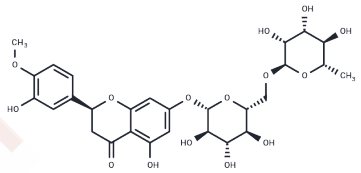
Data Sheet (Cat.No.T1035)

TargetMol

Hesperidin

Chemical Properties



CAS No. : 520-26-3

Formula: C28H34O15

Molecular Weight: 610.56

Appearance: no data available

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

Biological Description

Description	Hesperidin (Cirantin) is a flavanone glycoside found in citrus fruits with antioxidant, anti-inflammatory, anti-carcinogenic, and antihypertensive and lipid-lowering activity.
Targets(IC50)	Apoptosis,Reactive Oxygen Species,Endogenous Metabolite,Autophagy
In vitro	**METHODS**: Tumor cells HeLa and HT-29 were treated with Hesperidin (20-100 μM) for 24-72 h. Cell viability was measured by MTT assay. **RESULTS**: Treatment with Hesperidin significantly reduced cell viability and the effect of Hesperidin on cell viability was concentration and time dependent. Cells incubated with 100 μM Hesperidin for 72 h showed the greatest antiproliferative effect, with cell viability decreasing to 12% of control cells. [1] **METHODS**: Human mesothelioma cells MSTO-211H were treated with Hesperidin (40-160 μM) for 48 h. Apoptosis was detected using DAPI and PI staining. **RESULTS**: The percentage of sub-G1 phase increased from 20% to 35% in 40-160 μM Hesperidi-treated MSTO-211H cells. [2]
In vivo	**METHODS**: To assay antitumor activity in vivo, Hesperidin (200 mg/kg) was administered by gavage to BALB/c mice bearing CT-26 xenografts once daily for five days. Hesperidin was then administered as a single dose of cyclophosphamide (25 mg/kg) for fourteen days. **RESULTS**: Leukocyte counts were increased in mice treated with Hesperidin prior to cyclophosphamide injection. This significant protective effect was observed 4 and 7 days after cyclophosphamide injection. In CT-26 tumor-bearing mice, co-administration of Hesperidin and cyclophosphamide significantly inhibited cyclophosphamide-induced delay in tumor growth. [3]

Solubility Information

Solubility	DMSO: 60 mg/mL (98.27 mM),Sonication is recommended. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 6 mg/mL (9.83 mM),Suspension. Ethanol: < 1 mg/mL (insoluble or slightly soluble), H2O: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.6378 mL	8.1892 mL	16.3784 mL
5 mM	0.3276 mL	1.6378 mL	3.2757 mL
10 mM	0.1638 mL	0.8189 mL	1.6378 mL
50 mM	0.0328 mL	0.1638 mL	0.3276 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

Wang Y, et al. Hesperidin inhibits HeLa cell proliferation through apoptosis mediated by endoplasmic reticulum stress pathways and cell cycle arrest. BMC Cancer. 2015 Oct 12;15:682.

Geng W, Guo X, Zhang L, et al. Resveratrol inhibits proliferation, migration and invasion of multiple myeloma cells via NEAT1-mediated Wnt/β-catenin signaling pathway Resveratrol inhibits proliferation, migration and invasion of multiple myeloma cells via NEAT1-mediated Wnt/β-catenin signaling pathway. Biomedicine & Pharmacotherapy. 2018 Nov;107:484-494.

Lee KA, et al. Hesperidin Induces Apoptosis by Inhibiting Sp1 and Its Regulatory Protein in MSTO-211H Cells. Biomol Ther (Seoul). 2012 May;20(3):273-9.

Jang S A, Hwang Y H, Yang H, et al. Water Extract of Mentha arvensis L. Attenuates Estrogen Deficiency-Induced Bone Loss by Inhibiting Osteoclast Differentiation. Frontiers in Pharmacology. 2021, 12.

Xu H, Liu B, Xiao Z, et al. Computational and Experimental Studies Reveal That Thymoquinone Blocks the Entry of Coronaviruses Into In Vitro Cells. Infectious diseases and therapy. 2021 Mar;10(1):483-494. doi: 10.1007/s40121-021-00400-2. Epub 2021 Feb 2.

Hosseinimehr SJ, et al. Hesperidin inhibits cyclophosphamide-induced tumor growth delay in mice. Integr Cancer Ther. 2012 Sep;11(3):251-6.

Yang X, Liu L, Hao Y, et al. A Bioluminescent Biosensor for Quantifying the Interaction of SARS-CoV-2 and Its Receptor ACE2 in Cells and In Vitro. Viruses. 2021, 13(6): 1055.

Jung M A, Song H K, Jo K, et al.Gleditsia sinensis Lam. aqueous extract attenuates nasal inflammation in allergic rhinitis by inhibiting MUC5AC production through suppression of the STAT3/STAT6 pathway.Biomedicine & Pharmacotherapy.2023, 161: 114482.

Zhang H, Liang B, Sang X, et al.Discovery of Potential Inhibitors of SARS-CoV-2 Main Protease by a Transfer Learning Method.Viruses.2023, 15(4): 891.

Luo R, Hu Y, Wang L, et al.Hesperidin Protects Against High-Fat Diet-Induced Lipotoxicity in Rats by Inhibiting Pyroptosis.Journal of Medicinal Food.2024