Natural Products

ChemFaces

Imperatorin Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Imperatorin

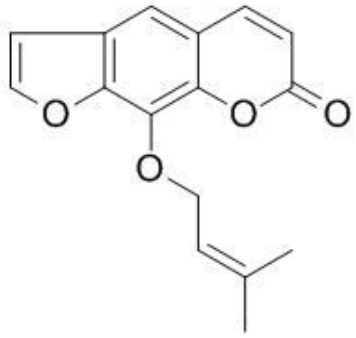
Catalog No.: CFN98758

Cas No.: 482-44-0

Purity: > 98%

M.F: $C_{16}H_{14}O_4$

M.W: 270.3



Physical Description: Cryst.

Synonyms:8-Isoamylen;8-Isopentenyloxypsoralene;Enoxypsoralen;Pentosalen;9-[(3-Methyl-2-butenyl)-oxy]-7H-furo[3,2-γ],[1][benzopyran-7-one;8-Isopent-2-enyloxy-6,7-furanocoumarin.

[Intended Use]

1. Reference standards;
2. Pharmacological research;
3. Food research;
4. Cosmetic research;
5. Synthetic precursor compounds;
6. Care and daily chemicals;
7. Intermediates & Fine Chemicals;
8. Ingredient in supplements;
9. Others.

[Source]

The root of *Angelica dahurica Benth. et Hook..*

[Biological Activity or Inhibitors]

Imperatorin, a biologically active furanocoumarin from the roots of Angelica dahurica (Umbelliferae), can induce apoptosis in human promyelocytic leukaemia, HL-60 cells, and induces apoptosis was significantly blocked by Z-VAD-FMK (a broad spectrum caspase inhibitor), Z-LEHD-FMK (a caspase-9 inhibitor) and Ac-DMQD-CHO (a caspase-3 inhibitor), but not by Z-IEDT-FMK (a caspase-8 inhibitor).[1]

Imperatorin and quercetin are potent apoptosis inducers, especially when they act synergistically, which may be a promising combination useful in glioma therapy, it also blocks the HSP27 and HSP72 gene expression might serve as a therapeutic target for the human brain cancer.[2]

Imperatorin has been used in herbal formulations for the treatment of hypertension and cardiovascular diseases, it exerts considerable anti proliferative activities in HT-29 colon cancer cells and highlight the potential of imperatorin as an anticancer agent for colon cancer.[3]

Imperatorin exerts anti-inflammatory activity, also has effects on inhibition of degranulation and eicosanoid generation through the suppression of multiple steps of IgE/Ag-mediated signaling pathways would be beneficial for the prevention of allergic inflammation.[4]

Imperatorin has anticonvulsant effects, dampens neuronal excitability by inhibiting voltage-gated Na^+ channels (VGSC).[5]

[Solvent]

Chloroform, Dichloromethane, DMSO, Acetone.

[HPLC Method][6]

Mobile phase: Methanol-H2O= 65:35;

Flow rate: 1.0 ml/min;

Column temperature: 20 ℃;

The wave length of determination: 254 nm.

[Storage]

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

[References]

[1] Pae H O, Oh H, Yun Y G, *et al. Pharm. Toxicol., 2002, 91(1):40-8.*

[2] Wu K C, Chen Y H, Cheng K S, *et al. Eur. J. Pharmacol., 2013, 721(1-3):49-55.*

[3] Zheng Y M, Lu A X, Shen J Z, *et al. Oncol. Rep., 2016.*

[4] D Bądziul, Jakubowicz-Gil J, Langner E, *et al. Pharmacol. Rep. , 2014, 66(2):292-300.*

[5] Jeong K T, Lee E, Park N Y, *et al. Biomol. Ther., 2015, 23(5):421-7.*

[6] Xue J, Ping W, Yang W, et al. *Chemistry & Industry of Forest Products, 2008, 28(3): 101-3.*

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