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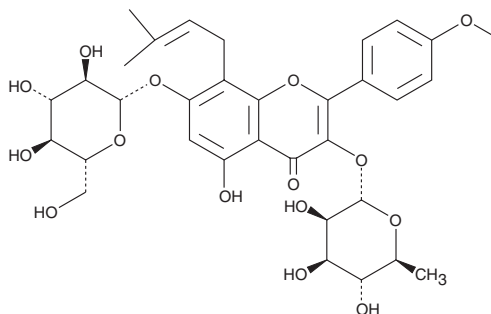
Product Information



Icariin

Catalog No. 13624

CAS Registry No.: 489-32-7
Formal Name: 3-[(6-deoxy- α -L-mannopyranosyl)oxy]-7-(β -D-glucopyranosyloxy)-5-hydroxy-2-(4-methoxyphenyl)-8-(3-methyl-2-buten-1-yl)-4H-1-benzopyran-4-one
MF: C₃₃H₄₀O₁₅
FW: 676.6
Purity: \geq 97%
Stability: \geq 2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that icariin be stored as supplied at -20°C. It should be stable for at least two years.

Icariin is supplied as a crystalline solid. A stock solution may be made by dissolving the icariin in the solvent of choice. Icariin is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of icariin in these solvents is approximately 20 mg/ml.

Icariin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, icariin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Icariin has a solubility of approximately 0.1 mg/ml in a 1:10 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

The cyclic nucleotide second messenger guanosine 3'5'-cyclic monophosphate (cGMP) is an important mediator of signal transduction and hence a wide range of cellular processes. It is generated by soluble- and particulate-type guanylyl cyclase and degraded *via* members of the phosphodiesterase (PDE) protein family. Icariin, the active component of the Chinese medicinal plant *E. brevicornum*, is an inhibitor of human recombinant PDE5 with an IC₅₀ value of 5.9 μ M.¹ It is a prenylated flavonol that has been used to treat erectile dysfunction and has been shown to have anti-cancer and antioxidant activity.² At a concentration of 1 x 10⁻⁷ mol/L, icariin induces differentiation of cardiomyocytes and upregulates the expression of cardiac genes.³ At 20 μ g/ml, icariin increases the proliferation and differentiation of cultured human osteoblasts, which appears to be mediated in part by upregulating bone morphogenetic protein 2 mRNA.⁴

References

1. Dell'Agli, M., Galli, G.V., Dal Cero, E., *et al.* Potent inhibition of human phosphodiesterase-5 by icariin derivatives. *J. Nat. Prod.* **71(9)**, 1513-1517 (2008).
2. Chen, Y., Zhao, Y.H., Jia, X.B., *et al.* Intestinal absorption mechanisms of prenylated flavonoids present in the heat-processed epimedium koreanum Nakai (Yin Yanghuo). *Pharm Res* **25(9)**, 2190-2199 (2008).
3. Ding, L., Liang, X., Zhu, D., *et al.* Icariin promotes expression of PGC-1 α , PPAR α , and NRF-1 during cardiomyocyte differentiation of murine embryonic stem cells *in vitro*. *Acta Pharmacol Sin* **28(10)**, 1541-1549 (2007).
4. Yin, X., Chen, Z., Liu, Z., *et al.* Icariin stimulates proliferation and differentiation of human osteoblasts by increasing production of bone morphogenetic protein 2. *Chin Med J* **120(3)**, 204-210 (2007).

Related Products

Zaprinast - Cat. No. 10010421 • Sildenafil-d₉ Citrate - Cat. No. 10010586

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