LUTEIN

Portfolio

Lutein is called a carotenoid vitamin. It is related to beta-carotene and vitamin A. Lutein (from Latin luteus meaning "yellow") is a xanthophyll and one of 600 known naturally occurring carotenoids. Lutein is synthesized only by plants and like other xanthophylls is found in high quantities in green leafy vegetables such as spinach, kale and yellow carrots. Marigold flowers are rich sources of lutein[1]. In green plants, xanthophylls act to modulate light energy and serve as non-photochemical quenching agents to deal with triplet chlorophyll (an excited form of chlorophyll), which is over produced at very high light levels, during photosynthesis. The Powerful Antioxidant Lutein has been established as a vital nutrient for Eye Health. Numerous scientific and clinical studies in humans have shown that lutein is deposited in the eyes, more specifically in the macula and the lens. This has led a number of researchers to suggest an important role for lutein in reducing the risk of age - related macular degeneration[2-3] and cataracts[4-5].

Role of Lutein in Eye Health

Lutein is an important compound in the human body, but the body does not manufacture lutein. Eating foods containing lutein or consuming dietary supplements that contain lutein is the only way to get lutein. Lutein was found to be present in a concentrated area of the macula, a small area of the retina responsible for central vision. The hypothesis for the natural concentration is that lutein helps protect from oxidative stress and high-energy light. Various research studies have shown that a direct relationship exists between lutein intake and pigmentation in the eye[3&6]. Several studies also show that an increase in macula pigmentation decreases the risk for eye diseases such as Age-related Macular Degeneration (AMD)[7-8]. Blue light, in both indoor lighting and sunlight, is believed to induce oxidative stress and possible free radical damage in human eyes. Lutein filters blue light and scavenges reactive intermediates generated in photo-oxidation[9].

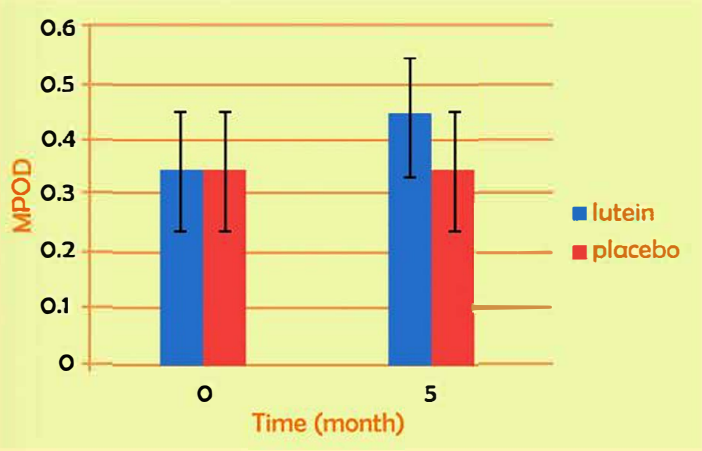
Other Benifits of Lutein

- Role in skin health
- Reduces lipid peroxidation
- Increases skin elasticity
- Increases superficial skin lipids
- Increases skin hydration

Clinical Trials

- Lutein, Zeaxanthin, and meso - Zeaxanthin in the Clinical Management of Eye Disease. Randomized controlled clinical trials have revealed that supplementation of L and Z increases macular pigment density, improves visual function, and decreases the risk of progression of intermediate AMD to late AMD, especially neovascular AMD[10].
- In a double - blind study, ingestion of xanthophylls (10 mg purified lutein + 0.3 mg zeaxanthin) with or without additional antioxidants by patients with early AMD resulted in 50% improvement in macular pigment optical density (MPOD) and significant improvement in visual function parameters including glare recovery, contrast sensitivity and visual acuity[11].

- Lutein supplementation for 6 months in AMD patients resulted in significant increase in MPOD by 27.9% and improvement in visual function parameters including mean differential light threshold (MDLT) and visual acuity (VA)[12].



- In an open trial, long term lutein supplementation showed significant increase in macular pigment density[13].

Dose

10 to 30 mg / day / adult[16].

Safety

- The observed safe level risk assessment method indicates that the evidence of safety is strong at intakes of lutein up to 20mg/d., although much higher levels have been tested without adverse effects[14].
- Increasing doses of lutein supplements significantly increased the serum level of lutein, and doses up to 10 mg were safely administered. No toxicity was observed[15].

Available Grades

Lutein Ester

Lutein 5%, 10%, 20%, 40% - Oil and Powder and 80% Powder Form

Lutein Free

Lutein 5%, 10%, 20%, 40% - Oil and Powder Form

Lutein Other Grades

Lutein Water Dispersible 5%, 20% Powder
Lutein Beadlets 5%, 10%, 20%

Applications

- Softgel & hardgel capsules, tablets & gummie
- Poultry Feed
- Natural colorant in cosmetics
- Food & beverage applications

References

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