Natural Products

ChemFaces

Amentoflavone Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Amentoflavone

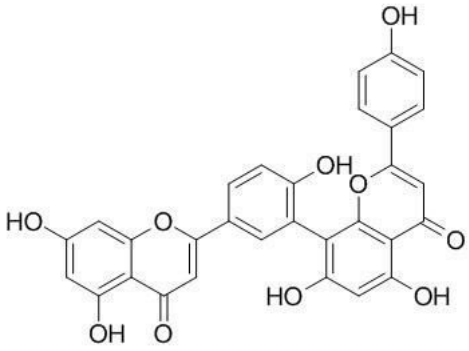
Catalog No.: CFN99526

Cas No.: 1617-53-4

Purity: > 98%

M.F: $C_{30}H_{18}O_{10}$

M.W: 538.46



Physical Description: Cryst.

Synonyms:8-[5-(5,7-dihydroxy-4-oxo-1-benzopyran-2-yl)-2-hydroxyphenyl]-5,7-dihydroxy-2-(4-hydroxyphenyl)-1-benzopyran-4-one.

[Intended Use]

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

[Source]

The seed of *Ginkgo biloba L.*

[Biological Activity or Inhibitors]

Amentoflavone, a biflavonoid with antiinflammatory activity, inhibits NF-κB/DNA binding activity potently along with inhibition of degradation of IκBα and NF-κB translocation into nucleus in TNFα-activated A549 cells.[1]

Amentoflavone has the inhibition of LPS-induced NO formation, is due to its inhibition of NF-kappaB by blocking degradation, which may be the mechanistic basis of the anti-inflammatory effects of amentoflavone.[2]

Amentoflavone has been shown to inhibit tumor metastasis in vivo, amentoflavone treatment reduces experimental tumor metastasis and suggest that such an action is associated with attenuation of tumor invasion, proliferation and angiogenesis.[3]

Amentoflavone has been shown to inhibit tumor metastasis in vivo, inhibits experimental tumor metastasis through a regulatory mechanism involving MMP-2, MMP-9, prolyl hydroxylase, lysyl oxidase, VEGF, ERK-1, ERK-2, STAT-1, NM23 and cytokines in lung tissues of C57BL/6 mice.[4]

Amentoflavone and its derivatives as novel natural inhibitors of human Cathepsin B(CatB), CatB is a member of the papain superfamily of cysteine proteases and has been implicated in the pathology of numerous diseases, including arthritis and cancer. [5]

Amentoflavone induces breast cancer apoptosis through blockade of fatty acid synthesis.[6]

Amentoflavone exhibits potent antifungal activity against several pathogenic fungal strains but has a very low hemolytic effect on human erythrocytes, it induces the accumulation of intracellular trehalose on C. albicans as a stress response to the drug, and disrupts the dimorphic transition that forms pseudo-hyphae during pathogenesis, it has great potential to be a lead compound for the development of antifungal agents.[7]

[Solvent]

Chloroform, Dichloromethane, DMSO, Acetone, etc.

[HPLC Method][8]

Mobile phase: Methanol- Phosphate buffer,gradient elution ;

Flow rate: 1.0 ml/min;

Column temperature: 40 ℃;

The wave length of determination: 330 nm.

[Storage]

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

[References]

[1] Banerjee T, Valacchi G, Ziboh V A, *et al. Mol. Cell Biochem., 2002, 238(1-2):105-10.*

[2] Woo E R, Lee J Y, Cho I J, *et al. Pharmacol. Res., 2005, 51(6):539-46*.

[3] Guruvayoorappan C, Kuttan G. *Biochemistry, 2008, 73(2):209-18.*

[4] Guruvayoorappan C, Kuttan G. *Immunopharm. Immunot., 2008, 30(4):711-27.*

[5] Pan X, Tan N, Zeng G, *et al. Bioorg. Med. Chem., 2005, 13(20):5819-25.*

[6] Lee J, Lee M, Oh W, *et al. Biol. Pharm. Bull., 2009, 32(8):1427-32.*

[7] Jung H J, Sung W S, Yeo S H, *et al. Arch. Pharm. Res., 2006, 29(9):746-51.*

[8] Sun D M, Luo W H, Li Z Y. *Journal of Chinese Medicinal Materials, 2006, 29(29):26-8.*

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