

Herbal Extracts for Preventing Progression of Alzheimer's Disease

[Inventor] Akira Kakizuka, et al., Grad. School of Biostudies, Kyoto University

Description

The researchers at Kyoto University have discovered that herbal extracts of hop flower are effective against Alzheimer's disease (AD) and have identified the molecular weight and structure of the active ingredient.

Although the cause and progression of the AD are not well understood, the aggregation and accumulation of amyloid beta protein ($A\beta$) in the brain is said to be the fundamental cause of the AD. $A\beta$ is produced via the proteolytic cleavage of its precursor protein APP (amyloid precursor protein) by two enzymes, β and γ secretases.

Prof. Kakizuka and his research team has developed a luciferase-based screening method to monitor γ -secretase activity. As a result, the extract of hop flower (*Humulus lupulus*) showed the enzyme-inhibitory effect on γ -secretase. Water containing hop extract was given to the transgenic mice, carrying familial AD-casing gene, for long periods and it has shown that the improvement of their memory loss.

Research Status

Water containing hop extract was given to the transgenic mice, carrying familial AD-casing gene, for long periods before Morris water maze tests. The results showed the improvement of memory loss. Also, despite lifelong consumption of Hop extracts, no deleterious side effects were observed.

Figure. Result of Morris water maze tests of AD model mice (9 months)

The time required to reach the platform was shortened each day in the group of mice who drank 0.2% hop extract water every day from 6 week old (TG-HFE). On the other hand, the time was not shortened in the group who did not take hop extract (TG-water).

Advantages

1. Able to improve memory loss caused by AD *in vivo*
2. Safety – hops and its extract have been consumed as a Chinese herbal medicine for long years
3. No side effect as it does not inhibit Notch signal that is said to be a cause of the side-effect

Market

We are seeking business partners to develop a functional food/ supplement based on the technology through licensing.

Potential Application

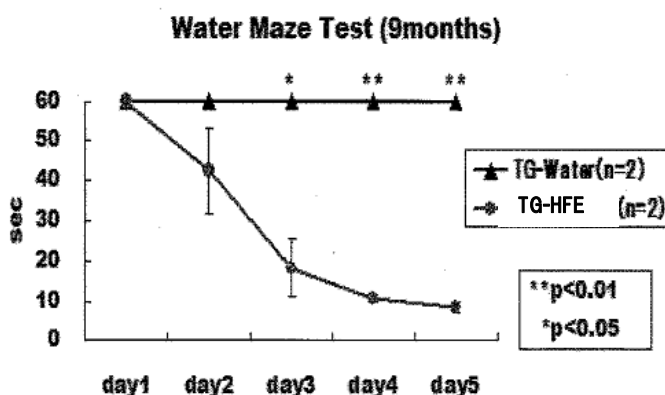
- Therapeutic or preventive medicines for Alzheimer's dementia
- Health food or supplement

Intellectual Property

[Appl. No.] JP2013-053076

[Inventor] Akira Kakizuka *et al.*

[Applicant] Kyoto University



Contact Information

Naoko Fujita
 Licensing Associate, Kansai TLO Co.,Ltd.
 Email: fujita@kansai-tlo.co.jp
 Phone: +81 (75) 353-5890
 Fax: +81 (75) 353-5891

