

Xanthotoxol Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Xanthotoxol

Catalog No.: CFN98016

Cas No.: 2009-24-7

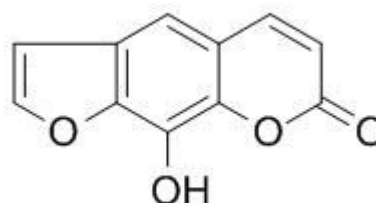
Purity: > 98%

M.F: C₁₁H₆O₄

M.W: 202.2

Physical Description: Powder

Synonyms: 9-Hydroxy-7H-furo[3,2-g][1]benzopyran-7-one;8-Hydroxypsoralen.



[Intended Use]

1. Reference standards;
2. Pharmacological research;
3. Food research;
4. Cosmetic research;
5. Synthetic precursor compounds;
6. Intermediates & Fine Chemicals;
7. Ingredient in supplements, beverages;
8. Others.

[Source]

The fruits of *Cnidium monnieri*.

[Biological Activity or Inhibitors]

Xanthotoxol, one of the major active ingredients in *Cnidium monnieri* (L.) Cusson, exerts protective effects in a rat model of focal cerebral ischemia/reperfusion injury by alleviating brain edema, inhibiting the neutrophil infiltration, and decreasing the expression of intercellular adhesion molecule-1 (ICAM-1) and E-selectin, the neuroprotection may be attributed to the ability of xanthotoxol to attenuate the expression of pro-inflammatory mediators and thereby inhibit the inflammatory response after cerebral ischemia.^[1]

Xanthotoxol has anti-oxidant activity, it can protect linoleic acid against autoxidation and inhibit Cu^{2+} /GSH-induced oxidation DNA, scavenge 2,2'-azinobis(3-ethylbenzothiazoline-6-sulfonate) cationic radical (ABTS^+) and 2,2'-diphenyl-1-picrylhydrazyl radical (DPPH), and protect DNA against 2,2'-azobis(2-amidinopropane hydrochloride) (AAPH)-induced oxidation.^[2]

Xanthotoxol has calcium antagonistic effects, it blocks not only the voltage dependent calcium channel, but also the receptor operated calcium channel in the isolated guinea pig atria.^[3]

Xanthotoxol has inhibitory effects on neutrophil infiltration and brain edema induced by focal cerebral ischemia-reperfusion injury in rats.^[4]

Xanthotoxol is a potent 5-HT antagonist.^[5]

Xanthotoxol has cytotoxic effects on TCTC cells in vitro.^[6]

[Solvent]

Chloroform, Dichloromethane, Ethyl Acetate, DMSO, Acetone, etc.

[HPLC Method]^[7]

Mobile phase: Acetonitrile- H₂O, gradient elution;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 300 nm.

[Storage]

2-8°C, Protected from air and light, refrigerate or freeze.

[References]

- [1] He W, Chen W, Zhou Y, *et al. Cell. Mol. Neurobiol.*, 2013, 33(5):715-22.
- [2] Xiao C, Song Z G, Liu Z Q. *Eur. J. Med. Chem.* 2010, 45(6):2559-66.
- [3] Liu J, Lian Q, Zhou L, *et al. Journal of Chinese Medicinal Materials*, 2005, 28(4):319-21.
- [4] Wei H E, Chen W W, Ye H Y, *et al. Chinese Pharmacological Bulletin*, 2009, 25(5).
- [5] Sethi O P, Naik K. *Indian J. Phys. Pharmacol.*, 1979, 23(2).
- [6] Gawron A, Kruk I. *Pol. J. Pharmacol.*, 1992, 44(1):51-7.
- [7] Mao Z, Meng X, Li Y, *et al. China Pharmacist*, 2011, 14(2):205-7.

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