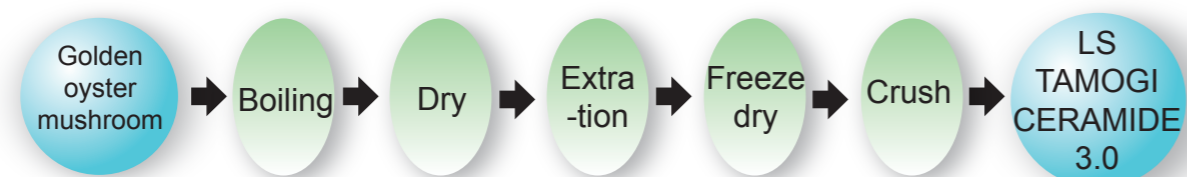


## ● Product name ●

### LS TAMOGI-CERAMIDE 3.0



#### ■ Manufacturing process



#### ■ Ingredients

- Cyclodextrin, Golden oyster mushroom extracts (including cramide)

#### ■ Application

- Nutraceuticals (tablet, capsule etc.)

#### ■ Reference daily intake

- 20-100 mg/day

#### ■ Packaging

- 100 g/bag, 1 kg/bag

#### ■ Particle size

- 30 mesh pass/inch

#### ■ SPEC

Items	Specifications	Inspection methods
Appearance	Powder	Visual test, Sensory test
Color	Light yellowish to light brown	
Odor	Characteristic	
Taste	Characteristic	
Glucosylceramide	3.0 % min.	HPLC-ELSD method
Loss on dry	6.0 % max.	Normal pressure, 105°C, 3 hours
Arsenic (equiv. AS <sub>2</sub> O <sub>3</sub> )	2 ppm max.	Atomic absorption spectrophotometry
Heavy Metal (equiv. Pb)	20 ppm max.	Sodium sulfide colorimetric assay
Virable bacterial counts (CFU/g)	3 x 10 <sup>3</sup> /g max.	Standard agar plate culture method
Coliform	Negative	BGLB method
Yeast and fungi content	2 x 10 <sup>2</sup> /g max.	Potato dextrose agar culture method

#### ■ Safety

- Acute toxicity (male and female rat) LD<sub>50</sub> > 5,000 mg/kg
- Subacute toxicity (male and female rat) > 500 mg/kg/day
- Pesticide chemicals (227 items) were undetected using Tamogitake as sample.

#### ■ Stability

This product is stable until 120°C

## LS TAMOGI-Ceramide 3.0



L · S Corporation



L · S Corporation Co.,Ltd

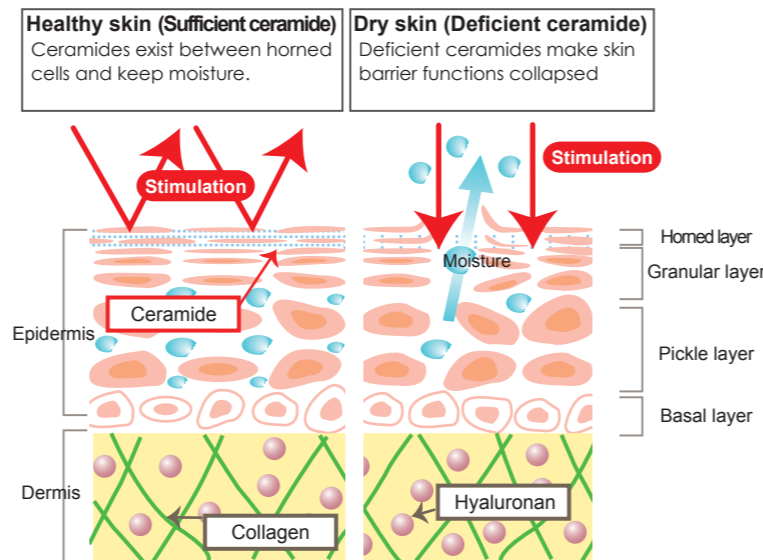
2-6-6 Horidome-cho Nihonbashi, Chou-Ku, Tokyo 103-0012, Japan  
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## LS TAMOGI-Ceramide 3.0

### The ceramides exist in skin

It is widely accepted that ceramides play an essential role in structuring and maintaining the water permeability barrier function of the skin. About 50% of the intercellular lipids of a horned layer are ceramides. The deficiency in ceramides causes dry skin, skin disorders, transepidermal water loss from the skin, and the loss of elasticity. Moreover, it is well known that the content of ceramides was decreased with aging.



### Golden oyster mushroom (TAMOGITAKE)

A golden oyster mushroom (*Pleurotus cornucopiae* var. *citrinopileatus*) belongs to *Pleurotaceae* family. The name of this mushroom in Japan is TAMOGITAKE. It can grow in cold region of Japan (Hokkaido). Harvesting season of TAMOGITAKE in nature is limited. Therefore, we used to get or buy it hard. Recently, artificial cultivation method of it is developed and we can get it to eat daily in Hokkaido.

TAMOGITAKE contains a lot of glycol-sphingolipid (glucosylceramides), which is ceramide binding to glucose.



### "LS TAMOGI-CERAMIDE 3.0" is a natural supplement made in Japan

"LS TAMOGI-CERAMIDE 3.0" is a dietary supplement powder which is extracted by TAMOGITAKE with alcohol. This organic supplement is made in Hokkaido, Japan.

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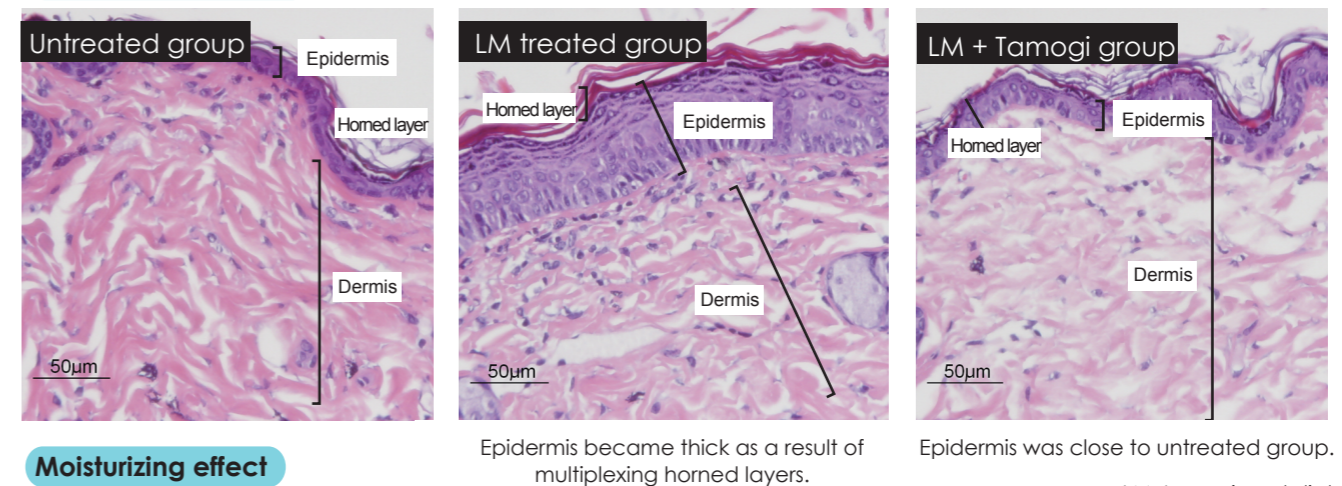
## Ceramides reduces the appearance of wrinkles and transepidermal water loss

Faculty of Advanced Life Science, Frontier Research Center for Post-genome Science and Technology, Hokkaido University

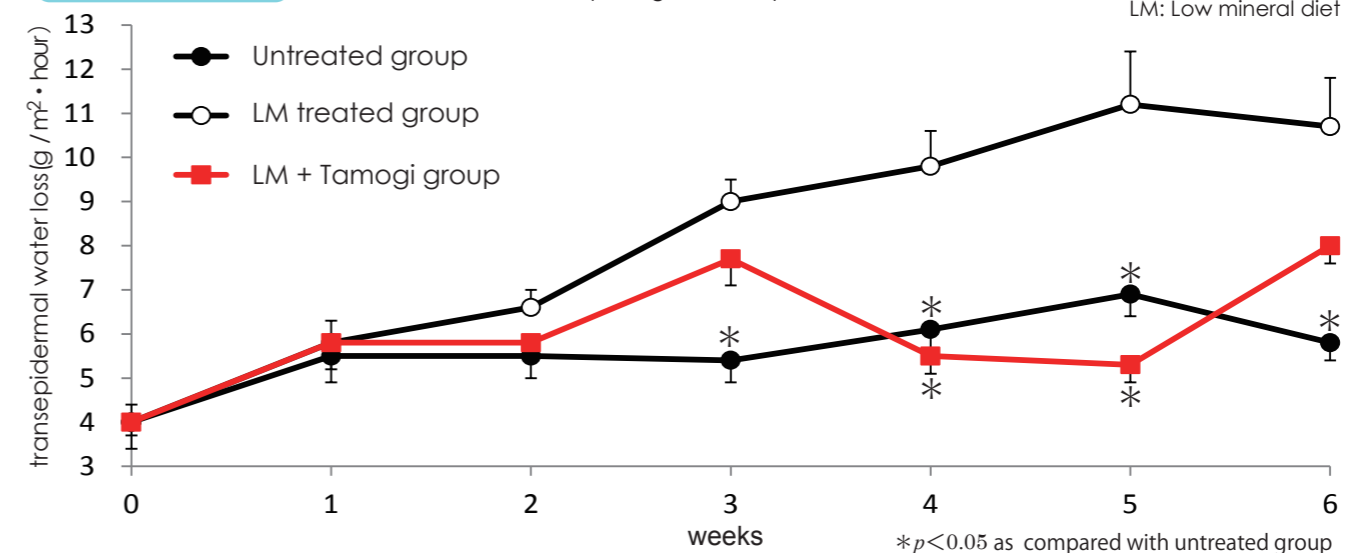
### Wrinkle condition



### Histological staining



### Moisturizing effect



The effects of "LS TAMOGI-CERAMIDE 3.0" on the suppression of wrinkle and dry in skin were studied by *in vivo* research using mice. Research data in detail is as follows. Mice were divided into the following 3 groups: 1) untreated group, 2) Low mineral (LM) diet treated group is fed on only low magnesium diet. This diet induces dermatitis-like symptoms such as increase of wrinkles and skin dry, 3) LM+Tamogi group is fed the mixture of 0.1% of "LS TAMOGI-CERAMIDE 3.0" and LM diet. LM treated group showed skin condition such as wrinkles and moisture retention go worse, although skin of untreated group keep healthy. Interestingly, these bad conditions of the skin were ameliorated in the mice fed the "LS TAMOGI-CERAMIDE 3.0". Furthermore, histological study showed that growth in skin thickness (especially the epidermis and multiplexing of the horned layer, not dermis) were suppressed in LM+Tamogi group, while these layers in LM treated group became thicker than them in untreated group. Thus, epidermal barrier dysfunction induced by LM diet was shown to be ameliorated by "LS TAMOGI-CERAMIDE 3.0".

No copy of research data above