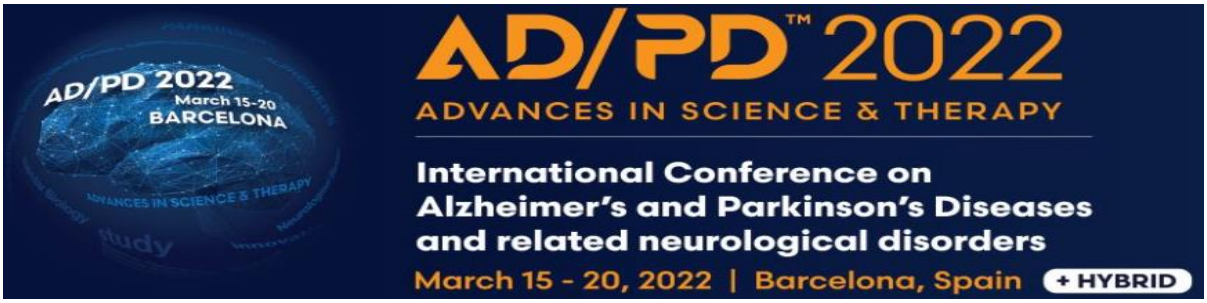

POSTER CERTIFICATE

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presented the abstract entitled

TAU PATHOLOGY AND ASTROGLIAL REACTIVITY: A COMPARATIVE STUDY OF TWO MOUSE MODELS OF TAUOPATHY

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POSTERS

TAU PATHOLOGY AND ASTROGLIAL REACTIVITY: A COMPARATIVE STUDY OF TWO MOUSE MODELS OF TAUOPATHY

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Aims: Astrocytes are becoming crucial players in the context of neurodegenerative proteinopathies, such as Alzheimer's disease (AD). Astroglial response has been mainly analyzed in amyloidogenic scenarios, but less is known about their involvement in tauopathies. Here, we aimed to analyze astroglial reactivity to hyperphosphorylated-tau (ptau) in the hippocampus of two transgenic mouse models of tauopathy, ThyTau22 and P301S (2- to 12/18-months).
Methods: Proteinopathy was assessed by western-blotting and immunohistochemistry (AT8). Neuroinflammation was analyzed by qPCR and bright-field immunohistochemistry, glial-ptau relationship by confocal and transmission electron microscopy.
Results: P301S mice exhibited an intense reactive astrogliosis, increasing progressively with aging accordingly to a strong ptau accumulation, whereas ThyTau22 model showed slighter astrocytosis related to lesser proteinopathy. P301S astrogliosis correlated with an acute DAM-like microglial activation, not observed in ThyTau22 hippocampus. In both models, reactive astrocytes contained ptau, especially around vessels.
Conclusions: Our results support that astrocytes respond to ptau in the absence of Abeta. This reactivity correlates with tau pathology and depends on microglial DAM-like activation. In addition, reactive astrocytes may play a role in the elimination/spreading of ptau species through the brain. Deciphering the mechanisms underlying these processes might allow the development of strategies to slow down the progression of AD and other tauopathies.