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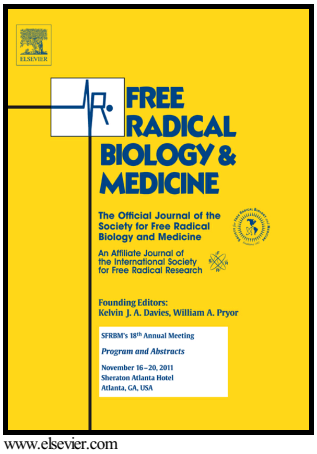

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ABSTRACT

Abnormal dendritic spine structure and function is one of the most prominent features associated with neurodevelopmental disorders including Down syndrome (DS). Defects in both spine morphology and spine density may underlie alterations in neuronal and synaptic plasticity, ultimately affecting cognitive ability. Here we briefly examine the role of astrocytes in spine alterations and more specifically the involvement of astrocyte-secreted thrombospondin 1 (TSP-1) deficits in spine and synaptic pathology in DS.