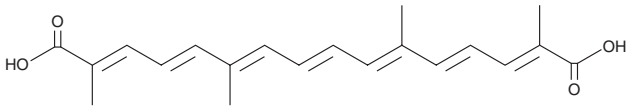
PRODUCT INFORMATION

Transcrocetin

Item No. 24217

CAS Registry No.: 27876-94-4
Formal Name: 2,6,11,15-tetramethyl-2E,4E,6E,8E,10E, 12E,14E-hexadecaheptaenedioic acid
Synonym: NSC 407300
MF: $C_{20}H_{24}O_4$
FW: 328.4
Purity: ≥98%
UV/Vis.: λ_{max}: 426, 451 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Transcrocetin is supplied as a crystalline solid. A stock solution may be made by dissolving the transcrocetin in the solvent of choice, which should be purged with an inert gas. Transcrocetin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of transcrocetin is approximately 1 mg/ml in ethanol and DMF and approximately 2 mg/ml in DMSO.

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 transcrocetin can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of transcrocetin in PBS, pH 7.2, is approximately 0.1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Transcrocetin is a natural apocarotenoid isolated from *C. sativus* and *G. jasminoides* that has antioxidant, antiproliferative, anti-inflammatory, cardioprotective, and antinociceptive properties.[1-6] It scavenges 2,2-diphenyl-1-picrylhydrazyl (DPPH) radicals (IC_{50} = 17.8 µg/ml) and inhibits growth of MKN28 stomach, MCF-7 breast, and Caco-2 colon cancer cell lines (IC_{50}s = 53, 63, and 103 µM, respectively).[2,3] Transcrocetin (20 µM) protects primary rat microglial cells from LPS-induced death and decreases LPS-induced production of intracellular reactive oxygen species (ROS), TNF-α, IL-1β, and NF-κB.[4] Transcrocetin (100 mg/kg) increases the level of glutathione (GSH), catalase (CAT), creatine kinase (CK), and lactate dehydrogenase (LDH) in cardiac tissue in a rat model of myocardial infarction induced by isoproterenol (Item No. 15592).[5] It also increases the pressure threshold and latency to withdrawal in response to mechanical and thermal stimuli, respectively, indicating a decrease in allodynia in a mouse model of spared nerve injury when administered intrathecally at a dose of 30 mg/kg.[6]

References

1. Pfister, S.L., Meyer, P., Steck, A., *et al. J. Agric. Food Chem.* **44(9)**, 2612-2615 (1996).
2. Kanakis, C.D., Tarantilis, P.A., Tajmir-Riahi, H.A., *et al. J. Agric. Food Chem.* **55(3)**, 970-977 (2007).
3. Oliveira, H., Cai, X., Zhang, Q., *et al. Food Funct.* **8(4)**, 1672-1679 (2017).
4. Nam, K.N., Park, Y.-M., Jung, H.-J., *et al. Eur. J. Pharmacol.* **648(1-3)**, 110-116 (2010).
5. Zhang, W., Li, Y., and Ge, Z. *Biomed. Pharmacother.* **93**, 376-382 (2017).
6. Wang, X., Zhang, G., Qiao, Y., *et al. J. Pharmacol. Sci.* **135(4)**, 141-147 (2017).

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