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The ameliorating effect of bee pollen on scopolamine-induced cognitive impairment in mice**Yulan Liao, Jiabao Zhang, Yubeen Kwon, Ho Jung Bae, Bokyoung Koo and Jong Hoon Ryu**
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Bee pollen has been used as a functional food and contains many biological active components like flavonoids, polyphenols, phytosterols or minerals. Bee pollen has a wide range of pharmacological properties such as antimicrobial, antifungal, antioxidant, anti-radiation, hepato-protective or anti-inflammatory activities. However, limited research has been conducted for cognitive function. In the present study, we investigated the ameliorating effect about bee pollen against scopolamine-induced cognitive impairment using the Morris water maze test, the Y-maze test and the passive avoidance test. Bee pollen (100 or 300 mg/kg, p.o.) significantly lengthened swimming time in target quadrant in the Morris water maze test, ameliorated spontaneous alternation versus the scopolamine-treated group in the Y-maze test and reversed scopolamine-induced cognitive impairment in the passive avoidance test. In addition, the expression levels of phosphorylated protein kinase B (Akt), Glycogen Synthase Kinase 3 β (GSK3 β), Extracellular Signal-Regulated Kinase (ERK) or cAMP Response Element-Binding Protein (CREB) was increased by the administration of bee pollen (100 or 300 mg/kg, p.o.). Taken together, these results indicate that bee pollen would be useful for the treatment of cognitive impairment induced by cholinergic blockade.

Biography

Yulan Liao is currently pursuing Master's degree at Kyung Hee University College of Pharmacy since 2016.

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