# INTRANEURAL Aß PEPTIDE ACCUMULATION AND THE ROLE OF ACTIN-BASED MOTORS.

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Affecting millions of people worldwide, Alzheimer's disease (AD) is the major neurodegenerative disease of the elderly. According to the amyloid hypothesis, accumulation of the ß-amyloid peptide (Aß) in the brain is the primary influence driving AD pathogenesis. Amyloid plaques were thought to form from the gradual accumulation and aggregation of secreted Aß in the extracellular space, but recently, the accumulation of Aß has been demonstrated to occur within neurons with AD pathogenesis. Moreover, intraneuronal Aß accumulation has been reported to be critical in the synaptic dysfunction, cognitive dysfunction and the formation of plaques in AD. In this work, we use confocal microscopy and immunohistochemistry to show intraneuronal Aß accumulation and its association with an actin-based molecular motor. Unidentified vesicles that carry intraneuronal Aß gradually move toward the center of the cell along cytoskeleton tracks and then the Aß marker dissipates. These observations are consistent with one hypothesis for AD in which the disease process results from an imbalance between Aß production and Aß clearance.

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