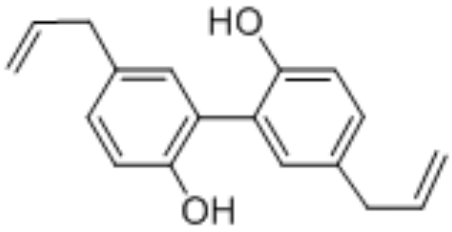
Natural Products

ChemFaces

Magnolol Datasheet

4th Edition (Revised in July, 2016)

[Product Information]



Name: Magnolol

Catalog No.: CFN98872

Cas No.: 528-43-8

Purity: >=98%

M.F: $C_{18}H_{18}O_2$

M.W: 266.33

Physical Description: Powder

Synonyms: 5,5'-Di(prop-2-en-1-yl)biphenyl-2,2'-diol; 5,5'-Diallyl-2,2'-biphenyldiol.

[Intended Use]

1. Reference standards;

2. Pharmacological research;

3. Synthetic precursor compounds;

4. Intermediates & Fine Chemicals;

5. Others.

[Source]

The *barks of Magnolia officinalis.*

[Biological Activity or Inhibitors]

Magnolol and honokiol are the main constituents simultaneously identified in the barks of

Magnolia officinalis, which have been used in traditional Chinese medicine to treat a variety of mental disorders including depression, the mixture of honokiol and magnolol possesses potent antidepressant-like properties in behaviors involved in normalization of biochemical abnormalities in brain 5-HT and 5-HIAA, serum corticosterone levels and platelet AC activity in the CMS rats.[1]

Honokiol and magnolol show strong antibacterial activities against both Propionibacterium acnes and Propionibacterium granulosum, which are acne-causing bacteria; they exhibit cytotoxic effects when triclosan was employed as an acne-mitigating agent; they reduce secretion of interleukin-8 and tumor necrosis factor α (TNF-α) induced by P. acnes in THP-1 cells indicating the anti-inflammatory effects of them; suggest the possibility that magnolol and honokiol may be considered as attractive acne-mitigating candidates for topical application.[2]

Magnolol and honokiol exhibit free radical scavenging activities as shown by the diphenyl-p-picrylhydrazyl assay, but they are less potent than α-tocopherol. [3]

Magnolol has been reported to have an inhibitory effect on tumor invasion in vitro and in vivo, treatment with 30 microM magnolol exhibited growth inhibition partly by inducing apoptosis in cultured human leukemia U937 cells and that the apoptosis was induced via the sequential ordering of molecular events.[4]

Magnolol suppresses NF-κB activation and NF-κB regulated gene expression through inhibition of IkappaB kinase activation, suggests that it or its derivatives may have potential anti-inflammatory actions through IKK inactivation.[5]

Magnolol has antioxidant activity, it protects rat brain from focal cerebral ischemia–reperfusion injury by inhibiting neutrophil infiltration and reactive oxygen species production.[6,7]

Magnolol has antimicrobial activity, including antifungal activity.[8,9]

Magnolol and honokiol have neuroprotective effects , the effects may be related to their anti-oxidative actions and antagonism of excitotoxicity induced by excitatory amino acids,suggests that they may be potential therapeutic agents for neurodegenerative diseases.[10]

[Solvent]

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

[HPLC Method][11]

Mobile phase: Acetonitrile- 0.05% Formic acid H2O =60:40 ;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 254 nm.

[Storage]

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

[References]

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