

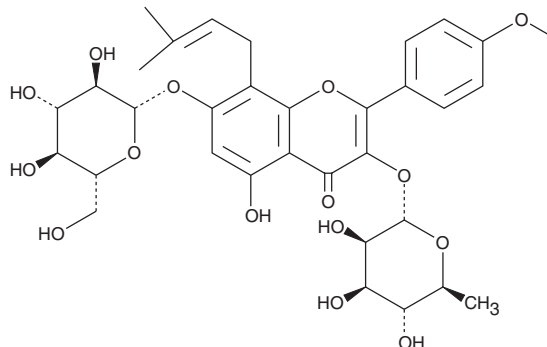
PRODUCT INFORMATION



Icariin

Item 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
Synonym: Icariline
MF: $C_{33}H_{40}O_{15}$
FW: 676.7
Purity: $\geq 97\%$
UV/Vis.: λ_{max} : 271 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥ 4 years
Item Origin: Plant/*Epimedium brevicornum* Maxim



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

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

Description

Icariin is a prenylated flavonoid that has been found in *E. pubescens* and has diverse biological activities.¹⁻⁴ It induces the differentiation of ES-D3 embryonic stem cells into cardiomyocytes when used at concentrations of 10 and 100 μM .¹ Icariin (10 μM) increases the mRNA expression of RUNX family transcription factor 2 (*Runx2*), osteocalcin (*Bgp*), and bone sialoprotein (*Bsp*), gene markers of osteogenesis, in MC3T3-E1 preosteoblast cells.² It reduces IL-6 and TNF- α protein levels induced by LPS in HeLa and RAW 264.7 cells when used at a concentration of 30 μM .³ Icariin (0.1 μM) prevents decreases in the levels of the neural integrity markers neurofilament heavy polypeptide (NF-H) and microtubule-associated protein 2 (MAP-2) induced by amyloid- β (1-42) (A β 42) in primary E18 rat cortical neurons, and it improves spatial memory impairments in the Morris water maze in a 5XFAD transgenic mouse model of Alzheimer's disease when administered at a dose of 34 mg/kg for eight days.⁵

References

1. Zhu, D., Qu, L., Zhang, X., *et al.* Icariin-mediated modulation of cell cycle and p53 during cardiomyocyte differentiation in embryonic stem cells. *Eur. J. Pharmacol.* **514**(2-3), 99-110 (2005).
2. Zhao, J., Ohba, S., Shinkai, M., *et al.* Icariin induces osteogenic differentiation *in vitro* in a BMP- and Runx2-dependent manner. *Biochem. Biophys. Res. Commun.* **369**(2), 444-448 (2008).
3. Sun, X., Deng, X., Cai, W., *et al.* Icariin inhibits LPS-induced cell inflammatory response by promoting GR α nuclear translocation and upregulating GR α expression. *Life Sci.* **195**, 33-43 (2018).
4. Urano, T. and Tohda, C. Icariin improves memory impairment in Alzheimer's disease model mice (5xFAD) and attenuates amyloid β -induced neurite atrophy. *Phytother. Res.* **24**(11), 1658-1663 (2010).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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