EFFECT OF FOUR MEDICINAL PLANTS ON AMYLOID-β INDUCED NEUROTOXICITY IN SHSY5Y CELLS

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Abstract

Amyloid-beta peptide (Aβ) is implicated in the pathogenesis of Alzheimer’s disease (AD), a neurodegenerative disorder. This study was designed to determine the effect of four medicinal plants used to treat neurodegenerative diseases on Aβ-induced cell death. Cytotoxicity of the ethanol extracts of the plants was determined against SH-SY5Y (human neuroblastoma) cells which were untreated, as well as toxically induced with Aβ, using the MTT and neutral red uptake assays. Cell viability was reduced to 16% when exposed to 20 μM Aβ25-35 for 72 h. The methanol extract of the roots of Ziziphus mucronata Willd., Lannea schweinfurthii (Engl.) Engl. and Terminalia sericea Burch. ex DC., were the least toxic to the SH-SY5Ycells at the highest concentration tested (100 μg/ml). All four plants tested were observed to reduce the effects of Aβ-induced neuronal cell death, indicating that they may contain compounds which may be relevant in the prevention of AD progression.