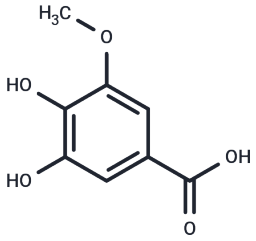
Data Sheet (Cat.No.TN1237)

TargetMol

3-O-Methylgallic acid

Chemical Properties



CAS No. : 3934-84-7

Formula: C8H8O5

Molecular Weight: 184.15

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	3-O-Methylgallic acid (3,4-Dihydroxy-5-methoxybenzoic acid) reduces cell proliferation in Caco-2 cells (IC50 = 24.1 μM) more effectively than anthocyanins and may offer protection against colon cancer after its formation in the gut. It inhibits transcription factors NF-κB, AP-1, STAT-1, and OCT-1, which are known to be activated in colorectal cancer.
Targets(IC50)	Apoptosis,NF-κB,OCT,Caspase,STAT,DNA/RNA Synthesis
In vitro	3,4-Dihydroxy-5-methoxybenzoic acid(10-100 μM) caused a time- and dose-dependent decrease in cell viability[1].

Solubility Information

Solubility	DMSO: 37.5 mg/mL (203.64 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: 2 mg/mL (10.86 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	5.4304 mL	27.1518 mL	54.3036 mL
5 mM	1.0861 mL	5.4304 mL	10.8607 mL
10 mM	0.543 mL	2.7152 mL	5.4304 mL
50 mM	0.1086 mL	0.543 mL	1.0861 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

Forester SC, The anthocyanin metabolites gallic acid, 3-O-methylgallic acid, and 2,4,6-trihydroxybenzaldehyde decrease human colon cancer cell viability by regulating pro-oncogenic signals. Mol Carcinog. 2014 Jun;53(6):432-9.

Gargouri OD, Gargouri B, Trabelsi SK, Bouaziz M, Abdelhédi R. Synthesis of 3-O-methylgallic acid a powerful antioxidant by electrochemical conversion of syringic acid. Biochim Biophys Acta. 2013 Jun;1830(6):3643-9.

Forester SC, et al. Gut metabolites of anthocyanins, gallic acid, 3-O-methylgallic acid, and 2,4,6-trihydroxybenzaldehyde, inhibit cell proliferation of Caco-2 cells. J Agric Food Chem. 2010 May 12;58(9):5320-7.