Lutein with FloraGLO®

INGREDIENTS

Doctor's Best Lutein with FloraGLO®, a purified free lutein manufactured according to a patented process that ensures a standardized and potent end product every time. FloraGLO® is the exact same lutein molecule found naturally in foods such as spinach, collards, kale, and certain yellow-orange fruits & vegetables. The average American consumes only 2 mg per day of lutein & zeaxanthin.[1] Since the human body does not synthesize these carotenoids, we rely on food and dietary supplements if we wish to boost our tissue levels of these helpful compounds.

Over 20 studies have been completed in humans using FloraGLO® Lutein, establishing a body of literature published in peer-reviewed journals or presented as abstracts at scientific conferences that confirms the efficacy and safety of this particular ingredient.

Additionally, in vitro studies have pointed to multiple mechanisms by which FloraGLO® confers benefit to eyes, skin, and overall health. No toxicological side effects were seen in clinical FloraGLO® studies, providing particular confidence in this brand of lutein.

The impact of lutein supplementation is clear to see. 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; after supplementation was stopped, the levels returned to baseline within 3 months.[2]

BENEFITS

- Maintains healthy visual function*
- Supports macular pigment density*
- Supports skin health*
- Promotes graceful aging of the skin*
- Whole body antioxidant support*

EXTENDED BENEFITS

Maintains Healthy Visual Function*

Supports Macular Pigment Density*

Lutein and zeaxanthin are referred to as "the macular pigment" because they are the carotenoids found in the lens and macular region of the retina of the human eye.[3] Since macular pigment is entirely of dietary origin, it is not surprising that epidemiologic research and the majority of clinical studies show that higher intakes of these carotenoids are associated with a superior level of eye health.[4, 5] Research has been conducted in humans to determine whether taking supplemental lutein can actually increase the density of the carotenoid pigments present in the the macula; macular density is a primary measure of retinal health. In one such study of eight individuals, researchers used complex tools to estimate macular pigment density prior to having each individual take 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 five-fold from baseline measurements. It was also shown that macular pigment density increased by an average of 5.3% after 4 weeks due to increased deposition of lutein in optical tissues.[6]

In a larger 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]

Supplement Facts

Serving Size 1 Softgel
Servings Per Container 60

	Amount Per Serving	% Daily Value
Lutein (from FloraGLO® marigold flower ext., (*Tagetes erecta*))	20 mg	†
Zeaxanthin (from FloraGLO® marigold flower ext., (*Tagetes erecta*))	1 mg	†

† Daily Value not established.

Other Ingredients: Safflower oil, sunflower lecithin, yellow beeswax, softgel capsule (gelatin, glycerin, purified water).

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

Non-GMO / Gluten Free / Soy Free

Store in a cool dry place.

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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.[8]

Aside from its role as the macular pigment, lutein has also been shown to benefit the eyes through its excellent antioxidant capacity. Lutein was shown to have significantly higher photoprotective activity than alpha-tocopherol (vitamin E), demonstrating its prowess as a high powered antioxidant.[9] 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 has also been found to be an effective filter of "blue light," another daily source of oxidative stress on the polyunsaturated fatty acidenriched photoreceptors of our eyes.[10]

Supports Skin Health*
Promotes Graceful Aging of the Skin*

Premature aging of the skin can be avoided if proper measures are taken. In 1986 the term "photoaging" was coined to describe unfavorable effects of ultraviolet (UV) rays on skin. The UV radiation from sunlight is absorbed by skin molecules, leading to reactive oxygen species (ROS) that can wreak havoc among cellular components like cell walls and membranes, mitochondria, and DNA.[11] In preclinical research investigating the interactions between lutein, skin, and UV light, FloraGLO® Lutein was orally administered to mice. In one such study, mice fed a diet enriched with FloraGLO® experienced higher skin lutein levels, which afforded the mice superior photoprotection and a reduction of ROS in the skin.[12] In a similar study, mice fed a diet enriched with FloraGLO® experienced a more balanced acute response to UV radiation.[13] In humans, lutein is naturally present throughout skin, providing specialized antioxidant support. In 2007, a doubleblind, placebo-controlled study demonstrated the positive effects of lutein on five skin health parameters: hydration, elasticity, surface lipids, photoprotective activity, and lipid peroxidation.[14] Forty female subjects were randomized into four groups, with an attempt to balance age and skin type of the individuals amongst groups. Each group received either an active oral treatment with a placebo topical treatment, a placebo oral treatment with an active topical treatment, both active treatments, or both placebo treatments for 12 weeks. Oral administration was in the form of FloraGLO® Lutein softgels that provided 5mg lutein and 0.3mg zeaxanthin, taken twice daily for a total of 10mg lutein and 0.6mg zeaxanthin per day. Statistically significant improvements were seen in all lutein groups – compared to the group receiving only placebos–among all five parameters tested. Oral administration of lutein conferred superior photoprotective activity (as measured by skin surface redness after exposure to ultraviolet light) and prevention of lipid peroxidation (as indicated by levels of malondialdehyde in skin lipids after exposure to ultraviolet light) than either topical lutein or placebo. While previous research had shown that antioxidant supplementation that included 3mg of lutein daily was photoprotective, this more recent study was the first to demonstrate the benefits of lutein alone.[15]

Whole Body 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.[16] The antioxidant edge provided by lutein and zeaxanthin has sparked investigatory interest in what role they may play in areas of health beyond eye and skin care. 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.[17] Additionally, animal and large-scale observational studies suggest that lutein and zeaxanthin are associated with the health of particular organs, including the lungs and colon.[18]

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