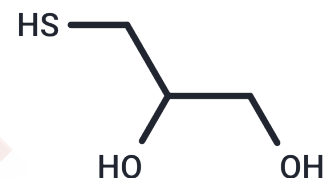


## 1-Thioglycerol

## Chemical Properties

CAS No. :	96-27-5
Formula:	C <sub>3</sub> H <sub>8</sub> O <sub>2</sub> S
Molecular Weight:	108.16
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	1-Thioglycerol (alpha-Thioglycerol) is an antioxidant thioglycerol that scavenges free radicals and reduces oxidative stress as a media component, and is used as a matrix in fast atom bombardment mass spectrometry (FAB-MS) and liquid secondary ion mass spectrometry (LSIMS).
Targets(IC50)	ROS
In vitro	1-Thioglycerol shows $K_i$ values of 1.9mM in bovine adrenal extracts and 3.4mM in human fibroblast lysates, acting specifically against glycerol in a competitive manner. The inhibitory effect of 1-Thioglycerol is reversible and dose-dependent[1]. In human fibroblasts, 1-TG (up to 10mM, 24h) reduces glycerol kinase activity by ~30% without affecting protein synthesis (as measured by <sup>3</sup> H-leucine incorporation). Higher concentrations cause cytotoxicity and cell detachment[1].

## Solubility Information

Solubility	DMSO: 250 mg/mL (2311.39 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 3.3 mg/mL (30.51 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

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	1mg	5mg	10mg
1 mM	9.2456 mL	46.2278 mL	92.4556 mL
5 mM	1.8491 mL	9.2456 mL	18.4911 mL
10 mM	0.9246 mL	4.6228 mL	9.2456 mL
50 mM	0.1849 mL	0.9246 mL	1.8491 mL

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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

Seltzer WK, Dhariwal G, Mckelvey HA, McCabe ER. 1-Thioglycerol: inhibitor of glycerol kinase activity in vitro and in situ. *Life Sci.* 1986 Oct 20;39(16):1417-24.

Silva AC, da Silva SW, Morais PC, Dantas NO. Shell thickness modulation in ultrasmall CdSe/CdS(x)Se(1-x)/CdS core/shell quantum dots via 1-thioglycerol. *ACS Nano.* 2014 Feb 25;8(2):1913-22.

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