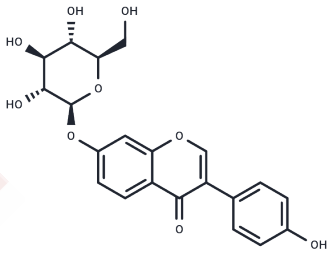
Data Sheet (Cat.No.T2901)

TargetMol

Daidzin

Chemical Properties



CAS No. : 552-66-9

Formula: C21H20O9

Molecular Weight: 416.38

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	Daidzin (Daidzoside) is an isoflavone isolated from soya bean with anti-oxidant, anti-carcinogenic, and anti-atherosclerotic activities.
Targets(IC50)	Reverse Transcriptase,Mitochondrial Metabolism,Dehydrogenase
In vitro	Daidzin, a glycoside of daidzein, increases the transcriptional activity of RARα and RARγ but does not bind to the RARs[1]. Daidzin does not inhibit human class Ⅰ, Ⅱ, or Ⅲ alcohol dehydrogenases, nor does it have any significant effect on biological systems that are known to be affected by other isoflavones. Daidzin inhibits human ALDH-I and ALDH-II in a concentration-dependent manner. Daidzin inhibits both ALDH-I and ALDH-II in an apparently competitive manner with Ki values of 40 nM and 20 μM, respectively, and it inhibits ALDH-I uncompetitively with respect to NAD+. The inhibition of ALDH-I by daidzin is reversible[3].
In vivo	Daidzin has no effect on alcohol-metabolizing enzymes(i.e., ADH and ALDH) when given to rats intragastrically. Chronic daidzin administration exerts an effect on alcohol pharmacokinetics, although the effect is less pronounced than when the compound is administered concurrently with ethanol.The compound is shown to shorten sleep time if ethanol is given intragastrically, but not when given intraperitoneally, indicating absence of effect on ethanol elimination rate. Daidzin delays ethanol absorption and lessens alcohol intoxication. The compound is shown to suppress the levels of BAC (blood alcohol concentration) for the first 3 hr after alcohol ingestion in both fasted and fed rats. These effects of daidzin may in part be due to its antioxidant activity[2].
Cell Research	CV-1 cells are transfected with 100 ng ERE-Luc and 50 ng ER-RARα or ER-RARγ. Transfected cells are treated with the indicated isoflavone at 0.5, 1, 10, 50, and 100 μM for 24 h. The β-Gal activity is used to normalize luciferase activity. (Only for Reference)

Solubility Information

Solubility	H2O: < 1 mg/mL (insoluble or slightly soluble), DMSO: 252 mg/mL (605.22 mM),Sonication is recommended. Ethanol: 4 mg/mL (9.61 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5 mg/mL (12.01 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	2.4017 mL	12.0083 mL	24.0165 mL
5 mM	0.4803 mL	2.4017 mL	4.8033 mL
10 mM	0.2402 mL	1.2008 mL	2.4017 mL
50 mM	0.048 mL	0.2402 mL	0.4803 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

Oh HJ, et al. Mol Cell Endocrinol. 2013, 376(1-2):107-13.
Yuan Q, Cao S, Dong Q, et al. ALDH2 Activation Inhibited Cardiac Fibroblast-to-Myofibroblast Transformation Via the TGF-β1/Smad Signaling Pathway. Journal of cardiovascular pharmacology. 2019 Apr;73(4): 248-256.
Xie CI, et al. Alcohol Clin Exp Res. 1994, 18(6):1443-7.
Keung WM, et al. Proc Natl Acad Sci U S A. 1993, 90(4):1247-51.
Yuan Q, Cao S, Dong Q, et al. ALDH2 Activation Inhibited Cardiac Fibroblast-to-Myofibroblast Transformation Via the TGF-β1/Smad Signaling Pathway[J]. Journal of cardiovascular pharmacology. 2019 Apr;73(4): 248-256.