Natural Products

ChemFaces

Humulone Datasheet

5th Edition (Revised in January, 2017)

[Product Information]

Name: Humulone

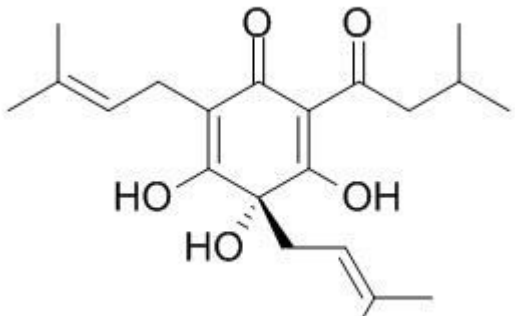
Catalog No.: CFN90541

Cas No.: 26472-41-3

Purity: > 98%

M.F: $C_{21}H_{30}O_5$

M.W: 362.45



Physical Description: Powder

Synonyms:(6S)-3,5,6-Trihydroxy-4,6-bis(3-methylbut-2-enyl)-2-(3-methyl-1-oxobutyl)-1-cyclohexa-2,4-dienone; α-Lupulinic acid ;α-Bitter acid; α-Lupulic acid.

[Intended Use]

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

[Source]

The herbs of *Humulus lupulus*.

[Biological Activity or Inhibitors]

Humulone is a potent inhibitor of bone resorption and inhibits the catalytic activity of cyclooxygenase-2 (COX-2) and more potently the transcription of the COX-2 gene; humulone can significantly prevent in vivo angiogenesis in chick embryo chorioallantoic membrane(CAM)s in a dose-dependent manner with an ED_{50} of 1.5 microg/CAM, it also can inhibit in vitro tube formation of vascular endothelial cells, thus, humulone is a potent angiogenic inhibitor, and may be a novel powerful tool for the therapy of various angiogenic diseases involving solid tumor growth and metastasis.[1]

Humulone can suppress 12-O-tetradecanoylphorbol-13-acetate (TPA)-induced activation of NF-kappaB and activator protein-1 (AP-1) and subsequent expression of COX-2 by blocking upstream kinases IKK and JNK, respectively, which may account for its antitumor-promoting effects on mouse skin carcinogenesis.[2]

Humulone has bactericidal activity against Bacillus subtilis 168, the effect is shown to result from primary membrane leakage. [3]

Humulone can suppress replication of respiratory syncytial virus and release of IL-8 and RANTES in normal human nasal epithelial cells, it has protective effects against the replication of respiratory syncytial virus (RSV), the virus assembly and the inflammatory responses in HNECs and that it is a useful biological product for the prevention and therapy for RSV infection.[4]

[Solvent]

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

[HPLC Method][5]

Mobile phase:(Acetonitrile/water/phosphoric acid=80:20:0.5)-(Acetonitrile/water/ phosphoric acid=60:40:0.5), gradient elution ;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 280 nm.

[Storage]

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

[References]

[1] Shimamura M, Hazato T, Ashino H, *et al. Biochem. Biophys. Res.Commun., 2001, 289 (1):220-4.*

[2] Lee J C, Kundu J K, Hwang D M, *et al. Carcinogenesis, 2007, 28(7):1491-8.*

[3] Teuber M, Schmalreck A F. *Arch. Microbiol., 1973, 94(2):159-71.*

[4] Fuchimoto J, Kojima T, Okabayashi T, *et al. Med. Mol.Morphol., 2013, 46(4):203-9.*

[5] Verzele M, Van d V N. *J. Inst. Brew., 2013, 93(3):190-2.*

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