

17th Annual

MEDICINAL & PHARMACEUTICAL SCIENCES CONGRESS

July 05-06, 2018 Bangkok, Thailand

Saikosaponin b3 protects against MPTP-induced Parkinson's disease by preventing mitochondrial oxidative damage**Adeeb Shehzad and Neelam Shahzadi**

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Parkinson's disease is a neurodegenerative disorder that is linked with the loss of dopaminergic neurons of the substantia nigra pars compacta. In this disease, many projecting nerve fibers present in striatum are degenerated. Currently no efficient therapy is present to delay the neurodegenerative process, so modification of the neuro-protective therapy is critical clinical requirement. Saikosaponin B3 is a bioactive phytochemical of *Bupleurum marginatum* and *B. falcatum*. The structure, anti-cancer and anti-oxidative activities of Saikosaponin B3 have been discovered. This research is designed to evaluate the effect of anti-oxidative activity of Saikosaponin on Parkinson's disease as it was expected to attenuate the oxidative stress by increasing the activity of anti-oxidative enzymes. This study highlights the associated mechanism and interaction with pathways during neuro-protection therapy. MPTP-induced balb/c mice are used as a model and the neuron response is checked and evaluated after dosage of Saikosaponin B3 by EEG assessment. Later, the brain cells were isolated, purified and the activity was analyzed completely. Western blot is used to check the different levels of enzyme in healthy, diseased and Saikosaponin B3 treated mice.

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