Natural Products

ChemFaces

Phellopterin Datasheet

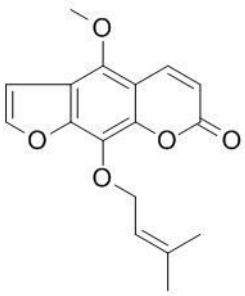
4th Edition (Revised in July, 2016)

[Product Information]

Name: Phellopterin

Catalog No.: CFN90495

Cas No.: 2543-94-4



Purity: >=98%

M.F: $C_{17}H_{16}O_5$

M.W: 300.31

Physical Description: Powder

Synonyms:4-Methoxy-9-(3-methyl-2-butenyloxy)-7H-furo[3,2-g][1]benzopyran-7-one;(5-Methoxy-8)-gama,gama-dimethylallyloxy(2',3',6,7-furanocoumarin);4-Methoxy-9-prenyloxypsoralen.

[Intended Use]

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

[Source]

The roots of *Saposhnikovia divaricata.*

[Biological Activity or Inhibitors]

Phellopterin, a naturally occurring furanocoumarin found in the roots of Angelica dahurica, can inhibit [3H]diazepam and ethyl8-fluoro-5,6-dihydro-5-methyl-6-oxo-4H-Imidazo [1,5-a][1,4] benzodiazepine-3-carboxylate([3H]Ro 15-1788) binding to the benzodiazepine site of the rat brain gamma-aminobutyric acidA (GABAA) receptor in vitro, it has showed that the inhibitory activity of phellopterin was due to competitive inhibition of the benzodiazepine ligand binding, suggests that phellopterin is a partial agonist of the central benzodiazepine receptors in vitro.[1]

Phellopterin from P. trifoliata (Rutaceae) can reduce TNF-α-induced VCAM-1 expression through regulation of the Akt and PKC pathway, which contributes to inhibit the adhesion of monocytes to endothelium. [2]

Phellopterin can inhibit Ca^{2+} influx induced by stimulation of voltage-gated and receptor-dependent calcium channels with a greater inhibition of receptor-dependent calcium channels, it also can inhibit Ca^{2+} release from caffeine-ryanodine and InsP 3 -sensitive internal stores, being more potent for caffeine stimulation; suggests that phellopterin may be a promising candidate for the development of new classes of calcium antagonists.[3]

Phellopterin has cytotoxic activities against HeLa and monkey Vero cells, is non-toxic to normal cells, indicating their high potential to be used as anticancer drug. [4]

[Solvent]

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

[HPLC Method][5]

Mobile phase: Acetonitrile- H2O, gradient elution ;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 314 nm.

[Storage]

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

[References]

[1] Dekermendjian K, Ai J, Nielsen M, *et al. Neurosci. Lett., 1996, 219(3):151-4.*

[2] Nizamutdinova I T, Jeong J J, Xu G H, *et al. Int. Immunopharmacol., 2008, 8(5):670-8.*

[3] Li H T, He L, Qiu J B. *Drug Develop. Res., 2007, 68(2):79–83.*

[4] Tatsimo S J N, Tamokou J D D, Lamshöft M, *et al. Med. Chem. Res., 2014, 23(9): 3929-4300.*

[5] Bu D, Yao X, Zheng Z T, *et al. Natural Product Research & Development, 2014(10): 1638-43.*

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