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Poster 2

Three-dimensional Structures of Amyloid Precursor Protein(135-155) in TFE and DPC Micelles

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The major component of Alzheimers disease, amyloid β A4 is derived from the transmembrane protein APP. APP fragment (135-155) comprises a copper(II)-binding site. The transition metal ion copper(II) has a critical role in chronic neurologic diseases. Binding of copper(II) to the peptide induced oxidation of the cystein and intermolecular dimerization of the peptide. The reduction of copper(II) by APP may enhance the production of hydroxyl radicals which in turn may contribute to neurodegeneration in Alzheimers disease. In this study, tertiary structure of the APP(135-155) peptide was studied by CD and NMR spectroscopy. The effect of Cu^{+2} and Ca^{+2} on the structure of APP(135-155) peptide was also studied. APP(135-155) peptide contains α -helix from Gln4 to His15 in TFE and DPC micelle.