

Tremella Fuciformis Research Paper

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Tremella Fuciformis is a soft white gelatinous mushroom used in Chinese medicine and cuisine. This mushroom, a popular and nutritious mushroom in China, has attracted increasing interest due to its multiple bioactive similarities to hyaluronic acid. The Three Ships' Dew Drops Serum is formulated with the Tremella mushroom, using it as a hyaluronic acid alternative.

TREMELLA MUSHROOMS CAN BE USED AS A HYALURONIC ALTERNATIVE

The white mushroom belongs to the Tremellaceae family. It is also known as snow fungus and is eaten throughout all of China. The fruiting body of the mushroom is a popular food and medicine used as a tonic to alleviate weakness in the body. The key bioactive ingredients are the polysaccharides that act as a humectant. Humectants are compounds that like to attract water from where they can most easily access it.

This is influenced by the size of the humectant and the humidity of the environment. If the environment is humid, it will attract water from the environment to the skin, and if the environment has low humidity, it will attract moisture from within the skin. This is why humectants can sometimes leave the skin feeling dry if it is not sealed in with an occlusive agent like certain oils or waxes.



The cultivation process of Tremella Fuciformis is sensitive to temperature, light, water and other factors, which can greatly affect the quality of the Tremella Extract.

This exact method of extraction is proprietary information to the manufacturer.

TREMELLA EXTRACT IS SMALLER THAN HYALURONIC ACID AND HAS THE POTENTIAL TO PENETRATE THE EPIDERMIS DEEPER

Tremella Fuciformis extract is a hyaluronic acid alternative made up of xylose, mannose, and glucuronic acid, which is a hydrophilic compound with anti-inflammatory and wound healing properties. As mentioned, the polysaccharides present in the Tremella Extract act as a humectant, attracting water molecules.

Generally, the particle size of Tremella Extract is smaller than hyaluronic acid and has the potential to penetrate the epidermis deeper. Sugar molecules in Tremella Extract are great for moisturizing the skin and help to reduce the appearance of fine lines.

SCIENTIFIC STUDY

Effect of Polysaccharides from Tremella Fuciformis
on UV-induced Photoaging

This study explored the ability of Tremella fuciformis polysaccharides to prevent free radical damage to human skin as well as the target molecules and signaling pathways involved.

It was determined that hydrogen peroxide caused a concentration-dependent decrease in cell viability on human skin fibroblasts, and for the remainder of the study, 300 μM H_2O_2 was used to cause injury.

Cells that were treated with Tremella fuciformis polysaccharides had a concentration-dependent protection from the H_2O_2 . The peak protection by Tremella fuciformis was at 200 $\mu\text{g}/\text{ml}$.

The generation of reactive oxygen species was decreased by over 50% in cells that had been pretreated with the polysaccharide before being exposed to H_2O_2 . Pretreated cells also had a decreased amount of cell death.

As a natural alternative to hyaluronic acid, Three Ships sources an extract from a mushroom called Tremella Fuciformis as an ingredient to provide deep hydration to the skin. Overall, studies have shown that it's a great ingredient with moisturizing, antioxidizing and collagen-boosting properties. Tremella Fuciformis can be found in products such as Three Ships' Dew Drops Serum.