Review

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Prion-like features of misfolded Aβ and tau aggregates

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Abstract

Recent findings have shown that several misfolded proteins can transmit disease pathogenesis in a prion-like manner by transferring their conformational properties to normally folded units. However, the extent by which these molecule-to-molecule or cell-to-cell spreading processes reflect the entire prion behavior is now subject of controversy, especially due to the lack of epidemiological data supporting inter-individual transmission of non-prion protein misfolding diseases. Nevertheless, extensive research has shown that several of the typical characteristics of prions can be observed for Aβ and tau aggregates when administered in animal models. In this article we review recent studies describing the prion-like features of both proteins, highlighting the similarities with bona fide prions in terms of inter-individual transmission, their strain-like conformational diversity, and the transmission of misfolded aggregates by different routes of administration.

Keywords: Amyloid-β; Prion; Prion-like mechanisms; Tau.