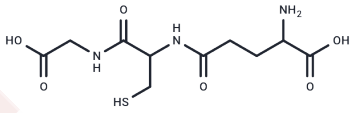
Data Sheet (Cat.No.T1085)

TargetMol

L-Glutathione reduced

Chemical Properties



CAS No. : 70-18-8

Formula: C10H17N3O6S

Molecular Weight: 307.32

Storage: Keep away from direct sunlight,The compound is unstable in solution. Please use soon
Powder: -20°C for 3 years
Actual storage temperature shall be subject to the COA.

Biological Description

Description	L-Glutathione reduced (Glutathione) is a naturally occurring tripeptide found in cells as an endogenous antioxidant that scavenges oxygen free radicals. L-Glutathione reduced is a cofactor for certain enzymes and is involved in the rearrangement of protein disulfide bonds and the reduction of peroxides.
Targets(IC50)	Ferroptosis,Reactive Oxygen Species,Endogenous Metabolite,Glutathione reductase,ROS
In vitro	**METHODS**: NSCs cells were treated with L-Glutathione reduced (0.5 mM) and sevoflurane (3%) for 24 h. Apoptosis was detected using TUNEL staining. **RESULTS**: Supplementation with reduced L-Glutathione reduced the effect of sevoflurane on apoptosis of NSCs. [1]
In vivo	**METHODS**: To study in vivo activity, L-Glutathione reduced (100 mg/kg) was administered orally to mice and GSH concentrations were measured in plasma at 30, 45, and 60 min, and in the liver, kidneys, heart, lungs, brain, small intestine, and skin 1 h later. **RESULTS**: Within 30 min of oral L-Glutathione reduced administration, plasma GSH concentrations increased from 30 μM to 75 μM, consistent with a rapid flow of GSH from the intestinal lumen to the plasma. Under these conditions of GSH sufficiency, GSH concentrations in most tissues did not exceed control values over the same time course, with the exception of lung. [2]

Solubility Information

Solubility	DMSO: Insoluble,The compound is unstable in solution. Please use soon. H2O: 153.7 mg/mL (500.13 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.2539 mL	16.2697 mL	32.5394 mL
5 mM	0.6508 mL	3.2539 mL	6.5079 mL
10 mM	0.3254 mL	1.627 mL	3.2539 mL
50 mM	0.0651 mL	0.3254 mL	0.6508 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

Fan P, et al. Metformin attenuates sevoflurane-induced neurogenesis damage and cognitive impairment: involvement of the Nrf2/G6PD pathway. Metab Brain Dis. 2023 Aug;38(6):2037-2053.
Fan P, Lu Y, Wei H, et al.Metformin attenuates sevoflurane-induced neurogenesis damage and cognitive impairment: involvement of the Nrf2/G6PD pathway.Metabolic Brain Disease.2023: 1-17.
Liu Y, Wang Z, Jin H, et al.Squalene-epoxidase-catalyzed 24 (S), 25-epoxycholesterol synthesis promotes trained-immunity-mediated antitumor activity.Cell Reports.2024, 43(4).
Aw TY, et al. Oral glutathione increases tissue glutathione in vivo. Chem Biol Interact. 1991;80(1):89-97.
Liu W, Liu X, Liu M, et al.Oxyglutamate Carrier Alleviates Cerebral Ischaemia-Reperfusion Injury by Regulating Mitochondrial Function.European Journal of Neuroscience.2025, 61(1): e16659.