Natural Products

ChemFaces

Scopoletin Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Scopoletin

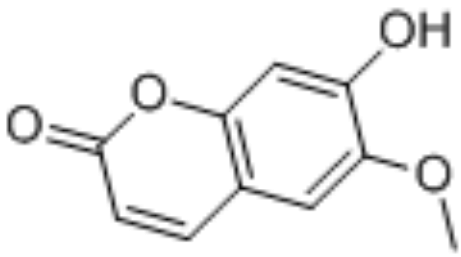
Catalog No.: CFN97494

Cas No.: 92-61-5

Purity: >=99%

M.F: $C_{10}H_8O_4$

M.W: 192.17



Physical Description: Powder

Synonyms: 6-Methoxyumbelliferone;7-Hydroxy-6-methoxycoumarin;

7-Hydroxy-6-methoxy-2H-1-benzopyran-2-one.

[Intended Use]

1. Reference standards;

2. Pharmacological research;

3. Synthetic precursor compounds;

4. Intermediates & Fine Chemicals;

5. Others.

[Source]

The herbs of *Atropa belladonna L.*

[Biological Activity or Inhibitors]

Scopoletin, isolated from seed kernels of Melia azedarach L., has antifungal effects.[1]

Scopoletin and its glucoside scopolin emerge as potential AChE inhibitors by the virtual screening procedure, they show moderate, but significant, dose-dependent and long-lasting inhibitory activities.[2]

Scopoletin has antidepressant-like effects. [3]

Scopoletin regulates hyperthyroidism and hyperglycemia, it also inhibits hepatic lipid peroxidation and increases the activity of antioxidants, superoxide dismutase and catalase, suggests that it has the potential to inhibit thyroid function and hyperglycemia without hepatotoxicity.[4]

Scopoletin has a potential regulatory effect on inflammatory reactions that are mediated by mast cells.[5]

Scopoletin is a phenolic coumarin and a member of the phytoalexins, it induces apoptosis in human promyeloleukemic cells, accompanied by activations of nuclear factor κ B and caspase-3.[6]

Scopoletin probably produces hypotension in laboratory animals through its smooths muscle relaxant activity - by which means it presumably dilates blood vessels and by acting as a non-specific spasmolytic agent (like papaverine).[7]

Scopoletin exhibits hypouricemic activities through decreasing uric acid production and as well as a uricosuric mechanism.[8]

Scopoletin is capable of ameliorating clinical symptoms of rat adjuvant-induced arthritis, by reducing numbers of new blood vessels in the synovium and the production of important endogenous angiogenic inducers, it may be a potential agent for angiogenesis-related diseases and could serve as a structural base for screening more potent synthetic analogs.[9]

[Solvent]

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

[HPLC Method][10]

Mobile phase: Methanol- 0.1% Formic acid H2O=30:70 ;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 366 nm.

[Storage]

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

[References]

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[4] Panda S, Kar A. *Phytother. Res., 2006, 20(12):1103-5.*

[5] Moon PD, Lee BH, Jeong HJ, *et al. Eur. J. Pharmacol., 2007, 555(2-3):218–25.*

[6] Kim E K, Kwon K B, Shin B C, *et al. Life Sci., 2005, 77(7):824-36.*

[7] Ojewole J A, Adesina S K. *Planta Med., 1983, 49(1):46-50.*

[8] Ding Z, Dai Y, Wang Z.*Planta Med., 2005, 71(2):183-5.*

[9] Pan R, Gao X H, Li Y, *et al. Fund. Clin. Pharmacol., 2010, 24(4):477–90.*

[10] Upadhyay V, Sharma N, Tiwari A K, *et al. International Journal of Pharmaceutical Sciences & Drug Research, 2013, 5(1):28-31.*

[Contact]

Address:
S5-3 Building, No. 111, Dongfeng Rd.,
Wuhan Economic and Technological Development Zone,
Wuhan, Hubei 430056,
China

Email: info@chemfaces.com
Tel: +86-27-84237783
Fax: +86-27-84254680
Web: www.chemfaces.com
Tech Support: service@chemfaces.com