Natural Products

ChemFaces

Kurarinone Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Kurarinone

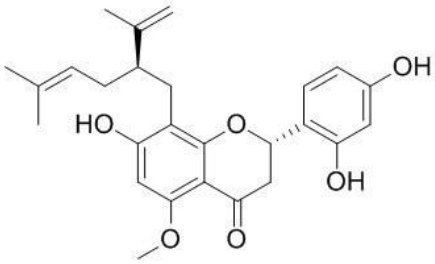
Catalog No.: CFN92003

Cas No.: 34981-26-5

Purity: > 95%

M.F: $C_{26}H_{30}O_6$

M.W: 438.49



Physical Description: Powder

Synonyms:2-(2,4-dihydroxyphenyl)-5,7-dihydroxy-8-(2-isopropenyl-5-methylhex-4-en-1-yl)-2,3-dihydro-4H-chromen-4-one;4H-1-Benzopyran-4-one,2-(2,4-dihydroxyphenyl)-2,3-dihydro-7-hydroxy-5-methoxy-8-[(2R)-5-methyl-2-(1-methylethenyl)-4-hexen-1-yl]-,(2S)-.

[Intended Use]

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

[Source]

The roots of *Sophora flavescens Ait.*

[Biological Activity or Inhibitors]

Kurarinone shows weak estrogenic activity both in the yeast screen and in the Ishikawa Var-I assay with EC(50) values of 4.6 and 1.66 microM, respectively; kurarinone also has potent cytotoxic activity (IC(50) value = 22.2 microM) against human MCF-7/6 breast cancer cells.[1]

Kurarinone exhibits strong inhibitory effect on immune responses, it suppresses the differentiation of $CD4^{(+)}$ T cells by inhibiting the expression and production of T-cell lineage-specific master regulators and cytokines, it directly suppresses the cytokine-induced Janus kinase/signal transducer and activator of transcription (JAK/STAT) signaling and T-cell receptor (TCR) pathways;kurarinone can repress disease development by inhibiting the expression of pro-inflammatory mediators, including cytokines, chemokines and enzyme in murine ear skin; suggest that kurarinone may ameliorate chronic inflammatory skin diseases through the suppression of pathogenic $CD4^{(+)}$ T-cell differentiation and the overall immune response.[2]

Kurarinone sensitizes TNF-related apoptosis inducing ligand (TRAIL)-induced tumor cell apoptosis via suppression of NF-κB-dependent cFLIP expression, indicating that this compound can be used as an anti-tumor agent in combination with TRAIL. [3]

Kurarinone combined with interferon a-lb (IFNalpha-1b) shows better effect in treating chronic hepatitis B than that of using either of the two alone.[4]

Kurarinone can down-regulate the expression of transforming growth factor beta1 (TGF-beta1) and collagen I (Col I), inhibit epithelial cell-mesenchyma (ECM) trans-differentiation, suppress the activation and proliferation of myofibroblast; the probable pathway may be by way of down-regulating Smad3 expression to interfere its induction on intercellular signal transduction and consequently ameliorate renal interstitial fibrosis.[5]

[Solvent]

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

[HPLC Method][6]

Mobile phase: Acetonitrile-H2O,gradient elution ;

Flow rate: 1.0 ml/min;

Column temperature: Room Temperature;

The wave length of determination: 254 nm.

[Storage]

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

[References]

[1] De Naeyer A., Vanden B. W., Victoria P , *et al. J. Nat.Prod., 2004, 67(11):1829-32.*

[2] Kim B H, Na K M, Oh I, *et al. Biochem. Pharmacol., 2013, 85(8):1134-44.*

[3] OkWon Seo, Jung Hwan Kim, KwangSoon Lee, *et al. Exp. Mol. Med., 2012, 44(11): 653-64.*

[4] Pan Z S, Yu Q H, Yan H, *et al. Chinese Journal of Integrated Traditional and Western Medicine, 2005, 25(8):700-3.*

[5] Gao H Y, He X F, Shao J F. *Chinese Journal of Integrated Traditional and Western Medicine, 2007, 27(6):535-9.*

[6] Min B S, Choi J S, Na M K, *et al. Nat. Prod. Sci., 2007, 13(3):255-7.*

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