Pathogenic tau promotes neurodegeneration by disrupting the cellular program that maintains terminal neuronal differentiation

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Abstract

Alzheimer’s disease (AD) is a neurodegenerative disease characterized by hallmark pathologies, including extracellular amyloid plaques and intracellular neurofibrillary tangles. The development of AD is a complex process involving dysregulation of multiple cellular pathways and the interplay between genetic and environmental factors. Recent studies have shown that dysregulation of the cell cycle and neuronal differentiation programs contribute to AD pathology. In this study, we investigated the effects of pathogenic tau on the cellular program that maintains terminal neuronal differentiation. We found that pathogenic tau disrupts the balance between cell cycle arrest and neuronal differentiation, leading to the loss of terminal neuronal differentiation and the development of neurodegeneration. Our findings highlight the importance of targeting cell cycle and neuronal differentiation programs as potential therapeutic strategies for AD treatment.

Results

Conclusions and Future Directions

References