

Product for skin moisturizing and skin soothing effects

Oriental Dew Drop

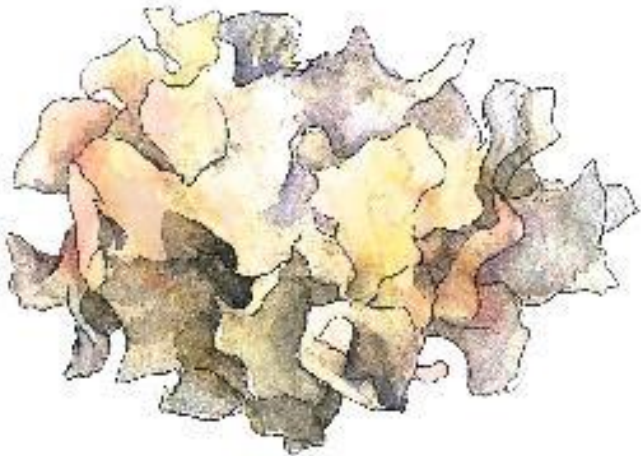
*Skin moisturizing and soothing
ingredient*

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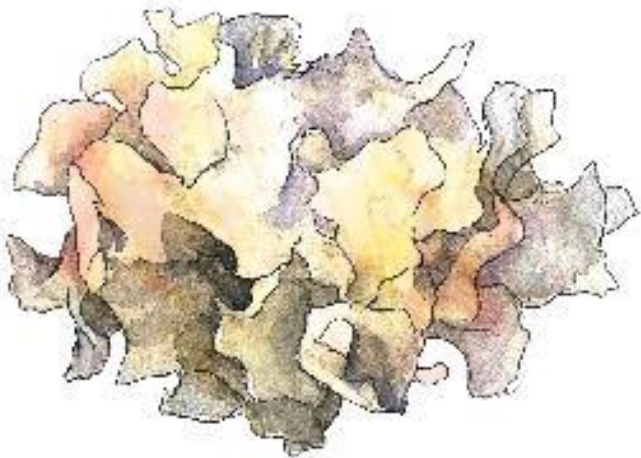
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Plant Story



Tremella fuciformis is a jelly fungus in the family Tremellaceae. A parasitic yeast, *T. fuciformis* requires a host before it can produce the fruiting body by which it is recognizable. As well as a popular culinary mushroom within oriental cooking, *T. fuciformis* has also enjoyed a long history of medicinal use being employed in the treatment of clearing heat and dryness, nourishing the brain, and enhancing beauty.

Plant Story: Scientific Study



Since the 1940s, scientists in China have produced over 40 patents in regard to the anti-aging characteristics of *T. fuciformis*. Actions include; moisture retention, skin protection, improving the flexibility of cells, anti-allergic and anti-inflammatory properties, and preventing senile degradation of microvessels.

The primary bioactive components are polysaccharides, and research has shown that all polysaccharide fractions of the fruiting body display the ability to induce human monocytes to produce interleukins (IL-1 and IL-6) and TNF *in vitro*.

A Beauty Secret In Chinese Tradition

- It is traditionally used for healthy skin complexion as well as for moisturized and soft skin.
- It is said that ‘Yang Guifei’, one of the most beautiful women in Chinese history, used tremella mushroom for her facial and body maintenance.
- A beauty secret of Empress ‘Lu Zhi’, who was known for her beautiful skin, was tremella mushroom. She used to eat a soup of *Tremella fuciformis* every day.



Reference: en.wikipedia.org

An Ideal Ingredient For Skin Care

- ❖ Tremella fuciformis containing polysaccharide shows outstanding water holding ability; nearly 500 times as much as its weight.
- ❖ Tremella mushroom is a rich source of vitamin D.



in vitro Efficacy Evaluation

❖ Anti-inflammatory Effect

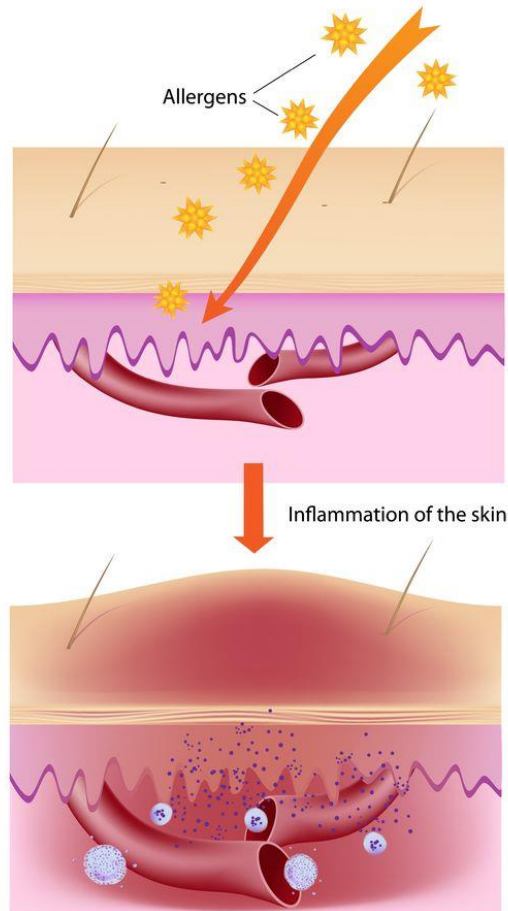
NO Synthesis Inhibition Activity

❖ Anti-allergic Effect

β -hexosaminidase Release Inhibition Activity

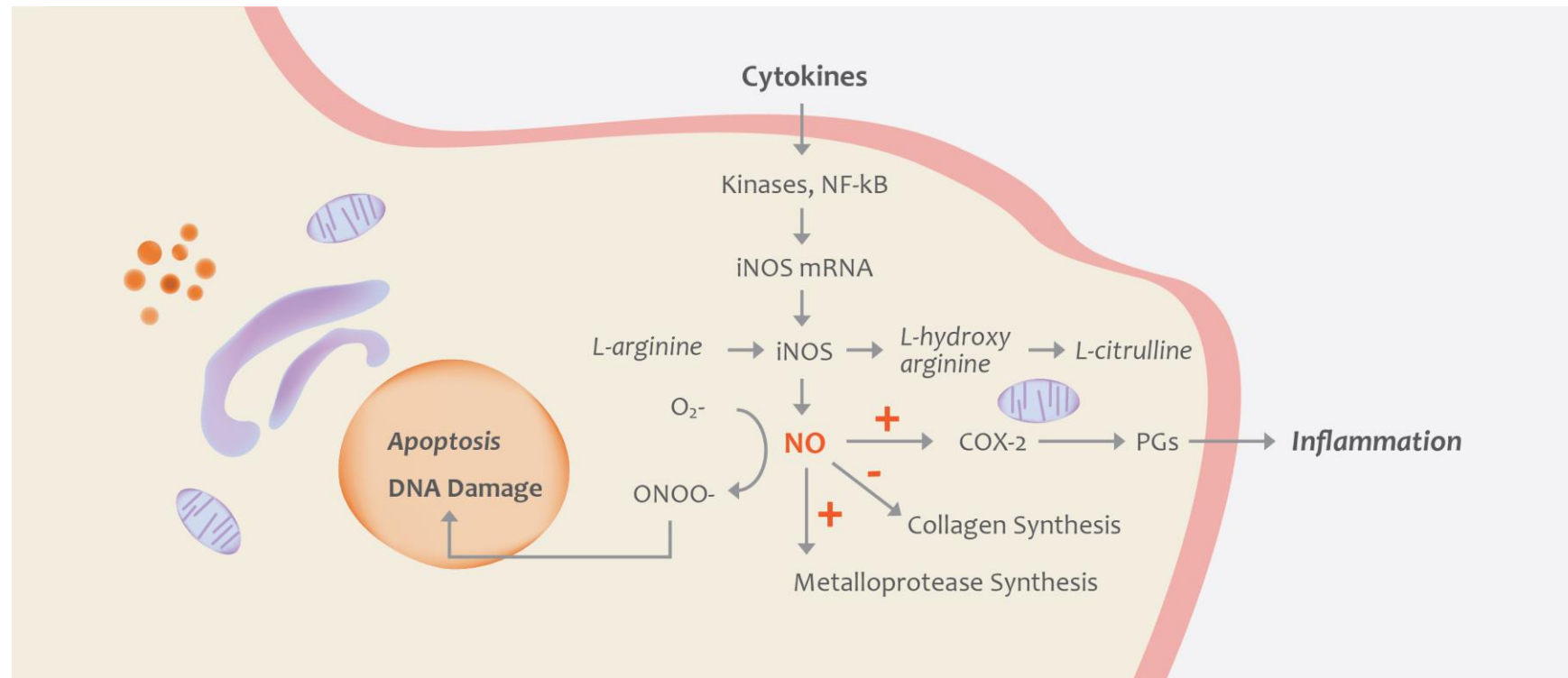


What is Skin Inflammation?



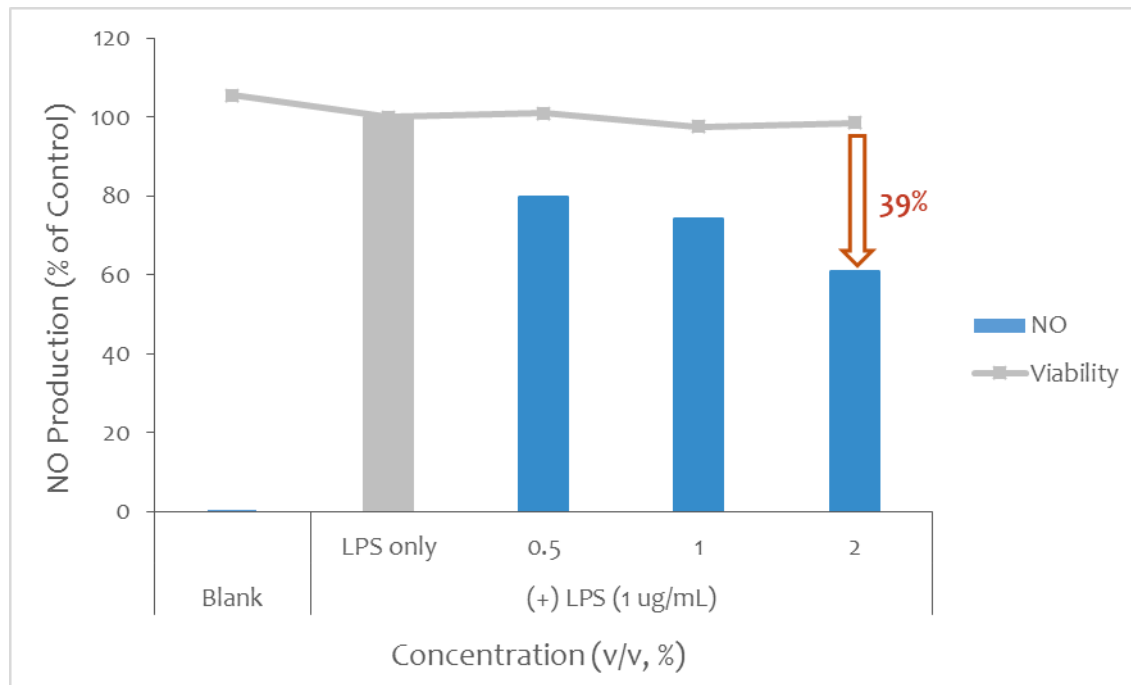
Inflammation is part of the complex immunological responses to a wide range of harmful stimuli including skin injury, tissue necrosis, infection, and irritants. The immune system is responsible for protecting our body from the harmful stimuli and of maintaining homeostasis. Like any other part of the body, the skin can be involved in immune responses. Inflammation in the skin often causes a rash to form. It's a response from the immune system to conditions such as bacterial/viral/fungal infections, allergic reactions, heat, and sunlight. The symptoms of skin inflammation are rash, skin redness, blisters or pimples, warmth, and thickening of the skin in the affected area.

Inflammation Mechanism



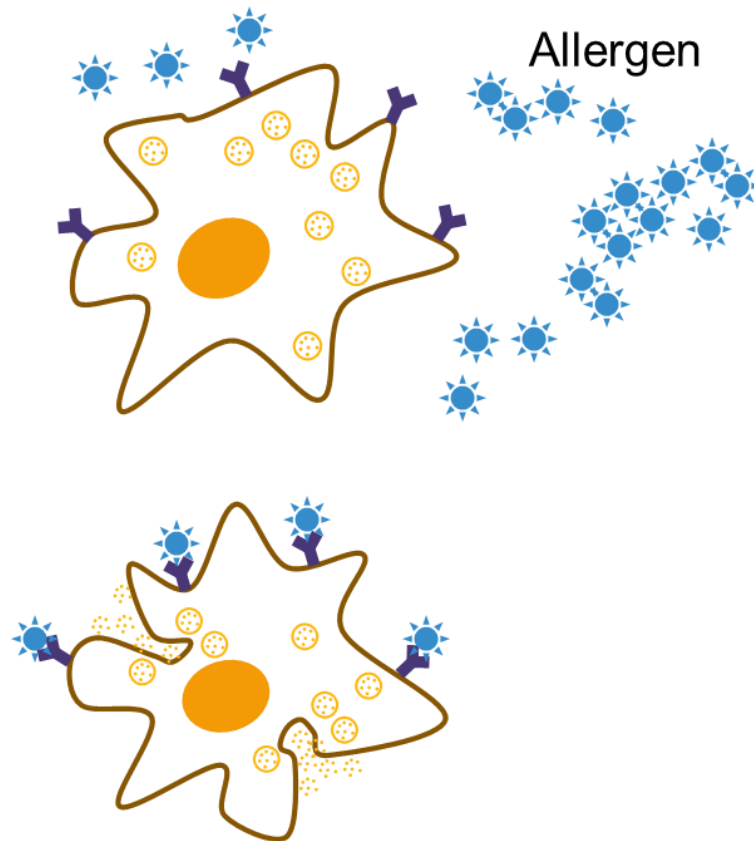
in vitro Efficacy Evaluation: Anti-inflammatory Effect

•• Inhibition of NO Production in RAW 264.7 cells



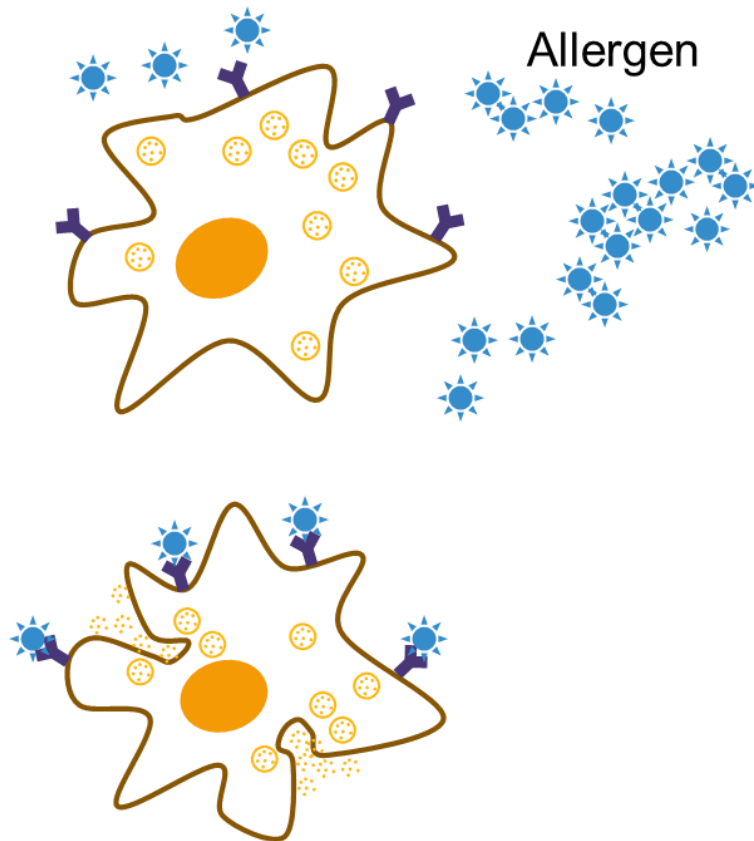
The anti-inflammatory property of **Oriental Dew Drop** has been identified by measuring the decrease of nitrite (NO) production in macrophage cells. As a result, it showed **39% decrease of NO production by treating 2% of Oriental Dew Drop**.

Allergic Reaction: Histamine Release



Histamine is a biogenic amine formed by the enzymatic decarboxylation of histidine. In a human organism, histamine is stored in its inactive form in mast cell and basophil granules. The physiological secretion of histamine can be initiated by a number of factors, all of which involve binding of IgE, cross-linked by antigen, to the mast cell or basophil's Fc receptors causing degranulation of these cells. Once released, histamine binds to a number of different target cell receptors causing the symptomatic effects of allergies.

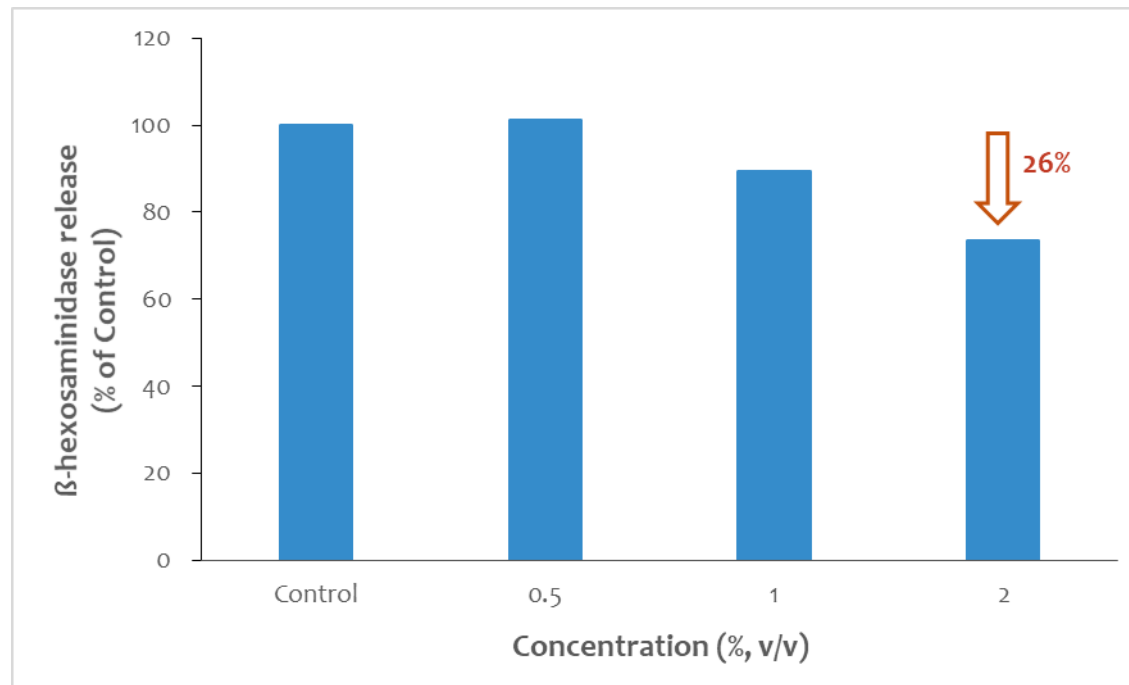
Allergic Reaction: β -hexosaminidase Release



Immediate allergy is caused by a chemical mediator released from basophile and mast cells via cell degranulation due to the reaction between an immunoglobulin E (IgE) antibody, bound with the IgE receptor on the cell membrane, and an antigen. Because mast cells play essential roles in provoking the pathogenesis of allergic reactions via the degranulation process, measuring the degree of degranulation reflects the level of mast cell activation. β -hexosaminidase released by these cells during this process has been reported to be a suitable marker for determining the degree of degranulation.

in vitro Efficacy Evaluation: Anti-allergic Effect

•• β -hexosaminidase Release Inhibition Activity in Basophils



Oriental Dew Drop significantly reduced β -hexosaminidase in basophils with a percentage of **26%** by treating **2%** of Oriental Dew Drop.

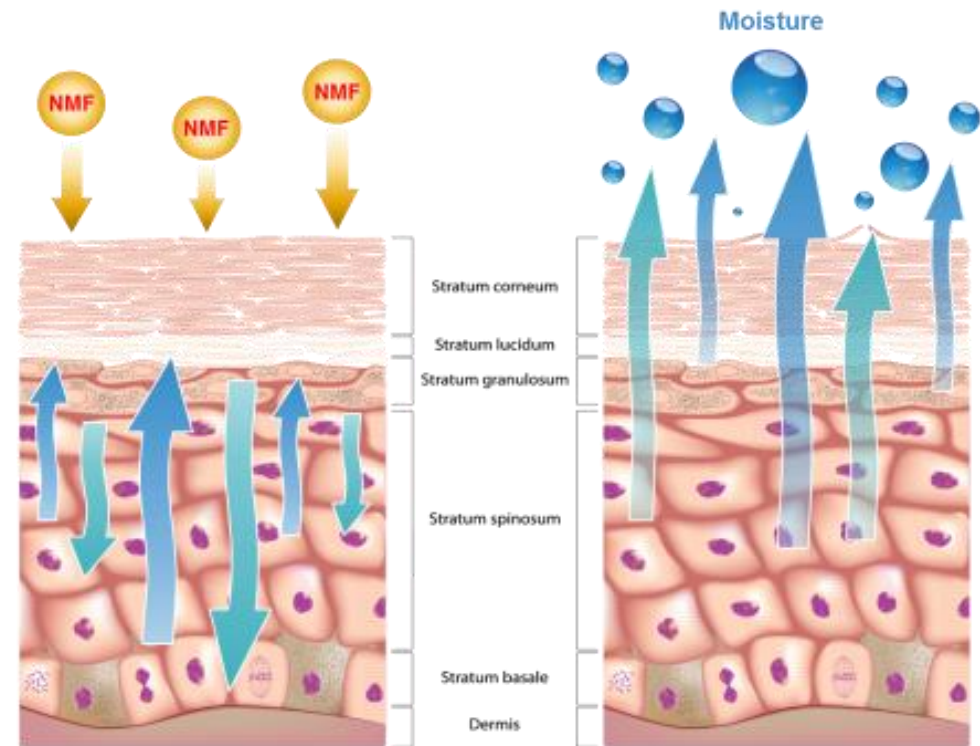
Water and Skin

Water is absolutely essential for the normal functioning of the skin and especially its outer layer, the stratum corneum. Adequate skin hydration is critical for maintaining healthy skin, and moisturizers are an important component of basic skin care. The ability of the skin to hold water is primarily related to the stratum corneum which plays the role of a barrier to water loss.

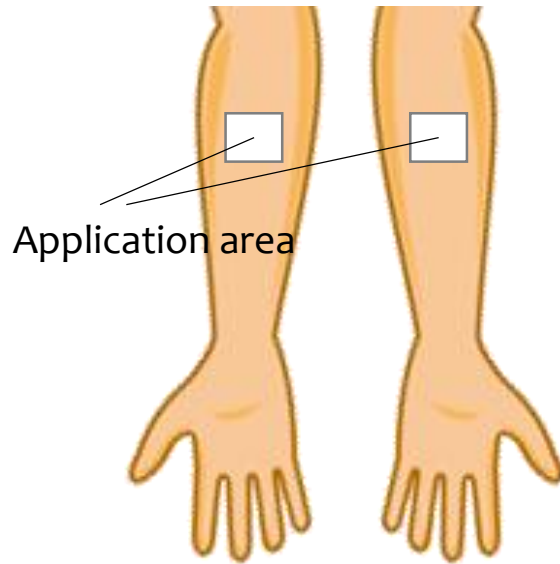


Skin Structure

The retention of water in the Stratum corneum (SC) is dependent on two major components: (1) the presence of natural hygroscopic agents within the corneocytes (collectively referred to as natural moisturizing factor) and (2) the SC intercellular lipids orderly arranged to form a barrier to transepidermal water loss (TEWL). The water content of the SC is necessary for proper SC maturation and skin desquamation. Increased TEWL impairs enzymatic functions required for normal desquamation resulting in the visible appearance of dry, flaky skin.



in vivo Evaluation: Skin Moisturizing

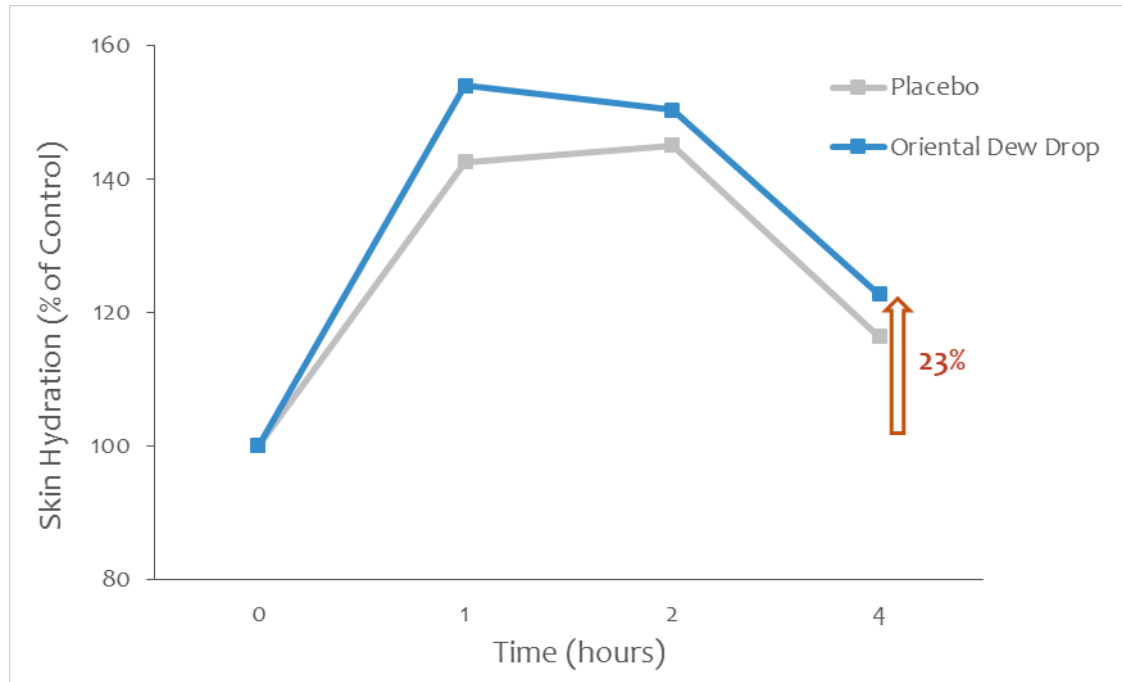


- **Target Site:** Forearm
- **Subjects:** 7 volunteers, aged between 28 to 41 years old
- **Test Item:** Cream with 5% Oriental Dew Drop
- **Application:** 200 mg of 5% Oriental Dew Drop and placebo cream on application area
- **Application Area:** 4 cm²/site of forearm (2 cm * 2 cm)
- **Measurements:** 0, 1, 2, 4 hours after application
- **Test Instrument:**
 - DermaLab[®] Combo (pin probe type, DermaScan, Denmark)



in vivo Evaluation: Skin Moisturizing

•• Skin Hydration Level



The skin hydration level of volunteers' skin has been increased by around 23% with applying a cream containing 5% of **Oriental Dew Drop** after 4 hours.

Product Information

- Product Name: Oriental Dew Drop, Oriental Dew Drop(PD),
•• Oriental Dew Drop(GOL)-RSPO
- INCI Name: Tremella Fuciformis (Mushroom) Extract
- Dosage: 1 – 5%
- Formulation: Add to the formulation when the temperature is lower than 55°C.
Recommended to add after the cooling process.
- Storage: Avoid direct light or UV.
Keep it in a dry area at room temperature.

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