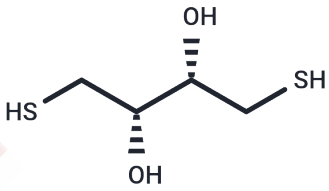
Data Sheet (Cat.No.T5370)

DTT

Chemical Properties



CAS No. : 3483-12-3

Formula: C4H10O2S2

Molecular Weight: 154.25

Storage: Store under nitrogen,Keep away from direct sunlight, Keep away from moisture
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	DTT (DL-Dithiothreitol) is a strong reducing agent. DTT has anti-disulfide ptosis activity and, upon oxidation, forms a stable six-membered ring with internal disulfide bonds.
Targets(IC50)	Others
In vitro	**METHODS**: DLD-1 and HCT116 cells under glucose starvation were treated with DTT (0.5 mM) for 12 hours, and PI-positive dead cells were analyzed by flow cytometry. **RESULTS**: DTT can prevent disulfide stress in DLD-1 and HCT116 cells under glucose starvation and inhibit disulfide death of the cells. [1]

Solubility Information

Solubility	H2O: 200 mg/mL (1296.6 mM),Sonication is recommended. DMSO: 242 mg/mL (1568.88 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 (32.41 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	6.483 mL	32.4149 mL	64.8298 mL
5 mM	1.2966 mL	6.483 mL	12.966 mL
10 mM	0.6483 mL	3.2415 mL	6.483 mL
50 mM	0.1297 mL	0.6483 mL	1.2966 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

Yao H, et al. Establishment of disulfidptosis-related LncRNA signature as biomarkers in colon adenocarcinoma[J]. Cancer Cell International, 2024, 24(1): 183.
Wang J K, Li Y, Zhao X L, et al. Ablation of Plasma Prekallikrein Decreases LDL Cholesterol by Stabilizing LDL Receptor and Protects against Atherosclerosis. Circulation. 2022;145:675-687
Wang J K, Li Y, Zhao X L, et al. Ablation of Plasma Prekallikrein Decreases LDL Cholesterol by Stabilizing LDL Receptor and Protects Against Atherosclerosis. Circulation. 2022
Ding Y, Chen Q B, Xu H, et al.siRNA nanoparticle targeting Usp20 lowers lipid levels and ameliorates metabolic syndrome in mice.Journal of Lipid Research.2024: 100626.