

## **Improving effect of fermented papaya preparation (PS-501), an antioxidant food, on scopolamine-induced amnesia in mice**

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Fermented papaya preparation (PS-501, SAIDO Co., Fukuoka, Japan) is a natural functional health food produced by yeast fermentation of *Carica Papaya Linn.* PS-501 has been demonstrated to possess free radical scavenging activity against hydroxyl radicals and to inhibit lipid peroxide formation, oxidative DNA damage and tissue injury induced by iron ion in the rat brain. PS-501 is thought to be one of the prophylactic foods for neurological diseases associated with free radicals, e.g., Alzheimer's disease. Meanwhile antioxidant, e.g., phenyl- $\alpha$ -*tert*-butyl nitron (PBN), has been reported to normalize the age-related biochemical parameters and physiological functions such as memory. Therefore, in the present study, we examined the improving effect of PS-501 on scopolamine-induced amnesia in mice by behavioral measurements: i.e., step-down-type passive avoidance learning and spontaneous alternation performance *in vivo*. PS-501 was administered (p.o.) to mice through water bottle in home cage for one month. PS-501 (0.1 and 0.5 g/kg) significantly inhibited the scopolamine (1 mg/kg, s.c.)-induced shortening of step-down latency of passive avoidance learning. PS-501 (0.5 g/kg) also significantly inhibited the scopolamine (1 mg/kg)-induced decrease in percent alternation of spontaneous alternation performance. These results suggest that PS-501 significantly improves the scopolamine-induced amnesia.