

**[Foods with Function Claims]**

The population of elderly persons with dementia in Japan is expected to be 6.75 million in 2025 (an increase of two million) from 4.62 million in 2012 (Research on the future estimated population of the elderly persons with dementia in Japan” commissioned by Ministry of Health, Labour and Welfare) . Against this background, aiming to improve the cognitive function of elderly persons, various supplement products have been already on the market. Plasmalogen, a functional component extracted from the chicken breast meats, is attracting attention. Certain supplement products containing plasmalogen were notified as the “Foods with Function Claims.”

* “Foods with Function Claims” are foods for which the manufacturers can attach the labeling of functionality based on the scientific evidence under the manufacturers’ responsibility. The operation of this system started in April 2015. Under this system, the manufacturers have to submit the information on the evidence of their products’ safety and functionality to the Consumer Affairs Agency in advance.

[A study in human subjects demonstrated that plasmalogen has the function that maintains language memory]

Marudai Food Co., Ltd. (Takatsuki, Osaka) developed material products (Photos 1 and 2), which contains plasmalogen derived from chicken breast meats as a functional component. The Consumer Affairs Agency accepted this supplement product using essence form material as “Foods with Function Claims” based on the evidence of its “Health Claim” concerning “maintenance of language memory that is an ability to memorize words and remembering them.”



Image 1: “Essence form,” the material for plasmalogen



Image 2: “Powder form,” the material for plasmalogen (in the middle). Product for plasmalogen has the forms of tablet, granule, and capsule.

(All photos supplied by Marudai Food Co., Ltd.)

Plasmalogen is a type of phospholipid known for being the main component of cell membranes. Plasmalogen is contained in the heart and skeletal muscle, and the brain in large amounts. Plasmalogen is said to decrease with age and is known to have reduced in the brains of patients with Alzheimer's disease compared with other types of phospholipids.

A mice experiment showed that the intake of plasmalogen improved the learning/memory behavior. Based on the results, Marudai Food Co., Ltd. conducted a study in 74 healthy subjects (aged 50 to 79) to confirm the effects of plasmalogen intake on cognitive function improvement.

A cognitive function test was conducted to examine language memory, visual memory, and reaction time 12 weeks after intake. The result showed that language memory, ability to memorize and remember the words, was significantly higher in the 1 mg of plasmalogen intake subgroup of a group of subjects aged 60 and over than that in the subgroup with no intake. These results of studies were published in the "Japanese Pharmacology & Therapeutics," an academic journal (Vol. 47, No. 5, issued on May 20, 2019).

Although there is an issue that only a few studies have been conducted in human subjects, these studies suggest that if the middle-aged and elderly persons take plasmalogen, the progress of their forgetfulness may get slower.

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Marudai Food's plasmalogen materials are derived from the breast meats of chicken with the egg-laying time of life passed, which is firm, and the use for dressed meat is limited. It is said that hundreds of millions of adult chickens are produced every year. From the abovementioned aspect, this case effectively uses these chickens.

The in-detail data on "Foods with Function Claims," including plasmalogen, are available on the Consumer Affairs Agency's homepage. For more information, please browse the registration database of the "Foods with Function Claims" of the Consumer Affairs Agency. The registration No. of Marudai Food Co., Ltd.'s "Food with Function Claims" is "E648".

- To search the registered information on the "Foods with Function Claims" of the Consumer Affairs Agency: <https://www.fld.caa.go.jp/caaks/cssc01/>

For more information on the "Episode Series," please visit the URL:

<http://www.naro.affrc.go.jp/laboratory/brain/contents/fukyu/episode/index.html>

<Project name> Promotion of practical applications of private sector R&D

<Project period> FY 2007 to 2009

<Title> Isolation of functional phospholipids from adult chickens and manufacturing foods containing thereof

<Project research institute> Marudai Food Co.,Ltd.