

Ameliorative effect of quercetin on sodium azide induced Alzheimer's disease in rats: possible involvement of PPAR- γ agonistic property

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Abstract

This study investigates the protective role of Quercetin in Sodium azide induced Alzheimer's disease. Moreover, the role of PPAR- γ in Quercetin mediated protection has been explored. Donepezil served as the positive control in the study. Rat administered i.p. injection of SAZ. The Morris Water Maze (MWM) test was employed for assessment of learning and memory. Various biochemical estimations, namely brain acetylcholinesterase (AChE) activity, Thiobarbituric acid reactive species (TBARS) activity, nitrite/nitrate activity, reduced glutathione (GSH) levels and myeloperoxidase (MPO) activity were also performed. The study showed that i.p. SAZ significantly impaired learning and memory of the animals along with a significant enhancement in brain AChE, MPO, TBARS, nitrite/nitrate levels and reduction in brain GSH levels. Treatments of Quercetin/ Donepezil significantly attenuated SAZ induced behavioral and biochemical changes. Pre-treatment with bisphenol-A-diglycidyl ether (BADGE), a selective PPAR- γ antagonist, significantly abolished the beneficial effect of Quercetin in i.p. SAZ treated animals. The results of this investigation document a potential role of PPAR- γ in the beneficial effects of Quercetin in i.p. SAZ Alzheimer's disease.

Key words: Alzheimer's disease, PPAR- γ , Morris Water Maze (MWM) test, SAZ Alzheimer's disease



Biography:

Atul Kabra has completed his PhD from I.K.G. Punjab Technical University and currently working as Associate Professor at School of Pharmacy, Raffles University, Alwar,

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Speaker Publications:

1. "Neuroprotective potential of Myrica esulenta Buch.-Ham. Ex. D. Don. leaves Haloperidol induced Parkinson's disease"; Journal of Ayurveda and integrative medicine / 2020 / DOI: 10.1016/j.jaim.2020.06.007.
2. "Enrichment in Antioxidant Flavonoids of Stamen Extracts from Nymphaea lotus L. Using Ultrasonic-Assisted Extraction and Macroporous Resin Adsorption"; Antioxidants / 2020 / Vol. 9(7) DOI: 10.3390/antiox9070576.
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