Product Information

Icariin
Catalog No. 13624

CAS Registry No.: 489-32-7
Formal Name: 3-[(6-deoxy-α-L-mannopyranosyl)oxy]-7-[(β-D-glucopyranosyl)oxy]-2-(4-methoxyphenyl)-8-(3-methyl-2-buten-1-yl)-4H-1-benzopyran-4-one

Molecular Formula: C_{33}H_{40}O_{15}
Molecular Weight: 676.6
Purity: ≥97%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid

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 IC_{50} value of 5.9 µM. It is a prenylated flavonol that has been used to treat erectile dysfunction and has been shown to have anti-cancer and antioxidant activity. At a concentration of 1 x 10^{-7} mol/L, icariin induces differentiation of cardiomyocytes and upregulates the expression of cardiac genes. At 20 µg/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.

References

Related Products
Zaprinast - Cat. No. 10010421 • Sildenafil-d Citrate - Cat. No. 10010586

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA
This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Cayman Chemical Company makes no warranty or guarantee of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals here. Cayman warrants only to the original customer that the material will meet our specifications at the time of delivery.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any obligation or liability, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees. Buyer’s exclusive remedy and Cayman’s sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman’s option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

Fax replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our Warranty and Limitation of Remedy located on our website and in our catalog.