

Signs of healthy aging found in ergothioneine telomere study

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A potent antioxidant, Ergothioneine helps fight oxidative stress and cellular imbalance that contribute to cell damage associated with aging and several health-related issues.** Emerging science shows potential cognitive, immune, prostate and cardiovascular health benefits. Blue California's ErgoActive Ergothioneine is: Not synthetic and GMO free. It's made by fermentation through a proprietary technology and manufacturing process. No-Objection Letter from the US FDA to its GRAS notification, GRN 734. Credit: Blue California

An in vitro study published in the *Journal of Dietary Supplements*, demonstrated Blue California's ErgoActive ergothioneine helped to preserve telomere length and reduced the rate of telomere shortening under oxidative stress.

The in vitro study is the first time [ergothioneine](#) has been studied for its effect on [telomere](#) length. Blue California provided its ErgoActive ergothioneine, which is produced by a proprietary fermentation process.

"Our results suggest that ergothioneine as part of a healthy diet could potentially mitigate the negative effects of oxidative [stress](#) and support healthy aging by helping to preserve telomere length and reduce the rate of shortening," said Chief Science Officer, Dr. Priscilla Samuel.

Telomeres are complex protein structures located at the end of each DNA strand, protecting chromosomes from becoming damaged. When DNA strands are frayed or worn down, cells are challenged with performing specialized functions, thus making the protection offered by telomeres critical for the life of cells.

Shortened telomeres are associated with many [chronic conditions](#) such as cancer, cardiovascular disease, and diabetes. "Many areas of health are impacted by oxidative stress during aging, including longevity, bone health, cardiovascular health, cognition and skin vitality," said Samuel. "As oxidative stress accelerates the shortening of telomeres, antioxidants such as ergothioneine may help to decelerate it."

Ergothioneine is a naturally occurring amino acid with potent antioxidant properties that the body does not make but obtains from dietary sources such as specific species of mushrooms, beans and oat bran. However, for most people, the dietary consumption of foods rich in ergothioneine

tends to be low.

Moreover, humans produce a highly specific ergothioneine transporter (ETT), leading many to reason its importance, and suggest its essentiality to human health. Renowned scientist Dr. Bruce Ames has proposed classifying ergothioneine as a "longevity vitamin."

In the in vitro study, human neonatal dermal fibroblast cells were used to observe the effect of ergothioneine on telomerase activity and telomeres under standard and oxidative stress conditions over an 8-week period.

Under oxidative conditions, at week 8 across all four tested concentrations (0.04 to 1.0 mg/ml) of ergothioneine, median [telomere length](#) was significantly longer than control and a significantly reduced percent of short telomeres was also observed, demonstrating a protective effect of ergothioneine.

"Blue California actively invests in clinical studies to advance the science and impact of our ErgoActive ergothioneine on overall health and wellness and look forward to investigating these effects in human [clinical studies](#) as well," said Samuel. "We are committed to furthering research for substantiating functional benefits and claims associated with ingredients for use in dietary supplements, functional foods and beverages, personal care products, cosmetics and pet nutrition."

Early in February 2020, Blue California filed a patent application reporting the discovery of ErgoActive ergothioneine's impact on telomere shortening associated with [oxidative stress](#).

More information: Priscilla Samuel et al, Ergothioneine Mitigates Telomere Shortening under Oxidative Stress Conditions, *Journal of Dietary Supplements* (2020). [DOI: 10.1080/19390211.2020.1854919](https://doi.org/10.1080/19390211.2020.1854919)

Provided by Blue California

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