

Effects of Vitexin on Scopolamine-Induced Memory Impairment in Rats

Authors : Mehdi Sheikhi, Marjan Nassiri-Asl, Esmail Abbasi, Mahsa Shafiee

Abstract : Various synthetic derivatives of natural flavonoids are known to have neuroactive properties. The present study aimed to investigate the effects of vitexin (5, 7, 4-trihydroxyflavone-8-glucoside), a flavonoid found in such plants as tartary buckwheat sprouts, wheat leaves phenolome, Mimosa pudica Linn and Passiflora spp, on scopolamine-induced memory impairment in rats. To achieve this goal, we assessed the effects of vitexin on memory retrieval in the presence or absence of scopolamine using a step-through passive avoidance trial. In the first part of the study, vitexin (25, 50, and 100 μ M) was administered intracerebroventricularly (i.c.v.) before acquisition trials. In the second part, vitexin, at the same doses, was administered before scopolamine (10 μ g, i.c.v.) and before the acquisition trials. During retention tests, vitexin (100 μ M) in the absence of scopolamine significantly increased the stepthrough latencies compared to scopolamine. In addition, vitexin (100 μ M) significantly reversed the shorter step-through latencies induced by scopolamine ($P < 0.05$). These results indicate that vitexin has a potential role in enhancing memory retrieval. A possible mechanism is modulation of cholinergic receptors; however, other mechanisms may be involved in its effects in acute exposure.

Keywords : flavonoid, memory retrieval, passive avoidance, scopolamine, vitexin

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