

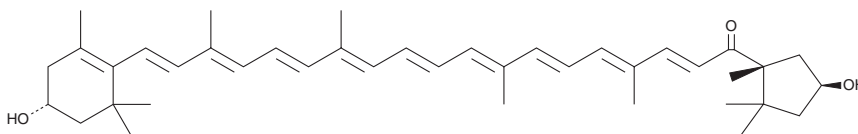
# PRODUCT INFORMATION



## Capsanthin

Item No. 31202

**CAS Registry No.:** 465-42-9  
**Formal Name:** (3R,3'S,5'R)-3,3'-dihydroxy- $\beta$ , $\kappa$ -caroten-6'-one  
**Synonym:** all-*trans*-Capsanthin  
**MF:** C<sub>40</sub>H<sub>56</sub>O<sub>3</sub>  
**FW:** 584.9  
**Purity:**  $\geq$ 98%  
**UV/Vis.:**  $\lambda_{\text{max}}$ : 472 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 2 years  
**Item Origin:** Plant/*Capsicum annuum*



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

### Laboratory Procedures

Capsanthin is supplied as a crystalline solid. A stock solution may be made by dissolving the capsanthin in the solvent of choice, which should be purged with an inert gas. Capsanthin is miscible in organic solvents such as ethanol, DMSO, and dimethyl formamide.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of capsanthin can be prepared by directly dissolving the crystalline solid in aqueous buffers. Capsanthin is soluble in PBS, pH 7.2. We do not recommend storing the aqueous solution for more than one day.

### Description

Capsanthin is a carotenoid that has been found in *C. annuum* and has diverse biological activities.<sup>1-3</sup> It reduces hydrogen peroxide-induced production of reactive oxygen species (ROS) and phosphorylation of ERK and p38 and prevents hydrogen peroxide-induced inhibition of gap junction intercellular communication in WB-F344 rat liver epithelial cells.<sup>1</sup> Capsanthin (0.2 mg/animal) reduces the number of colonic aberrant crypt foci and preneoplastic lesions in a rat model of N-methylnitrosourea-induced colon carcinogenesis.<sup>2</sup> It also reduces ear edema in a mouse model of inflammation induced by phorbol 12-myristate 13-acetate (TPA; Item No. 10008014).<sup>3</sup>

### References

1. Kim, J.S., Lee, W.M., Rhee, H.C., *et al.* Red paprika (*Capsicum annuum* L.) and its main carotenoids, capsanthin and  $\beta$ -carotene, prevent hydrogen peroxide-induced inhibition of gap-junction intercellular communication. *Chem. Biol. Interact.* **254**, 146-155 (2016).
2. Narisawa, T., Fukaura, Y., Hasebe, M., *et al.* Prevention of N-methylnitrosourea-induced colon carcinogenesis in rats by oxygenated carotenoid capsanthin and capsanthin-rich paprika juice. *Proc. Soc. Exp. Biol. Med.* **224**(2), 116-122 (2000).
3. Horie, S., Okuda, C., Yamashita, T., *et al.* Purified canola lutein selectively inhibits specific isoforms of mammalian DNA polymerases and reduces inflammatory response. *Lipids* **45**(8), 713-721 (2010).

#### 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.

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