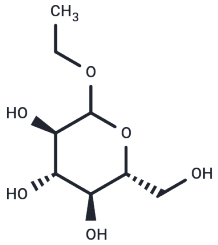
Data Sheet (Cat.No.TN2401)

TargetMol

Ethyl glucoside

Chemical Properties



CAS No. : 3198-49-0

Formula: C8H16O6

Molecular Weight: 208.21

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

Biological Description

Description	Ethyl glucoside (β-D-Glucopyranoside, ethyl), a shale inhibitor for water-based drilling fluids, is a versatile initiator of enzyme-catalyzed regioselective lactone ring-opening polymerization and is a natural compound found in Sisyrinchium palmifolium.
Targets(IC50)	Others
In vitro	EG exists as alpha (α) and beta (β) isomers. In this study, 0.48 μM of α-EG was found to increase the proliferation of normal human dermal fibroblasts (NHDF) by 121.0%, and the amount of collagen I produced by NHDF increased by 159.6% at an α-EG concentration of 0.048 μM, compared to those in cells cultured without α-EG. In NHDF cultured in α-EG-supplemented medium, the expression of fibroblast growth factor I and VII mRNA increased by 148.8 and 153.1%, at an α-EG concentration of 4.8 and 0.048 μM, respectively, as measured by a quantitative reverse transcription-polymerase chain reaction. Transcript levels of type I collagen genes, COL1A1 and COL1A2, increased by 152.4 and 129.7%, respectively, and that of a type III collagen gene, COL3A1, increased by 131.8% at an α-EG concentration of 0.48 μM.[3][4]
In vivo	Metabonomic screening of human urine samples using 1H NMR spectroscopy has revealed the presence of signals resulting from the excretion of Ethyl glucoside. Experiments in volunteers have demonstrated that this Ethyl glucoside results from dietary exposure to the compound, which is present in beverages such as rice wine and sake, rather than representing a new route for the metabolism of ethanol by humans. The limited studies undertaken in volunteers indicate that Ethyl glucoside has a longer biological half life than ethanol itself. The potential problems associated with using this glucoside metabolite as a marker of ethanol consumption are considered.[2]

Solubility Information

Solubility	DMSO: 60 mg/mL (288.17 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 (9.61 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*

In vivo Formulation	*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	4.8028 mL	24.0142 mL	48.0284 mL
5 mM	0.9606 mL	4.8028 mL	9.6057 mL
10 mM	0.4803 mL	2.4014 mL	4.8028 mL
50 mM	0.0961 mL	0.4803 mL	0.9606 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

Bisht K S , et al. Ethyl Glucoside as a Multifunctional Initiator for Enzyme-Catalyzed Regioselective Lactone Ring-Opening Polymerization. Journal of the American Chemical Society, 1998;120(7):1363-1367.
Teague C , et al. Ethyl glucoside in human urine following dietary exposure: detection by 1H NMR spectroscopy as a result of metabonomic screening of humans. Analyst, 2004;129(3):259.
Waters B, et al. A validated method for the separation of ethyl glucoside isomers by gas chromatography-tandem mass spectrometry and quantitation in human whole blood and urine. J Chromatogr B Analyt Technol Biomed Life Sci. 2022;1188:123074.
Bogaki T, et al. Effects of ethyl-α-d-glucoside on human dermal fibroblasts. Biosci Biotechnol Biochem. 2017;81(9):1706-1711.