

DL-Glyceraldehyde

Chemical Properties

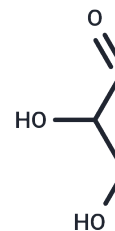
CAS No. : 56-82-6

Formula: C₃H₆O₃

Molecular Weight: 90.08

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	DL-Glyceraldehyde (Glyceric aldehyde) is produced from the action of the enzyme glyceraldehyde dehydrogenase, which converts glycerol to glyceraldehyde using NADP as a cofactor. When present at sufficiently high levels, DL-Glyceraldehyde can be a cytotoxin and a mutagen. A cytotoxin is a compound that kills cells. A mutagen is a compound that causes mutations in DNA. DL-Glyceraldehyde is a highly reactive compound that can modify and cross-link proteins. DL-Glyceraldehyde modified proteins appear to be cytotoxic, depress intracellular glutathione levels, and induce reactive oxygen species (ROS) production (PMID: 14981296). DL-Glyceraldehyde has been shown to cause chromosome damage to human cells in culture and is mutagenic in the Ames bacterial test.
Targets(IC50)	Reductase,Endogenous Metabolite

Solubility Information

Solubility	DMSO: 250 mg/mL (2775.31 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: 1 mg/mL (11.1 mM),Sonication is recommended. <i>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.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	11.1012 mL	55.5062 mL	111.0124 mL
5 mM	2.2202 mL	11.1012 mL	22.2025 mL
10 mM	1.1101 mL	5.5506 mL	11.1012 mL
50 mM	0.222 mL	1.1101 mL	2.2202 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

Gugliucci A . A practical method to study functional impairment of proteins by glycation and effects of inhibitors using current coagulation/fibrinolysis reagent kits[J]. Clinical Biochemistry, 2003, 36(2):155-158.

Beard K M , Shangari N , Wu B , et al. Metabolism, not autoxidation, plays a role in alpha-oxoaldehyde- and reducing sugar-induced erythrocyte GSH depletion: relevance for diabetes mellitus.[J]. Molecular & Cellular Biochemistry, 2003, 252(1-2):331-338.

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