Natural Products

ChemFaces

Hispidulin Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Hispidulin

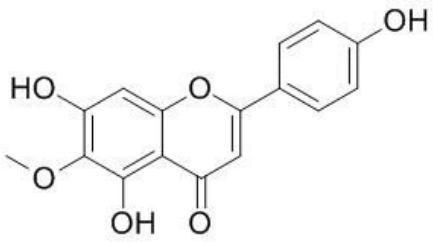
Catalog No.: CFN99491

Cas No.: 1447-88-7

Purity: >=98%

M.F: $C_{16}H_{12}O_6$

M.W: 300.3



Physical Description: Yellow powder

Synonyms:4',5,7-Trihydroxy-6-methoxyflavone;5,7-Dihydroxy-2-(4-hydroxyphenyl)-6-methoxy-4H-1-benzopyran-4-one;6-Methoxyapigenin;Methoxyapigenin.

[Intended Use]

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

[Source]

The herbs of *Ambrosia artemisiifolia Linn.*

[Biological Activity or Inhibitors]

Hispidulin, a benzodiazepine receptor ligand with positive allosteric properties, can traverse the blood–brain barrier and exhibit anticonvulsive effects.[1]

Hispidulin possesses anti-inflammatory and anti-oxidative activities, it can inhibit vascular endothelial growth factor (VEGF)-induced cell migration, invasion, and capillary-like structure formation of HUVECs in a dose-dependent manner, it can suppress VEGF-induced microvessel sprouting of rat aortic rings and corneal neovascularization in C57/BL6 mice; indicates that hispidulin targets the VEGF receptor 2-mediated PI3K/Akt/mTOR signaling pathway in endothelial cells, leading to the suppression of pancreatic tumor growth and angiogenesis.[2]

Hispidulin can potently inhibit human glioblastoma multiforme(GBM) cells through activation of AMP-activated protein kinase (AMPK), demonstrates that hispidulin has the potential to be a chemopreventive and therapeutic agent against human GBM. [3]

Hispidulin has protection on bromobenzene-induced hepatotoxicity in mice, it has inhibition of liver injury and lipid peroxidation, the hepatoprotective effects can be related to the antioxidant properties of hispidulin.[4]

Hispidulin has antimutagenicity toward 2-aminoanthracene, aflatoxin B1 (in TA98), and dimethylnitrosamine (in TA100).[5]

Hispidulin can inhibit platelet aggregation by elevating cAMP levels by a mechanism different from that of theophylline or PGE1.[6]

Hispidulin can attenuate osteoclastogenesis and bone resorption, it could as a potent inhibitor of osteoclastogenesis and bone resorption and provides evidence for its therapeutic potential to treat diseases involving abnormal bone lysis.[7]

Hispidulin exerts anti-osteoporotic and bone resorption attenuating effects via activating the AMPK signaling pathway in ovariectomized mice.[8]

Hispidulin can ameliorate high glucose-mediated endothelial dysfunction via inhibiting PKCβII-associated NLRP3 inflammasome activation and NF-κB signaling, indicates the beneficial effects of hispidulin on the improvement of endothelial dysfunction and explains its potential application in the prevention and treatment of diabetic vascular complications.[9]

Hispidulin can induce mitochondrial apoptosis in acute myeloid leukemia cells by targeting

extracellular matrix metalloproteinase inducer.[10]

[Solvent]

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

[HPLC Method][11]

Mobile phase: Methanol -H2O,gradient elution ;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 339 nm.

[Storage]

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

[References]

[1] Kavvadias D, Sand P, Youdim K A, *et al. Brit. J. Pharmacol., 2004, 142(5):811-20.*

[2] He L, Wu Y, Lin L, *et al. Cancer Sci., 2011, 102(1):219-25.*

[3] Lin Y C, Hung C M, Tsai J C, *et al. J.Agr. Food Chem., 2010, 58(17):9511-7.*

[4] Ferrándiz M L, Bustos G, Payá M, *et al. Life Sci., 1994, 55(8):145-50.*

[5] Chulasiri M, Bunyapraphatsara N, Moongkarndi P. *Environ. Mol. Mutagen.,1992, 20(4):307-12.*

[6] Bourdillat B, Delautier D, Labat C, *et al. Eur. J.Pharmacol. 1988, 147(1):1-6.*

[7] Nepal M, Choi H J, Choi B Y*, et al. Eur. J.Pharmacol., 2013, 715(1-3):96-104.*

[8] Zhou R, Wang Z, Ma C. *Cell Biochem. Biophys., 2014, 69(2):311-7.*

[9] Qin W, Xi J, He B, *et al. J. Funct. Foods, 2016, 27:392-405.*

[10] Gao H, Liu Y, Li K, *et al. Am. J.Transl. Res., 2016, 8(2):1115-32.*

[11] Oliveira B H D, Nakashima T, Souza Filho J D D, *et al. J.Braz.Chem.Soc, 2001, 72(2):243-6.*

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