 10 minutes or 24 hours. Viability was assessed by the MTT assay, apoptosis by YO-PRO-1, and necrosis by Propidium Iodide (PI) labelling. The NMDA receptor antagonist MK-801 significantly improved glutamate mediated toxicity in a dose dependent manner.

Remark: This assay can also be performed in rat cortical neurons.