

P031 Retro-inverso peptides are highly potent neuroprotective agents against the toxicity of soluble β -amyloid oligomers
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There is a great deal of evidence that aggregation into soluble oligomers of the main causative agents in Alzheimer's Disease, the 40-42-residue peptides β -amyloid damage neuronal cells, leading to cognitive decline as the disease progresses. Possible therapeutic drugs are agents that prevent β -amyloid aggregation, and ensuing neurotoxicity. Peptides comprising the reverse of the focal sequence 16-21 in β -amyloid, in the D-configuration, framed by arginine residues, are more potent than peptides containing the native sequence 16-21 (L-configuration) in the inhibition of oligomer formation of both beta-amyloid 1-40 and 1-42, as measured by an ELISA assay which detects the oligomerisation of epitopes. Moreover, the retro-inverso peptides prevent cell death of SH-SY5Y human neuroblastoma cells in culture, by blocking apoptosis initiated by β -amyloid oligomers.