SynAging

Enabling Alzheimer's Disease Research

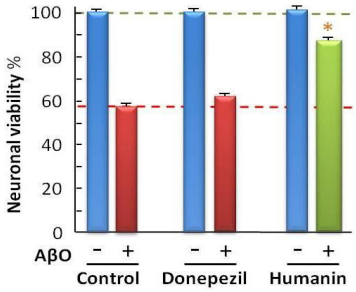
About

SynAging SAS (Nancy, France) specializes in neurodegenerative disease research, and has developed proprietary *in vivo* and *in vitro* models for Alzheimer's Disease (AD). These models offer significant advantages over conventional AD models, and are of utility in evaluating the effects of compounds or discovering new therapeutic targets. SynAging offers its technology as a contract research service to clients ranging from biotech companies to large global pharma.

Key Merits

Working with SynAging on your AD project confers important advantages:

- Reference compound results in the models correlate with clinical results
- Short time to results; *in vivo:* 14 days, *in vitro*: 24 hours
- Highly reproducible assays
- AD compounds tested to date encompass eight discrete MOAs
- A combined 91 years experience in the AD field, with 33 publications
- Significant cost savings compared to transgenic models



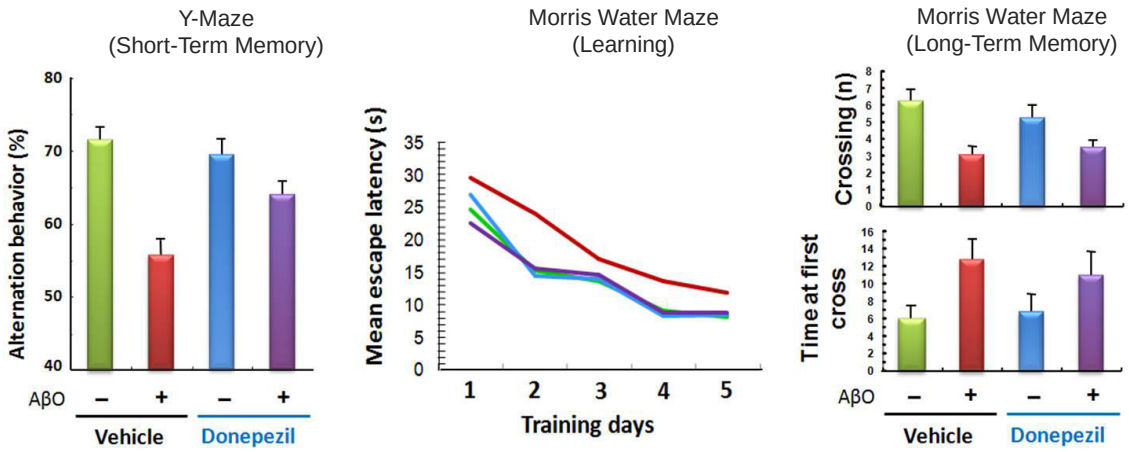
Primary neuronal cells. Donepezil does not prevent AβO toxicity, but Humamin does.

Models / Technology

SynAging's AD models are based on proprietary amyloid β peptide oligomer (AβO) preparations. AβO are known to be neurotoxic and correlate clinically with dementia severity in AD. The use of AβO as the same cellular stress agent enables efficient translation from *in vitro* results to animal models.

- ***In vitro* model**: incubation of primary rodent neurons with 1µM AβO induces cytotoxic effects such as synaptic degradation, cytoskeleton disruption and apoptosis.
- **In vivo model:** 50 pmol AβO injected into rodent brain ventricle induces cognitive deficits (short- and long-term memory and learning) within four days associated with early synaptic degeneration, which are evaluated within a 2-week protocol.

Case Study: *In vivo* Model / Donepezil



Donepezil (Tradename: Aricept) is one of the world's best-selling Alzheimer's disease treatments. This data from SynAging's in vivo *mouse model shows that Donepezil significantly improved* AβO*-induced short-term memory and learning deficits, but not long-term memory deficits. This correlates well with clinic trials in AD patients, which showed a moderate beneficial effect, limited to 6-12 months.*

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