

# Creative Biogene Optimizes Cosmetic-Grade Ergothioneine Production

NY, UNITED STATES, July 7, 2025 /EINPresswire.com/ -- Creative Biogene, a leading international biotechnology company, today announced the optimization of its microbial production platform for cosmetic-grade [Ergothioneine](#) (EGT) with high purity, excellent stability, and a sustainable supply. The final product can be customized to meet the needs of cosmetic formulations.

Ergothioneine is a sulfur-containing histidine derivative that was first identified in 1909. Ergothioneine is only naturally synthesized by certain fungi and bacteria, such as *Neurospora crassa* and *Mycobacterium smegmatis*. Ergothioneine is a potent and stable natural antioxidant, which is capable of scavenging ROS and chelating divalent metal ions (Fe<sup>2+</sup> and Cu<sup>2+</sup>) in biological systems, thus protecting cells against oxidative stress.

Creative Biogene leverages microbial fermentation technology and metabolic pathway engineering to produce cosmetic-grade Ergothioneine with purity  $\geq 98\%$ , which can be applied directly to skincare products to meet quality standards. This provides a scalable production platform for cosmetics brands that need premium, efficacy-backed, and sustainable ingredients for skin products.

"Ergothioneine is a multifunctional ingredient with well-known antioxidant capabilities," the chief scientist of Creative Biogene added. "It is an effective multifunctional cosmetic ingredient."

## Applications of Cosmetic-Grade Ergothioneine:

**Antioxidant:** Used in formulations targeting protection against oxidative stress from environmental factors.

**Anti-inflammatory:** Included in products designed for soothing and calming skin.

**Anti-aging:** Applied in skincare to support overall skin condition and appearance.

**Metal-chelating:** Added to formulations for its metal ion chelation properties.

In addition to its application in cosmetics, Ergothioneine also has potential in the food and biotechnology industries.

Creative Biogene also offers efficacy evaluation services for Ergothioneine, including in vitro assessment using a human skin tissue model to evaluate its hydration, skin barrier, anti-inflammatory, and antioxidation capabilities as well as ex vivo penetration testing using human

skin samples. This allows cosmetic brands to ensure a strong development pipeline and to meet regulatory standards.

### About Creative Biogene

Creative Biogene offers integrated biotechnology services including strain development, fermentation optimization, downstream purification, analytical testing, and GMP-compliant manufacturing. With its optimized Ergothioneine production technology, Creative Biogene aims to help the cosmetics industry deliver innovative, effective, and sustainable products to improve consumers' lives.

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