

Coriandrum sativum seed extract improves aging-induced memory impairment in SAMP8 mice

Saki Aihara¹, Nobuo Izumo³, Rena Obara¹, Tomomi Shimazu¹, Yurina Mima², You Tabuchi², Suh-Ching Yang⁴, Yasuo Watanabe^{1,3}

¹Lab of Functional Materials, Yokohama Univ. Pharm., ²Lab of Food Chem. Yokohama Univ. Pharm., ³General Health Medical Center, Yokohama University of Pharmacy, ⁴Nutrition Res. Ctr. Sch. Nutrition & Health Sci. Taipei Med. Univ.

The aging society leads to increase in diseases such as dementia. Alzheimer's disease (AD) is the most common form of dementia. It is known Coriandrum sativum (CS) impart an antioxidative effect. Therefore, it is hypothesized that CS can ameliorate the degenerative brain diseases by decreasing the oxidative stress caused by ageing. In this study, we examined whether CS seed extract (CSSE) could improve the memory impairment in SAMP8 mice or not.

10-week-old male SAMP8 mice were divided into two groups orally administrated with water (SAMP8(-)) or CSSE (SAMP8(+); 200mg/kg body weight/day). 10-week-old male ICR was used as normal control group also orally administrated with water.

The mean escape time of SAMP8(-) mice was significantly longer than that of ICR mice in Barnes maze test. However, SAMP8(+) mice showed the shorter mean escape time when compared with SAMP8(-) mice. The mRNA levels of neurofilament was significantly decreased in frontal lobe of SAMP8(-) mice, but significantly increased in SAMP8(+) mice. In addition, the mRNA levels of nNOS was significantly increased in frontal lobe of SAMP8(-) mice, but significantly reduced in SAMP8(+) mice. It was indicated that continuous oral administration of CSSE for 12 weeks could ameliorate the aging-induced memory decline in the senescence-accelerated SAMP8 mice.