Ingestion of Soybean Sprouts Containing a HASPIN Inhibitor Improves Condition in a Mouse Model of Alzheimer's Disease

Abstract

The MATP/tau protein is hyperphosphorylated in Alzheimer's patients. Therefore, research into the regulation of tau protein phosphorylation is important for understanding Alzheimer's disease. HASPIN is a serine/threonine kinase that is expressed in various cells. To examine whether HASPIN is involved in the onset of Alzheimer's disease through tau protein phosphorylation, we investigated the effects of a diet including soybean sprouts rich in the HASPIN inhibitor coumestrol in a mouse model of Alzheimer's disease (5xFAD). The results showed that HASPIN was expressed in the hippocampus and phosphorylated tau protein, while the ingestion of soybean sprouts containing coumestrol suppressed the development of spatial cognitive dysfunction in 5xFAD. These results indicate that HASPIN may be one of the target molecules for the repression of tau phosphorylation in the treatment of Alzheimer's disease.