
# Lutein

Stock #1855-6 (60 capsules)

NSP's Lutein formula is a powerful antioxidant supplement containing the carotenoids lutein and zeaxanthin. Each capsule provides 10mg of lutein and 400mcg of zeaxanthin, along with 185mg of Hibiscus flowers.

Based on the current consensus among researchers, lutein and zeaxanthin may be *essential nutrients* for visual health, since both carotenoids appear to play a central role in protecting against the development of age-related macular degeneration (ARMD). ARMD is the leading cause of irreversible blindness in the U.S. In addition, more than 10 million Americans have impaired vision from ARMD. This degenerative disease occurs when cells of the macula are destroyed, causing sight loss in the central field of vision, while often leaving peripheral vision unaffected.[1-5]

Research conducted over the last 20 years has lead to the discovery that the macula, which is yellow in color due to the presence of lutein and zeaxanthin, contains nearly 100 times the concentration of carotenoids found in all other human tissues. Growing evidence suggests that these yellow carotenoids, referred to as the macular pigments, protect the area of the retina responsible for fine vision against light-induced injury, free radical damage, and the buildup of fatty deposits known as drusen, which contribute to the development of ARMD. Fortunately, research shows that the concentration of macular pigment can be increased by supplementation with lutein and zeaxanthin, thus making it possible for most individuals to increase their degree of protection against ARMD. A recent study published in the journal *Investigative Ophthalmology & Visual Science* showed that after 12 weeks of daily supplementation with 10mg of lutein, study participants showed a significant increase in the density of their macular pigment. In another study, approximately half of the participants showed a statistically significant increase in macular pigment following 6 months of lutein supplementation (20mg per day). Such results may be especially important to light-eyed (blue, hazel or grey iris color) individuals, since they naturally have less of these protective pigments in their retinas and appear to be at higher risk for developing ARMD than dark-eyed individuals.[1,2,4-9]

Lutein and zeaxanthin may also help other blinding disorders, including cataracts and retinitis pigmentosa (a hereditary degenerative disease of the retina causing night blindness, loss of peripheral vision, and the eventual loss of vision). For example, some observational studies have found that lutein and zeaxanthin intake (particularly from foods rich in these carotenoids) is associated with a significant decrease in the risk for cataract (up to 20%). Likewise, lutein supplementation has also been shown to produce short-term vision improvements in patients (especially those with blue eyes) with retinitis pigmentosa.[10,11]

Fortunately, the beneficial effects of lutein and zeaxanthin are not limited to eye health, but rather, also appear to affect cardiovascular health—results from a recent study support the theory that increased dietary intake of lutein is protective against the development of early atherosclerosis—and respiratory function—in a study of 1,616 men and women aged 35-79 and free from respiratory disease, researchers observed a strong association between the intake of lutein and zeaxanthin and forced vital capacity (a pulmonary (lung) function test), indicating that carotenoids may play a role in respiratory health.[12,13]

A growing number of studies have also shown that lutein and zeaxanthin may protect against many types of cancer. Both lutein and zeaxanthin demonstrate specific biological functions in decreasing cancer development and enhancing immune function. For example, research has shown that lutein and zeaxanthin intake appear to be inversely associated with ovarian cancer. In one case-control study, participants with the highest dietary intake of lutein and zeaxanthin demonstrated a 40% lower risk of ovarian cancer. A second study echoed these findings. In the case of breast cancer, high plasma lutein is associated with the increased presence of estrogen receptors in breast cancer cells and, consequently, with greater survival rates and better response to hormone therapy. These finding suggest that plasma lutein concentration may be linked with improved prognosis following diagnosis of breast cancer. Other studies have demonstrated an evident increase in breast cancer risk for decreasing blood levels of lutein, especially in premenopausal women. In addition, a recent animal study confirmed that dietary lutein reduced mammary tumor growth and development, suggesting, for the first time, that lutein is not only capable of inhibiting mammary tumor growth, but possibly of preventing tumor initiation. With regards to other types of cancer, a study of 98 patients with different types of gastrointestinal cancer (esophageal, gastric, liver, pancreas and colon cancer) found that blood levels of zeaxanthin were significantly lower in all of these individuals, compared to healthy subjects.[3,14-19]

**Hibiscus flowers**, which naturally contain beta-carotene, have been proven to have antioxidant activity and may also help reduce moderate essential hypertension (high blood pressure). For example, after 12 days of treatment,

statistical findings showed an 11.2% reduction in systolic blood pressure and a 10.7% reduction in diastolic blood pressure in those receiving hibiscus tea. Hibiscus flowers also contain a substance that demonstrates anti-carcinogenic activity.[20-23]

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