

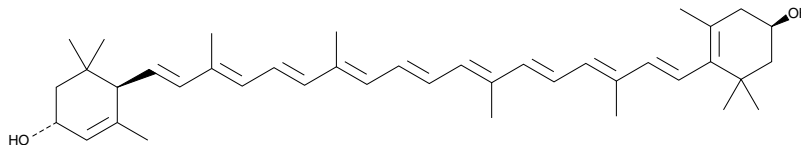
# Product Information



## Lutein

Item No. 10010811

**CAS Registry No.:** 127-40-2  
**Formal Name:** (6'R)-β,ε-carotene-3R,3'R-diol  
**Synonyms:** E 161b, FloraGLO®, Xanthophyll  
**MF:** C<sub>40</sub>H<sub>56</sub>O<sub>2</sub>  
**FW:** 568.9  
**Purity:** ≥95%  
**Stability:** ≥2 years at -20°C  
**Supplied as:** A crystalline solid  
**UV/Vis.:** λ<sub>max</sub>: 268, 445, 474 nm



### Laboratory Procedures

For long term storage, we suggest that lutein be stored as supplied at -20°C. It should be stable for at least two years.

Lutein is supplied as a crystalline solid. A stock solution may be made by dissolving the lutein in the solvent of choice. Lutein is soluble in chloroform at a concentration of approximately 5 mg/ml.

Lutein is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Lutein is a natural yellow carotenoid, which can be found in plants, egg yolks, and in the human retina. It is a lipid-soluble antioxidant that can circulate in the plasma and confer cardioprotective, anti-inflammatory, and anti-angiogenic effects.<sup>1-3</sup> Dietary lutein, in combination with zeaxanthin (Item No. 10009992), vitamins and ω-3 fatty acids, may be beneficial against age-related macular degeneration and cataract development.<sup>2,4,5</sup>

### References

1. Sies, H. and Stahl, W. Vitamins E and C, β-carotene, and other carotenoids as antioxidants. *Am. J. Clin. Nutr.* **62**, 1315S-1321S (1995).
2. Pinazo-Durán, M.D., Gómez-Ulla, F., Arias, L., *et al.* Do nutritional supplements have a role in age macular degeneration prevention? *J. Ophthalmol.* **2014**, 1-15 (2014).
3. Ciccone, M.M., Cortese, F., Gesualdo, M., *et al.* Dietary intake of carotenoids and their antioxidant and anti-inflammatory effects in cardiovascular care. *Mediators Inflamm.* **2013**, 1-12 (2013).
4. Weikel, K.A., Garber, C., Baburins, A., *et al.* Nutritional modulation of cataract. *Nutr. Rev.* **72(1)**, 30-47 (2014).
5. Bowes Rickman, C., Farsiu, S., Toth, C.A., *et al.* Dry age-related macular degeneration: Mechanisms, therapeutic targets, and imaging. *Invest. Ophthalmol. Vis. Sci.* **54(14)**, ORSF68-ORSF80 (2013).

### Related Products

For a list of related products please visit: [www.caymanchem.com/catalog/10010811](http://www.caymanchem.com/catalog/10010811)

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

#### SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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