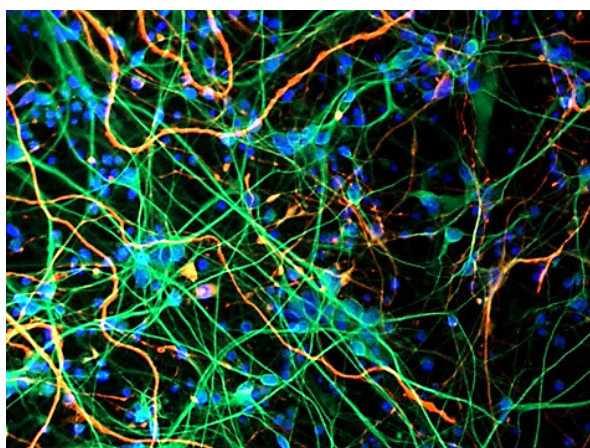


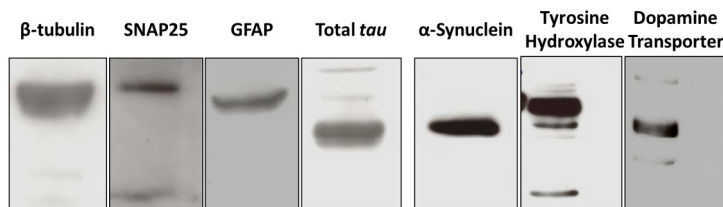
In vitro Human Neuronal Protection Screens for Alzheimer's & Parkinson's Disease

SynAging uses proprietary amyloid- β oligomer ($A\beta$) preparations to induce Alzheimer's disease and α -synuclein oligomer (α SO) or α -synuclein fibrils (α SF) to induce Parkinson's disease in iPS cell derived human neuronal cultures.

SynAging has established highest reproducibility of $A\beta$, α SO and α SF-induced neuronal cell death. Human iPS cells and differentiating media are used from MTI-GlobalStem, Gaithersburg, MD, USA (GSC-4312, HIP™ Neuron Kit). Cells are differentiated and matured for five weeks.



Above: 400x magnification of fully differentiated human neurons stained with antibodies for: neurons - MAP2 (green), glia cells - GFAP (in red), and cell cores - DAPI (blue). The culture contains 30-40% neurons in an astro-glial background.

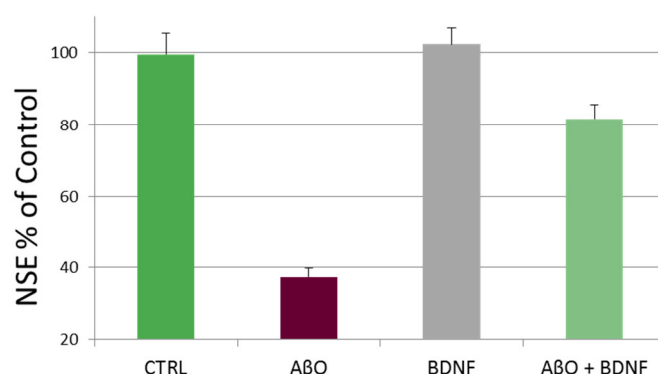


Dopaminergic Neuronal Markers

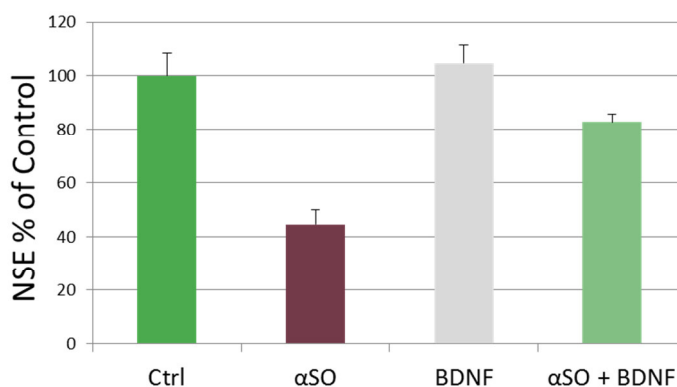
Matured human neurons express many neuronal markers (figure above) and are treated with vehicle, $A\beta$, α SO, α SF, BDNF (as positive control) and test items. All assays are performed in triplicates, providing excellent statistical results and small standard deviations.

SynAging SAS: Your partner in naturally induced phenotypic models, accelerating drug discovery for proteopathic CNS diseases

Six test compounds can be tested in triplicate in one multiwell plate, alternatively a dose-response curve for six concentrations of one test compound can be produced. For novel test compounds we suggest to test at least three concentrations (e.g. 100nM, 1 μ M, 10 μ M), as many CNS active compounds show bell shaped dose-response curves.



Following $A\beta$ and compound treatment for 24h, the quantification of human neuron viability is performed by an ELISA for neuron specific enolase (NSE). BDNF has been established as a positive control.



Following α SO (or α SF) and compound treatment for 72h, the quantification of human neuron viability is performed by an ELISA of neuron specific enolase (NSE). BDNF has also been established as a positive control in this assay.

SynAging will adapt test protocols for optimal results in customer drug discovery projects.