

Title: Flavonoids as Potential Therapeutics Against Neurodegenerative Disorders: Unlocking the Prospects

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Abstract: Neurodegeneration, the decline of nerve cells in the brain, is a common feature of neurodegenerative disorders (NDDs). Oxidative stress, a key factor in NDDs such as Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis, and Huntington's disease can lead to neuronal cell death, mitochondria impairment, excitotoxicity, and Ca²⁺ stress. Environmental factors compromising stress response lead to cell damage, necessitating novel therapeutics for preventing or treating brain disorders in older individuals and an aging population. Synthetic medications offer symptomatic benefits but can have adverse effects. This research explores the potential of flavonoids derived from plants in treating NDDs. Flavonoids compounds, have been studied for their potential to enter the brain and treat NDDs. These compounds have diverse biological effects and are currently being explored for their potential in the treatment of central nervous system disorders. Flavonoids have various beneficial effects, including antiviral, anti-allergic, antiplatelet, anti-inflammatory, anti-tumor, anti-apoptotic, and antioxidant properties. Their potential to alleviate symptoms of NDDs is significant.

Keywords: Flavonoids, Neurodegeneration, Neurodegenerative disorders, Oxidative stress, Clinical studies

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