

Dihydroguaiaretic acid Datasheet

5th Edition (Revised in January, 2017)

[Product Information]

Name: Dihydroguaiaretic acid

Catalog No.: CFN97133

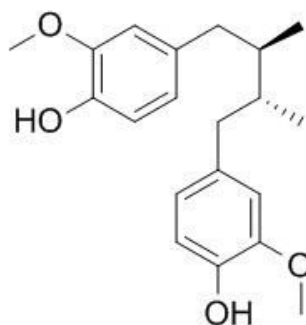
Cas No.: 66322-34-7

Purity: > 95%

M.F: C₂₀H₂₆O₄

M.W: 330.4

Physical Description: Powder



Synonyms: 4-[(2R,3S)-4-(4-Hydroxy-3-methoxyphenyl)-2,3-dimethylbutyl]-2-methoxyphenol; 4,5α-Epoxy-3,6-dimethoxy-17-methylmorphinan; meso-dihydroguaiaretic acid.

[Intended Use]

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

[Source]

The aerial parts of *Saururus chinensis*.

[Biological Activity or Inhibitors]

Meso-dihydroguaiaretic acid inhibits both COX-2 and 5-lipoxygenase, and it inhibits the degranulation reaction in bone marrow-derived mast cells (BMMC) ($IC_{50}=11.4\mu M$), therefore, meso-dihydroguaiaretic acid may provide a basis for novel anti-inflammatory drug development.^[1]

Meso-dihydroguaiaretic acid and licarin A protect against glutamate-induced toxicity in primary cultures of a rat cortical cells, via antioxidative activities.^[2]

Meso-dihydroguaiaretic acid inhibits activation of hepatic stellate cells (HSCs) and down-regulates TGF-beta1 gene expression through inhibition of AP-1.^[3]

Dihydroguaiaretic acid has larvicidal activity against *Culex pipiens*.^[4]

Meso-dihydroguaiaretic acid has the potential to attenuate nonalcoholic steatosis mediated by selective inhibition of liver X receptor (LXR) α in the liver in mice.^[5]

Meso-dihydroguaiaretic acid may inhibit proliferation of vascular smooth muscle cells (VSMCs) by suppressing autophosphorylation of platelet-derived growth factor (PDGF) $R\beta$, and may be useful in the treatment of VSMC-associated vascular disease such as atherosclerosis, restenosis, and neointimal hyperplasia after angioplasty.^[6]

[Solvent]

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

[HPLC Method]^[7]

Mobile phase: Acetonitrile-Triethyl phosphate=55:45;

Flow rate:1.0 ml/min;

Column temperature: 40°C;

The wave length of determination:237 nm.

[Storage]

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

[References]

- [1] Moon T C, Seo C S, Haa K, *et al. Arch. Pharm. Res.*,2008 May;31(5):606-10.
- [2] Ma C J, Kim S R, Kim J, *et al. Br. J. Pharmacol.*,2005 Nov;146(5):752-9.
- [3] Park E Y, Shin S M, Ma C J, *et al. Planta Med.*,2005 May;71(5):393-8.
- [4] Nishiwaki H, Hasebe A, Kawaguchi Y, *et al. Biosci. Biotechnol. Biochem.*,2011;75(9):1735-9.
- [5] Sim WC, Park S, Lee KY, *et al. Biochem.Pharmacol.*,2014 Aug 15;90(4):414-24.
- [6] Song M C, Kim E C, Kim W J, *et al. Eur. J. Pharmacol.*,2014 Dec 5;744:36-41.
- [7] Li F, Zhang F, Zhao J L, *et al. China Journal of Experimental Traditional Medical Formulae*,2010,16(13):59-61.

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