Natural Products

ChemFaces

Osthol Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Osthol

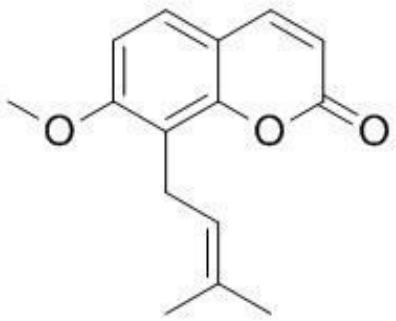
Catalog No.: CFN98765

Cas No.: 484-12-8

Purity: > 98%

M.F: $C_{15}H_{16}O_3$

M.W: 244.3



Physical Description: Cryst.

Synonyms:2H-1-Benzopyran-2-one,7-methoxy-8-(3-methyl-2-butenyl)-;7-Methoxy-8-isopentenylcoumarin;7-Methoxy-8-(3-methylbut-2-enyl)chromen-2-one.

[Intended Use]

1. Reference standards;
2. Pharmacological research;
3. Food research;
4. Cosmetic research;
5. Synthetic precursor compounds;
6. Care and daily chemicals;
7. Intermediates & Fine Chemicals;
8. Ingredient in supplements, beverages;
9. Aromatics;
10. Spice flavor;

11. Others.

[Source]

The fructus of *Cnidium monnieri (L.) Cusson.*

[Biological Activity or Inhibitors]

Osthol, one major component of cnidii monnieri fructus, has anti-allergic effect.[1]

Osthol can inhibit P-388 D1 cells in vivo and induce apoptosis in HeLa cells in vitro in a time- and concentration-dependent manner, and that osthol is good lead compound for developing antitumor drugs. [2]

Osthol induces a significant increase in acyl-CoA oxidase mRNA expression associated with an increase in carnitine palmitoyl transferase 1a mRNA expression, which suggests the acceleration of beta-oxidation of hepatic fatty acids, at least in part, for the reduction of hepatic triglyceride content in SHRSP; suggests that osthol could be useful for both prevention of atherosclerosis and suppression of hepatic lipid accumulation.[3]

Osthol can stimulate the osteoblastic differentiation of rat calvarial osteoblast cultures by the BMP-2/p38MAPK/Runx-2/osterix pathway and that osthol may be used as an important compound in the development of new antiosteoporosis drugs.[4]

Osthol inhibits fatty acid synthesis and release via PPARα/γ-mediated pathways in 3T3-L1 adipocytes, regulates hepatic PPARα-mediated lipogenic gene expression in alcoholic fatty liver murine.[5,6]

Osthol and curcumin are inhibitors of human Pgp and multidrug efflux pumps of Staphylococcus aureus , reversing the resistance against frontline antibacterial drugs.[7]

[Solvent]

Chloroform, Dichloromethane, DMSO, Acetone.

[HPLC Method][8]

Mobile phase: Acetonitrile-H2O =60:40;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 322 nm.

[Storage]

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

[References]

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[3] Ogawa H, Sasai N, Kamisako T, *et al. J. Ethnopharmacol., 2007, 112(1):26-31.*

[4] Ming L G, Zhou J, Cheng G Z, *et al. Pharmacology, 2011, 88(1-2):33-43.*

[5] Zhong W, Shen H, Zhou F, *et al. Phytochem. Lett., 2014, 8:22-7.*

[6] Sun F, Xie M L, Xue J, *et al. Phytomed. Int. J. Phytother. Phytopharmacol., 2010, 17(9):669-73.*

[7] Joshi P, Singh S, Wani A, *et al. Med. Chem. Co., 2014, 5(10):1540-7.*

[8] Li M, Qu X, Li Z. *China Pharmaceuticals,2006, 15(18):28-9.*

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