Product Data Sheet

Product Name: Neoxanthin
Cat. No.: GC60268

Chemical Properties

Cas. No.	14660-91-4		
SMILES	CC(/C=C/[C@](O1)(C(C)(C2)C)[C@]1(C[C@H]2O)C)=C/C=C/C(C)=C/C=C/C=C(C)/C=C/C=C(C)/C=[C@@]=C([C@](O)(C3)C)C(C)(C[C@@H]3O)C		
Formula	$C_{40}H_{56}O_4$	M.Wt	600.87
Solubility		Storage	
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Neoxanthin		

Background

Neoxanthin is a major xanthophyll carotenoid and a precursor of the plant hormone abscisic acid in dark green leafy vegetables. Neoxanthin is a potent antioxidant and light-harvesting pigment. Neoxanthin induces apoptosis and has anticancer actions[1] [2].

Neoxanthin (20?μM; 72 h) treatment significantly reduces cell viability to 10.9% for PC-3 cells, 15.0% for DU 145 cells, and nearly zero for LNCaP cells, respectively[1]. Neoxanthin strongly inhibits cell growth by suppressing DNA synthesis in C3H10T1/2 cells[1]. In photosynthetic organisms, Neoxanthin is the essential component of both the photosystem I (PSI) and photosystem II (PSII) reaction centers of oxygenic photosynthetic apparatus[2].

The gastrointestinal metabolism of Neoxanthin in mice is investigated. Two hours after the oral administration of Neoxanthin (40 nmol/mouse), Neoxanthin is found in the plasma and livers of mice. The concentrations of Neoxanthin is 13.6-9.0 nM in plasma,

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and 7.3 3.6 pmol/g in liver, respectively. (R/S)-Neochrome is also found in the small intestinal contents of Neoxanthin-administered mice[3].

[1]. E Kotake-Nara, et al. Carotenoids Affect Proliferation of Human Prostate Cancer Cells. J Nutr. 2001 Dec;131(12):3303-6. [2]. Ramesh Kumar Saini, et al. An Efficient One-Step Scheme for the Purification of Major Xanthophyll Carotenoids From Lettuce, and Assessment of Their Comparative Anticancer Potential. Food Chem. 2018 Nov 15;266:56-65. [3]. Akira Asai, et al. An Epoxide-Furanoid Rearrangement of Spinach Neoxanthin Occurs in the Gastrointestinal Tract of Mice and in Vitro: Formation and Cytostatic Activity of Neochrome Stereoisomers. J Nutr. 2004 Sep;134(9):2237-43.

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