Natural Products

ChemFaces

Vitexin Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Vitexin

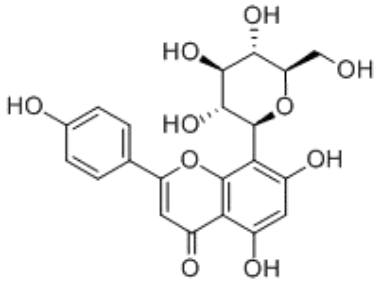
Catalog No.: CFN98601

Cas No.: 3681-93-49

Purity: >=98%

M.F: $C_{21}H_{20}O_{10}$

M.W: 432.38



Physical Description: Yellow powder

Synonyms:

5,7-Dihydroxy-8-beta-D-glucopyranosyl-2-(4-hydroxyphenyl)-4H-1-benzopyran-4-one; 5,7-Dihydroxy-2-(4-hydroxyphenyl)-8-[(2S,3R,4R,5S,6R)-3,4,5-trihydroxy-6-(hydroxymethyl)oxan-2-yl]chromen-4-one.

[Intended Use]

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

[Source]

The seeds of *Vitex trifolia L.*

[Biological Activity or Inhibitors]

Vitexin is a class of nature lignan compounds, whose action and anticancer effect is mediated by the mechanisms different from the classic lignans, vitexin-induced antitumor effect and cytotoxic activity is exerted through proapoptotic process, which is mediated by a decreased Bcl-2/Bax ratio and activation of caspases.[1]

Mung bean extract and its constituents vitexin and isovitexin have inhibitory effect on the formation of advanced glycation endproducts, the anti-glycation activities may mainly be due to their free radical scavenging capacity.[2]

Vitexin can be effectively used for the prevention of UV-induced adverse skin reactions such as free radical production and skin cell damage. [3]

Vitexin has spasmolytic effects, because it non-competitively inhibits Ach but not the Ca(2+) influx.[4]

Vitexin, an HIF-1alpha inhibitor, it has anti-metastatic potential in PC12 cells.[5]

Vitexin has anti-inflammatory and antinociceptive activities, it can inhibit inflammatory pain in mice by targeting TRPV1, oxidative stress, and cytokines.[6]

Vitexin exhibits significant protective effect against myocardial I/R injury in isolated rat heart, which is related to inhibition of the release of inflammatory cytokines and the apoptosis of cardiac muscle cell via up-regulating protein expression of Bcl-2 as well as down-regulating Bax and NF-κBp65.[7]

Vitexin has anticonvulsant effects in the brain, possibly through interaction at the benzodiazepine site of the γ-aminobutyric acid type A receptor complex. [8]

Vitexin has anti-depressant effects, the mechanism is mediated through an increase in catecholamine levels in the synaptic cleft as well as through interactions with the serotonergic 5-HT1A , noradrenergic α 2 , and dopaminergic D1 , D2 , and D3 receptors.[9]

[Solvent]

Pyridine, Methanol, Ethanol, etc.

[HPLC Method][10]

Mobile phase: THF-CH3CN-H20-H3P04=30:5:125:0.1;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 270 nm.

[Storage]

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

[References]

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[3] Kim J H, Lee B C, Kim J H, *et al. Arch. Pharm. Res., 2005, 28(2):195-202.*

[4] Ragone M I, Sella M, Conforti P, *et al. J. Ethnopharmacol., 2007, 113(2):258-66.*

[5] Choi H J, Eun J S, Kim B G, *et al. Mol. Cells, 2006, 22(3):291-9.*

[6] .Borghi S M, Carvalho T T, Staurengo-Ferrari L, *et al. J. Nat. Prod., 2013, 76(6):1141-9.*

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[8] Abbasi E, Nassiri-Asl M, Shafeei M, *et al. Chem. Biol. Drug Des., 2012, 80(2):274-8.*

[9] Özgür Devrim Can, Ümide Demir Özkay, Üçel U İ. *Eur. J. Pharmacol., 2013, 699(1–3):250-7.*

[10] Chen J, Song S J, Song N. *Journal of Chinese Pharmaceutical Sciences, 2006, 15(1):51-4.*

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