

P086 A β Oligomers and Their Cognitive Effects
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Small oligomeric forms of amyloid beta peptide (A β) have been linked to reduction of long term potentiation (LTP), neurotoxicity, memory loss and cognitive deficits. These effects are likely due to mixtures of dimers, trimers, and tetramers of soluble A β . Monomeric A β appears inert. The specific oligomeric species responsible for cognitive deficits is unknown. We are developing sensitive cognitive assays capable of differentiating the effects of the different A β species. One assay, the Alternating Lever Cyclic Ratio (ALCR) lever-pressing procedure, has proven sensitive to small changes in cognitive performance, but improved cognitive and memory assessments are needed. As these tests are refined, they may be able to determine which A β species, or combination of species, are responsible for producing the A β -induced cognitive deficits and memory loss seen in Alzheimer's disease.