Lutein with OptiLut®

Ingredients
Doctor's Best Lutein features Marigold extract, a potent source of lutein that is standardized to contain 90% lutein esters. Marigold flowers are the most abundant source of lutein in nature. An oral bioavailability study of lutein that examined two formulations discovered that the lutein ester formulation was nearly 62% more bioavailable than the nonesterified form of lutein.1

Lutein, zeaxanthin, and cryptoxanthin are yellow pigments in a class of carotenoids called xanthophylls. Since the human body does not synthesize them, we rely on dietary sources for these carotenoids. The average American consumes only 2mg per day of lutein & zeaxanthin (the best sources are dark leafy-greens like spinach, collards, and kale, in addition to certain yellow-orange fruits & vegetables).2 Lutein, zeaxanthin, and meso-zeaxanthin (a xanthophyll believed to be derived from a photochemical transformation of lutein) are referred to as “the macular pigment,” as they are the only carotenoids found in the lens and macular region of the retina of the human eye.3 Lutein, zeaxanthin, and cryptoxanthin are three of the most prominent carotenoids in our blood and various body tissues; their levels are largely determined by our diet.4 The unique biological roles of lutein and zeaxanthin are probably due to two hydroxyl groups at the terminal rings of the molecule’s carotene backbone.5

Benefits
Maintains Healthy Visual Function*
Supports Macular Pigment Density*

It has been well established that lutein and zeaxanthin are present in high concentrations in the retinal tissue of the human eye. Epidemiologic research and the majority of clinical studies infer that a higher intake of these two xanthophylls is associated with a superior level of eye health.6 In a study of 376 individuals (ages 18–75), blood nutrient levels were analyzed alongside lens optical density (LOD) and macular pigment optical density (MPOD) measurements to find out which nutrients may be beneficial for these markers of eye health as we age. MPOD is associated with blood levels of lutein and can be altered with dietary intake of xanthophylls. Due to the inverse relationship found between MPOD and LOD, the researchers determined that lutein and zeaxanthin intake supports maintenance of healthy eye lenses with age.7

One of the first “lutein supplementation for vision” clinical trials was conducted to determine whether taking lutein in supplement form actually increased the density of the carotenoid pigments present in the macula. In this pilot study of 8 healthy subjects, researchers estimated the density of the macular pigments prior to administering 10mg of lutein daily for 12 weeks. Plasma lutein concentrations were measured at 4-week intervals, and during the course of the study they increased fivefold from baseline measurements. It was also shown that macular pigment density increased by an average of 5.3% during the 4-week periods due to increased deposition of lutein in optical tissues.8 More recently, in a 9-month randomized, placebo-controlled study of 40 subjects, daily supplementation was administered at a dose of 10mg of lutein and 2mg of zeaxanthin. A two-fold to three-fold increase in blood levels of lutein and zeaxanthin was seen at 6 months.9

In the Lutein Antioxidant Supplementation Trial (also known as the Veterans LAST study), the investigators were interested in the effect of lutein—alone and in combination with additional nutrients—on the structure and function of the macular region of the retina. In this doubleblind, placebo-controlled trial, 90 subjects were randomized into three groups, receiving either 10mg lutein, 10mg lutein plus a multivitamin/mineral formulation, or placebo for 1 year. In both the lutein and the lutein plus other nutrients groups, significant change was noted in average eye macular pigment optical density, visual acuity, contrast sensitivity, and glare recovery. No improvements were noted in the placebo group.10

These are just some of the results from research of the past decade that demonstrate the potential of the xanthophylls lutein & zeaxanthin for maintaining healthy visual function.

Supplement Facts
Serving Size 1 veggie capsule
Servings per container 120 servings

<table>
<thead>
<tr>
<th>Amount per serving</th>
<th>% Daily Value</th>
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<tbody>
<tr>
<td>Lutein Esters, minimum (min.)</td>
<td>20 mg</td>
</tr>
<tr>
<td>(providing 10 mg min. of Free Lutein)</td>
<td></td>
</tr>
<tr>
<td>Zeaxanthin, min.</td>
<td>2 mg</td>
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† Daily Value not established.

Other Ingredients: Microcrystalline cellulose, modified cellulose (vegetarian capsule), silicon dioxide and magnesium stearate (vegetable source).

Suggested Adult Use: Take 1 capsule daily, with or without food, or as recommended by a nutritionally-informed physician.

Non-GMO / Gluten Free / Soy Free / Vegan
Store in a cool dry place.

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* These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.
Multifaceted Antioxidant Support*

Most of the beneficial effects of xanthophylls are ascribed to their ability to quench reactive oxygen species and scavenge other free radicals that are either taken in from the environment or generated internally by natural metabolic processes. In vitro evidence for the free radical scavenging activity of lutein is found in studies of its effects on human lens epithelial cells. In one such study, cell cultures were exposed to ultraviolet (UV) light after pretreatment with lutein or alpha-tocopherol. Both nutrients were found to reduce UV-induced damage to lens epithelial cells. However, lutein was shown to have significantly higher photoprotective activity than alpha-tocopherol, demonstrating its potential as a high-powered antioxidant. Lutein has also been found to be an effective filter of “blue light,” another daily source of oxidative stress on the polyunsaturated fatty acid-enriched photoreceptors of our eyes.

In addition to all of these antioxidant perks for the eyes, evidence from epidemiologic studies and various experimental trials suggests that lutein also helps in the maintenance of a healthy cardiovascular system, in part by countering oxidative stress experienced by blood vessel walls.

Supports Cognitive Acuity*

An interesting doubleblind, placebo-controlled study recently conducted in 49 healthy women (ages 60–80) randomized 11 women into a group that received 12mg per day of lutein (with approximately 0.5mg of zeaxanthin) for 4 months. The women were instructed to refrain from dietary changes during the study period, and their lutein intake from foods was assessed and taken into account when study results were evaluated. Women in the lutein group scored higher in Verbal Fluency tests after 4 months of supplementation (compared to the placebo group of 10 women). Verbal Fluency tests measure the ability of subjects to retrieve instances of a category from long-term memory in a short period of time. This is the first clinical study that backs up epidemiological and animal research suggesting that lutein supports cognitive function.

Scientific References


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