Natural Products

ChemFaces

Rhapontigenin Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Rhapontigenin

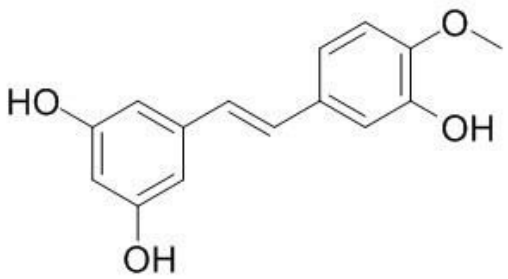
Catalog No.: CFN92607

Cas No.: 500-65-2

Purity: > 98%

M.F: $C_{15}H_{14}O_4$

M.W: 258.27



Physical Description: Cryst.

Synonyms: (E)-5-[2-(3-Hydroxy-4-methoxyphenyl)ethenyl]-1,3-benzenediol; (E)-4'-Methoxy-3,3',5-stilbenetriol;(E)-5-(3-Hydroxy-4-Methoxystyryl)benzene-1,3-diol.

[Intended Use]

1. Reference standards;
2. Pharmacological research;
3. Synthetic precursor compounds;
4. Intermediates & Fine Chemicals;
5. Others.

[Source]

The rhizomes of *Rheum undulatum.*

[Biological Activity or Inhibitors]

Rhapontigenin exhibits a potent and selective inhibition of human P450 1A1 with an ICvalue of 0.4 uM, it can inhibit ethoxyresorufin-deethylation (EROD) activity of expressed human P450 1A1 in a competitive manner; suggest that rhapontigenin is a potent mechanism-based inactivator of human P450 1A1 and may be considered as a good candidate for a cancer chemopreventive agent in humans.[1]

Rhapontigenin has antioxidant activity, it can scavenge intracellular reactive oxygen species (ROS), the 1,1-diphenyl-2-picrylhydrazyl (DPPH) radical, and hydrogen peroxide (H2O2); rhapontigenin can protect Chinese hamster lung fibroblast (V79-4) cells against oxidative damage by enhancing the cellular antioxidant activity and modulating cellular signal pathways.[2]

Rhapontigenin has antimicrobial activity, the combination of antibiotics with rhapontigenin is helpful to treat acne caused by antibiotic-resistant P. acnes, the antibacterial activity of rhapontigenin is enhanced by biotransformation. [3]

Rhapontigenin can inhibit hypoxia inducible factor 1 alpha accumulation and angiogenesis in hypoxic PC-3 prostate cancer cells.[4]

Rhapontigenin and rhapontin treatment can result in a significant dose-dependent decrease in the serum lipid level and can improve the pathological characteristics of the degenerating fatty liver in high-cholesterol diet-induced hyperlipidemic rats dose-dependently; indicates that rhapontin and rhapontigenin can be used as potent antihyperlipidemic agents.[5]

[Solvent]

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

[HPLC Method][6]

Mobile phase: Acetonitrile-0.1%Phosphoric acid H2O=30:70;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 324 nm.

[Storage]

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

[References]

[1] Chun Y J, Ryu S Y, Jeong T C, *et al. Drug Metab. Dispos., 2001, 29(29):389-93.*

[2] Piao M J. *J. Toxicol. Env. Heal. A, 2007, 70(13):1155-66.*

[3] Kim J K, Kim N, Lim Y H. *J. Microb. Biotech., 2010, 20(1):82-7.*

[4] Jung D B, Lee H J, Jeong S J, *et al. Biol. Pharm. Bull., 2011, 34(6):850-5.*

[5] Jo S P, Kim J K, Lim Y H. *Planta Med., 2014, 80(13):1067-71.*

[6] Roupe K A, Helms G L, Halls S C, *et al. J. Pharm. Pharm. Sci. 2005, 8(3):374-86.*

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