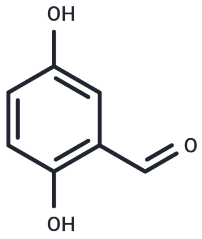
Data Sheet (Cat.No.TN2730)

TargetMol

2,5-Dihydroxybenzaldehyde

Chemical Properties



CAS No. : 1194-98-5

Formula: C7H6O3

Molecular Weight: 138.12

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	2,5-Dihydroxybenzaldehyde (Gentisaldehyde) has antioxidant activity against Mycobacterium avium subsp. Paratuberculosis. 2,5-Dihydroxybenzaldehyde also inhibits S. aureus strains(MIC50: 500 mg/L).
Targets(IC50)	Anti-infection,Antibacterial
In vitro	2,5-Dihydroxybenzaldehyde modified the three lipid monolayer structures by integrating into the monolayer, forming aggregates of antimicrobial -lipid complexes, reducing the packing effectiveness of the lipids, increasing the membrane fluidity, and altering the total dipole moment in the monolayer membrane model. The interactions of 2,5-Dihydroxybenzaldehyde with bacterial phospholipids depended on both the structure of the antimicrobials and the composition of the monolayers[1].

Solubility Information

Solubility	DMSO: 30 mg/mL (217.2 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 (14.48 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	7.2401 mL	36.2004 mL	72.4008 mL
5 mM	1.448 mL	7.2401 mL	14.4802 mL
10 mM	0.724 mL	3.620 mL	7.2401 mL
50 mM	0.1448 mL	0.724 mL	1.448 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

Nowotarska SW, et al. Effect of structure on the interactions between five natural antimicrobial compounds and phospholipids of bacterial cell membrane on model monolayers. Molecules. 2014 Jun 6;19(6):7497-515.
Bisht GS, et al. Diffusion-free mediator based miniature biofuel cell anode fabricated on a carbon-MEMS electrode. Langmuir. 2012 Oct 2;28(39):14055-64.
Schabauer A, et al. Gentisaldehyde and Its Derivative 2,3-Dihydroxybenzaldehyde Show Antimicrobial Activities Against Bovine Mastitis Staphylococcus aureus. Front Vet Sci. 2018 Jul 11;5:148.