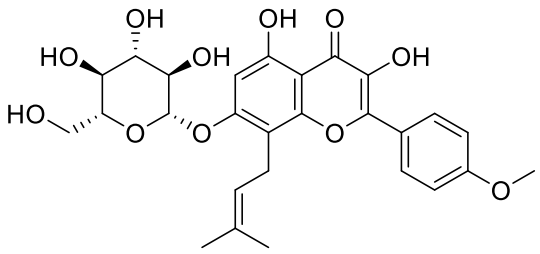
Product data sheet

MedKoo Cat#: 463979 Name: Icariside I CAS: 56725-99-6 Chemical Formula: $C_{27}H_{30}O_{11}$ Exact Mass: 530.1788 Molecular Weight: 530.526	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
Icariside I is a flavonoid glycoside and an active metabolite of icariin that has been found in Epimedium and has osteogenic and anticancer activities. It is formed from icariin in rats by intestinal microbiota. It stimulates the proliferation and differentiation of isolated rat osteoblasts in a concentration-dependent manner. Icariside I increases the cytotoxicity of adriamycin in multidrug-resistant MCF-7/adr breast cancer cells with an IC50 value of 60.78 μM.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMF	1.0	1.88
DMSO	31.75	59.85
DMSO:PBS (pH 7.2) (1:3)	0.25	0.47

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.88 mL	9.42 mL	18.85 mL
5 mM	0.38 mL	1.88 mL	3.77 mL
10 mM	0.19 mL	0.94 mL	1.88 mL
50 mM	0.04 mL	0.19 mL	0.38 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Gao Y, Xu G, Ma L, Shi W, Wang Z, Zhan X, Qin N, He T, Guo Y, Niu M, Wang J, Bai Z, Xiao X. Icariside I specifically facilitates ATP or nigericin-induced NLRP3 inflammasome activation and causes idiosyncratic hepatotoxicity. Cell Commun Signal. 2021 Feb 11;19(1):13. doi: 10.1186/s12964-020-00647-1. PMID: 33573688; PMCID: PMC7879676.
2. Liu M, Xu H, Ma Y, Cheng J, Hua Z, Huang G. Osteoblasts Proliferation and Differentiation Stimulating Activities of the Main Components of Epimedii folium. Pharmacogn Mag. 2017 Jan-Mar;13(49):90-94. doi: 10.4103/0973-1296.197654. PMID: 28216889; PMCID: PMC5307921.

In vivo study

1. Chen G, Huang J, Lei H, Wu F, Chen C, Song Y, Cao Z, Zhang C, Zhang C, Ma Y, Huang M, Zhou J, Lu Y, Zhao Y, Zhang L. Icariside I - A novel inhibitor of the kynurenine-AhR pathway with potential for cancer therapy by blocking tumor immune escape. Biomed Pharmacother. 2022 Sep;153:113387. doi: 10.1016/j.biopha.2022.113387. Epub 2022 Jul 11. PMID: 35834991.

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2. Chen G, Cao Z, Shi Z, Lei H, Chen C, Yuan P, Wu F, Liu C, Dong M, Song Y, Zhou J, Lu Y, Zhang L. Microbiome analysis combined with targeted metabolomics reveal immunological anti-tumor activity of icariside I in a melanoma mouse model. Biomed Pharmacother. 2021 Aug;140:111542. doi: 10.1016/j.biopha.2021.111542. Epub 2021 Jun 2. PMID: 34088571.

7. Bioactivity

Biological target:

Icariside I is a metabolite of Icarlin, which could regulate bone remodeling and is recognized as an effective agent for the treatment of osteoporosis.

In vitro activity

These results suggest that Icariside I specifically enhances NLRP3 inflammasome activation triggered by ATP and nigericin, but not SiO2, poly(I:C) and cytosolic LPS.

Reference: Cell Commun Signal. 2021 Feb 11;19(1):13. https://pubmed.ncbi.nlm.nih.gov/33573688/

In vivo activity

In vivo, oral administration of icariside I downregulates SLC7A8 and PAT4 transporters and AhR, thus inhibiting nuclear PD-1 in CTLs. Moreover, icariside I significantly upregulates CD8 + T cells in both peripheral blood and tumor tissues of tumor-bearing mice.

Reference: Biomed Pharmacother. 2022 Sep;153:113387. https://pubmed.ncbi.nlm.nih.gov/35834991/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.