A NOVEL ASSAY FOR THE MEASUREMENT OF AMYLOID-BOLIGOMERS IN HUMAN CSF

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Soluble Amyloid-β (Aβ) oligomers have been proposed to be the main pathogenic species causing neuronal dysfunction in Alzheimer's Disease (AD). A novel chemiluminescent enzyme-linked immunosorbent assay (ELISA) has been developed by NERR (New England Rare Reagents, LLC) to detect soluble Aβ oligomers in human body fluids. In this ELISA, an Aβ specific antibody is used for both capture and detection of Aβ oligomers, a format designed to prevent interference by monomeric Aβ peptide. The antibody has been shown to be specific for oligomers and does not bind monomeric Aβ species. We confirmed this by spiking a range of concentrations of monomeric Aβ 1-42 peptide in the assay and saw no detectable signal. Synthetic Aβ is used for the assay standard curve and the assay sensitivity was determined to be 2.3 pg/mL.

Using this ELISA, we analysed Aβ oligomers in cerebrospinal fluid (CSF) from both patients with AD and age-matched healthy individuals. Results of these analyses and of future studies will be presented.