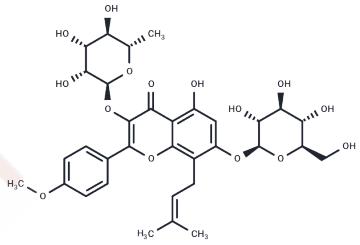
Data Sheet (Cat.No.T2855)

TargetMol

Icariin

Chemical Properties



CAS No. : 489-32-7

Formula: C33H40O15

Molecular Weight: 676.66

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Icariin (Iearilline) belongs to the flavonol glycoside group of natural products, can inhibit PDE5 and PDE4 activity (IC50=432/73.50 μM), is also a PPARα activator. Icariin can increase cardiovascular and cerebrovascular blood flow, promote hematopoiesis, immunity and bone metabolism.
Targets(IC50)	Autophagy,PDE,PPAR
In vitro	**METHODS**: Osteoarthritic fibroblast-like synoviocytes OA-FLSs were treated with Icariin (0.1-10 μM) for 12 h, and cell viability was measured using MTS assay. **RESULTS**: No cytotoxic effect of Icariin at 0.1-1 μM was observed in OA-FLSs. At a concentration of 10 μM, Icariin showed low cytotoxicity to OA-FLSs, which significantly inhibited the proliferation of OA-FLSs after 12 h. The results showed that Icariin was not effective in inhibiting the proliferation of OA-FLSs after 12 h of treatment. [1] **METHODS**: Fibroblast-like synoviocyte FLSs were treated with Icariin (1-5 μM) for 24-36 h. Cell migration was detected using the Wounding migration assay and Transwell chamber assay. **RESULTS**: Wound closure was significantly slowed in FLS treated with Icariin, and Transwell chamber assay showed that Icariin inhibited FLS migration in a concentration-dependent manner. [2]
In vivo	**METHODS**: To investigate the protective effects against traumatic brain injury (TBI), Icariin (3-30 mg/kg) was administered orally twice daily for seven days to a mouse model of TBI induced by controlled cortical impact. **RESULTS**: The Icariin 30 mg/kg and 10 mg/kg treatment groups showed enhanced sensorimotor function 8 days after TBI in the rotating bar and balance beam tests.The Icariin treatment group showed an increase in recognition indices in the novel object recognition test at all doses, and an increase in spontaneous alternation in the Y maze test in the 30 mg/kg group.Icariin upregulated the expression of brain-derived neurotrophic factor, synaptophysin, and postsynaptic density protein 95. However, no protective effect against brain injury or neuronal death was observed. [3]

Solubility Information

Solubility	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 6 mg/mL (8.87 mM),Solution. H2O: < 1 mg/mL (insoluble or slightly soluble), Ethanol: < 1 mg/mL (insoluble or slightly soluble),

DMSO: 60 mg/mL (88.67 mM),Sonication is recommended.
(< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.4778 mL	7.3892 mL	14.7785 mL
5 mM	0.2956 mL	1.4778 mL	2.9557 mL
10 mM	0.1478 mL	0.7389 mL	1.4778 mL
50 mM	0.0296 mL	0.1478 mL	0.2956 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Pan L, et al. Icariin Regulates Cellular Functions and Gene Expression of Osteoarthritis Patient-Derived Human Fibroblast-Like Synoviocytes. Int J Mol Sci. 2017 Dec 8;18(12):2656.
Wang G, Li X, Li N, et al. Icariin alleviates uveitis by targeting peroxiredoxin 3 to modulate retinal microglia M1/M2 phenotypic polarization. Redox Biology. 2022: 102297.
Wang G, Li X, Li N, et al. Icariin alleviates uveitis by targeting peroxiredoxin 3 to modulate retinal microglia M1/M2 phenotypic polarization. Redox Biology. 2022, 52: 102297
Pu L, et al. Icariin arrests cell cycle progression and induces cell apoptosis through the mitochondrial pathway in human fibroblast-like synoviocytes. Eur J Pharmacol. 2021 Dec 5;912:174585.
Gao Y, Xu G, Ma L, et al. Icariside I specifically facilitates ATP or nigericin-induced NLRP3 inflammasome activation and causes idiosyncratic hepatotoxicity. Cell Communication and Signaling. 2021 Feb 11;19(1):13. doi: 10.1186/s12964-020-00647-1.
Joo H, et al. Icariin Improves Functional Behavior in a Mouse Model of Traumatic Brain Injury and Promotes Synaptic Plasticity Markers. Planta Med. 2019 Feb;85(3):231-238.
Gao Y, Xu G, Ma L, et al. Icariside I specifically facilitates ATP or nigericin-induced NLRP3 inflammasome activation and causes idiosyncratic hepatotoxicity[J]. Cell Communication and Signaling. 2021, 19(1): 1-14.
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Liang Y, Xu Z, Wu X, et al. Inhibition of hyperpolarization-activated cyclic nucleotide-gated channels with natural flavonoid quercetin. Biochemical and Biophysical Research Communications. 2020