

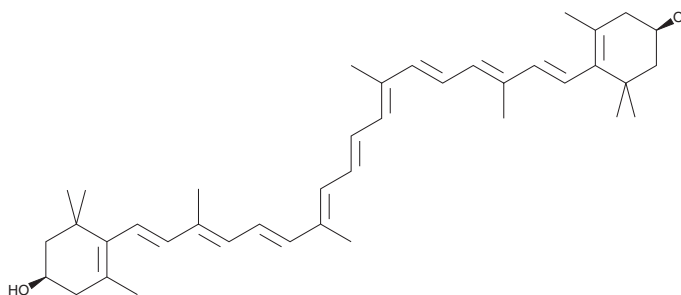
# PRODUCT INFORMATION



## Zeaxanthin

Item No. 10009992

**CAS Registry No.:** 144-68-3  
**Formal Name:**  $\beta,\beta$ -carotene-3R,3'R-diol  
**Synonyms:** Anchovyxanthin, Xanthophyll 3, Zeaxanthol  
**MF:**  $C_{40}H_{56}O_2$   
**FW:** 568.9  
**Purity:**  $\geq 95\%$   
**UV/Vis.:**  $\lambda_{max}$ : 275, 452, 479 nm  
**Supplied as:** A crystalline solid  
**Storage:**  $-20^{\circ}C$   
**Stability:**  $\geq 2$  years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Zeaxanthin is supplied as a crystalline solid. A stock solution may be made by dissolving the zeaxanthin in the solvent of choice, which should be purged with an inert gas. Zeaxanthin is soluble in ethanol, DMSO, and dimethyl formamide.

### Description

Zeaxanthin is a dietary carotenoid that has been found in orange and yellow fruits and has diverse biological activities.<sup>1-5</sup> *In vivo*, zeaxanthin (50 mg/kg) decreases immobility time in the forced swim test and reduces hippocampal levels of IL-6, IL-1 $\beta$ , and TNF- $\alpha$  in a rat model of diabetes induced by streptozotocin (STZ; Item No. 13104).<sup>1</sup> It also reduces albuminuria, serum levels of urea nitrogen and malondialdehyde (MDA), and kidney damage in a rat model of STZ-induced diabetic nephropathy.<sup>2</sup> It forms the macular pigment in human eyes, and high dietary intake of zeaxanthin is positively correlated with reduced risk of advanced neovascular age-related macular degeneration in humans.<sup>3-5</sup>

### References

1. Zhou, X., Gan, T., Fang, G., *et al.* Zeaxanthin improved diabetes-induced anxiety and depression through inhibiting inflammation in hippocampus. *Metab. Brain Dis.* **33(3)**, 705-711 (2018).
2. Kou, L., Du, M., Zhang, C., *et al.* The hypoglycemic, hypolipidemic, and anti-diabetic nephritic activities of zeaxanthin in diet-streptozotocin-induced diabetic sprague dawley rats. *Appl. Biochem. Biotechnol.* **182(3)**, 944-955 (2017).
3. Jia, Y.-P., Sun, L., Yu, H.-S., *et al.* The pharmacological effects of lutein and zeaxanthin on visual disorders and cognition diseases. *Molecules* **22(4)**, 610 (2017).
4. SanGiovanni, J.P., Chew, E.Y., Clemons, T.E., *et al.* The relationship of dietary carotenoid and vitamin A, E, and C intake with age related macular degeneration in a case-control study. *Arch. Ophthalmol.* **125(9)**, 1225-1232 (2007).
5. Hammond, B.R., Jr. Possible role for dietary lutein and zeaxanthin in visual development. *Nutr. Rev.* **66(12)**, 695-702 (2008).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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