Natural Products

ChemFaces

Icaritin Datasheet

4th Edition (Revised in July, 2016)

[Product Information]

Name: Icaritin

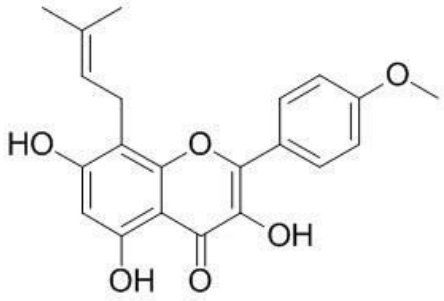
Catalog No.: CFN98527

Cas No.: 118525-40-9

Purity: >=98%

M.F: $C_{21}H_{20}O_6$

M.W: 368.38



Physical Description: Yellow powder

Synonyms:3,5,7-Trihydroxy-2-(4-methoxyphenyl)-8-(3-methyl-2-buten-1-yl)-4H-1-benzo pyran-4-one;3,7-bis(2-hydroxyethyl)icaritin.

[Intended Use]

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

[Source]

The roots of *Epimedium brevicornu Maxim.*

[Biological Activity or Inhibitors]

Icariin, a principal flavonoid glycoside in Herba Epimedii , it can enhance the differentiation and proliferation of osteoblasts, and facilitate matrix calcification; meanwhile it inhibits osteoclastic differentiation in both osteoblast–preosteoclast coculture and osteoclast progenitor cell culture, and reduces the motility and bone resorption activity of isolated osteoclasts.[1]

Icaritin and desmethylicaritin are novel phytoestrogens and that the estrogenic effects of icaritin and desmethylicaritin are mediated by the estrogen receptor, they have proliferation-stimulating effects in MCF-7 cells.[2]

Icariin has promoting effect on cardiac differentiation, which is related to increasing and accelerating gene expression of α-cardiac MHC and MLC-2v, as well as regulating the cell cycles and inducing apoptosis. [3]

Icaritin has osteoprotective potential, exerts dose-dependent effect on reducing incidence of steroid-associated ON with inhibition of both intravascular thrombosis and extravascular lipid-deposition; suppression of the up-regulated PPARgamma expression for extravascular adipogenesis of mesenchymal stem cells and protection from activated oxidative stress for intravascular endothelium injury are found to be involved in the underlying mechanisms.[4]

Icaritin has a novel anticancer efficacy, which mediated selectively via induction of cell cycle arrest but not associated with estrogen receptors in PC-3 cells.[5]

Icaritin has neuroprotective effect against the toxicity induced with Aβ 25-35 in primary cultured rat cortical neuronal cells, mitogen-activated protein kinase/extracellular signal-regulated kinase pathway may be involved in and partly contributed to the neuroprotective effects of icaritin.[6]

Icaritin shows potent anti-leukemia activity on chronic myeloid leukemia in vitro and in vivo by regulating MAPK/ERK/JNK and JAK2/STAT3 /AKT signalings.[7]

[Solvent]

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

[HPLC Method][8]

Mobile phase: Methanol -H2O=82:18 ;

Flow rate: 1.0 ml/min;

Column temperature: 30 ℃;

The wave length of determination: 270 nm.

[Storage]

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

[References]

[1] Huang J, Yuan L, Wang X, *et al. Life Sci., 2007, 81(10):832-40.*

[2] Wang Z Q, Lou Y J. *Eur.J.Pharmacol., 2004, 504(3):147-53.*

[3] Zhu D Y, Lou Y J. *Acta Pharmacol. Sin. ,2005,26(4):477-85.*

[4] Zhang G, Qin L, Sheng H, *et al. Bone, 2009, 44(2):345-56.*

[5] Huang X, Zhu D, Lou Y. *Eur. J. Pharmacol., 2007, 564(1-3):26-36.*

[6] Wang Z, Zhang X, Wang H, *et al. Neuroscience, 2007, 145(3):911-22.*

[7] Zhu J F, Li Z J, Zhang G S, *et al. Plos One, 2011, 6(8):e23720-e23720.*

[8] Jia D S, Jia X B, Shi F, *et al. Journal of Chinese Pharmaceutical Sciences, 2010, 45(5):353-8.*

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