

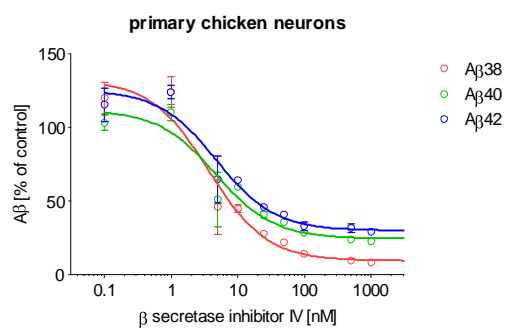
A β 38/40/42 secretion assay in Primary Chicken Telencephalic Neurons

Compound testing for the following indications:

- Alzheimer's Disease
- Neuroprotection

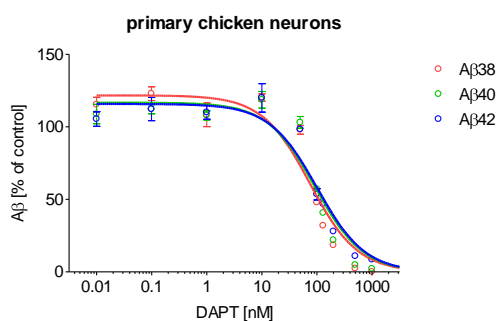
Model:

Primary E8 chicken telencephalic neurons are cultured until DIV 4 and are exposed to e.g. secretase inhibitors for 24 hours. Cell supernatants are examined for A β 38/40/42 content by using a sensitive electrochemiluminescence based immunosorbent assay (Mesoscale Discovery). Data is normalized with the corresponding cell viability. Compounds including β -secretase inhibitors, γ -secretase inhibitors and modulators can be examined in this assay.



$IC_{50}(A\beta_{42}): 4.8 \text{ nM}$

Fig.1. Effect of a β -secretase inhibitor (β -secretase inhibitor IV) on A β 38/40/42 secretion in primary telencephalic chicken neurons.



$IC_{50}(A\beta_{42}): 101 \text{ nM}$

Fig.2. Effect of a γ -secretase inhibitor (DAPT) on A β 38/40/42 secretion in primary telencephalic chicken neurons.

Remark: This assay can also be performed in primary rat hippocampal neurons or in a human neuroglioma cell line overexpressing human APP harbouring the Swedish double mutation.

For reference see our new publication:

Comparison of Pharmacological Modulation of APP Metabolism in Primary Chicken Telencephalic Neurons and in a Human Neuroglioma Cell Line. S. Czvitkovich, S. Duller, E. Mathiesen, K. Lorenzoni, B. P. Imbimbo, B. Hutter-Paier, M. Windisch, R. Wronski, *J Mol Neurosci.* 2010 Jul 6.