Alzheimer's disease: Microtubule-associated proteins 2 (MAP 2) are not components of paired helical filaments

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In Alzheimer's disease, the most characteristic neuropathological changes are the formation of neurofibrillary tangles (NFT) and neuritic plaques (NP) characterized by the presence of bundles of paired helical filaments (PHF) that accumulate in the degenerating neurites and neuronal cell bodies. Although the protein composition of the PHF is ill-defined, a number of microtubule-associated proteins have been implicated in these lesions. Here we report results with an antiserum monospecific for the microtubule-associated protein MAP 2 which does not cross-react with any other microtubular protein. Immunostaining with this antibody of sections from an Alzheimer's brain show a strong reactivity with NFT but no reactivity at the level of the NP. On the other hand, immunostaining of Alzheimer's brain sections with another antibody specific for the microtubule-associated protein ? shows strong staining of PHF on both NFT and NP. These findings confirm the presence of the ? proteins in the PHF