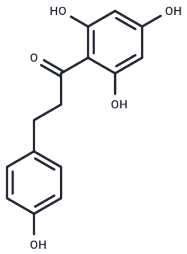
Data Sheet (Cat.No.T2924)

TargetMol

Phloretin

Chemical Properties



CAS No. : 60-82-2

Formula: C15H14O5

Molecular Weight: 274.27

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Phloretin (NSC-407292) is a well-known inhibitor of eukaryotic urea transporters, blocks VacA-mediated urea and ion transport. Phloretin is a dihydrochalcone, a type of natural phenols. It can be found in apple tree leaves and the Manchurian apricot. It promotes potent antioxidative activities in peroxynitrite scavenging and the inhibition of lipid peroxidation. It has been found to inhibit the growth of several cancer cells and induce apoptosis of B16 melanoma and HL60 human leukemia cells.
Targets(IC50)	Endogenous Metabolite,SGLT,transporter,Urea Transporter
In vitro	Phloretin is a dihydrochalcone found in the bark of pear (Pyrus communis), apple, cherry and other fruit trees. Phloretin inhibits the active transport of glucose into cells by SGLT1 and SGLT2, though the inhibition is weaker than by its glycoside phlorizin. [1] Orally consumed phlorizin is nearly entirely converted into phloretin by hydrolytic enzymes in the small intestine. An important effect of this is the inhibition of glucose absorption by the small intestine and the inhibition of renal glucose reabsorption. [2] [3] Phloretin also inhibits a variety of urea transporters. It induces urea loss and diuresis when coupled with high protein diets. [4]

Solubility Information

Solubility	Ethanol: 48 mg/mL (175.01 mM),Sonication is recommended. DMSO: 80 mg/mL (291.68 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 3.3 mg/mL (12.03 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.646 mL	18.2302 mL	36.4604 mL
5 mM	0.7292 mL	3.646 mL	7.2921 mL
10 mM	0.3646 mL	1.823 mL	3.646 mL
50 mM	0.0729 mL	0.3646 mL	0.7292 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.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Chan SS, et al. Am J Physiol, 1962, 203, 975-979.
Li M, Yuan H, Yang X, et al.Glutamine-glutamate centered metabolism as the potential therapeutic target against Japanese encephalitis virus-induced encephalitis.Cell & Bioscience.2025, 15(1): 6.
Idris I, et al. Diabetes Obes Metab, 2009, 11(2), 79-88.
Crespy V, et al. J Nutr, 2001, 131(12), 3227-3230.
Fenton RA, et al. Proc Natl Acad Sci U S A, 2004, 101(19), 7469-7474.