

## Dihydrolipoic acid

## Chemical Properties

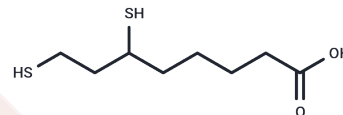
CAS No. : 462-20-4

Formula: C<sub>8</sub>H<sub>16</sub>O<sub>2</sub>S<sub>2</sub>

Molecular Weight: 208.34

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	Dihydrolipoic acid (USAF XR-12), a dithiol-containing carboxylic acid, acts as a general antioxidant that is highly reactive against a variety of reactive oxygen species, including peroxyinitrite, hydroxyl radicals, hydrogen peroxide, and hypochlorite, at concentrations ranging from 0.01-0.5 mM.
Targets(IC50)	Antioxidant, Reactive Oxygen Species, ROS

## Solubility Information

Solubility	DMSO: 50 mg/mL (239.99 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 (4.8 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	4.7998 mL	23.9992 mL	47.9985 mL
5 mM	0.960 mL	4.7998 mL	9.5997 mL
10 mM	0.480 mL	2.3999 mL	4.7998 mL
50 mM	0.096 mL	0.480 mL	0.960 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

Oláh Z, Vogg ATJ, Kremmer T, Szűcs Z, Varga Z, Dóczi R. Optimization of the reduction of (74)As(V) to (74)As(III) and of the labelling of dithiol dihydrolipoic acid. *Appl Radiat Isot.* 2019 Jul;149:75-82. doi: 10.1016/j.apradiso.2019.04.004. Epub 2019 Apr 15. PubMed PMID: 31029937.

Ren SH, Liu SG, Ling Y, Li NB, Luo HQ. Facile method for iodide ion detection via the fluorescence decrease of dihydrolipoic acid/beta-cyclodextrin protected Ag nanoclusters. *Spectrochim Acta A Mol Biomol Spectrosc.* 2019 Apr 5;212:199-205. doi: 10.1016/j.saa.2019.01.009. Epub 2019 Jan 4. PubMed PMID: 30639913.

Micillo R, Sirés-Campos J, García-Borrón JC, Panzella L, Napolitano A, Olivares C. Conjugation with Dihydrolipoic Acid Imparts Caffeic Acid Ester Potent Inhibitory Effect on Dopa Oxidase Activity of Human Tyrosinase. *Int J Mol Sci.* 2018 Jul 24;19(8). pii: E2156. doi: 10.3390/ijms19082156. PubMed PMID: 30042336; PubMed Central PMCID: PMC6121902.

Zhou K, Enkhjargal B, Xie Z, Sun C, Wu L, Malaguit J, Chen S, Tang J, Zhang J, Zhang JH. Dihydrolipoic Acid Inhibits Lysosomal Rupture and NLRP3 Through Lysosome-Associated Membrane Protein-1/Calcium/Calmodulin-Dependent Protein Kinase II/TAK1 Pathways After Subarachnoid Hemorrhage in Rat. *Stroke.* 2018 Jan;49(1):175-183. doi: 10.1161/STROKEAHA.117.018593. PubMed PMID: 29273596; PubMed Central PMCID: PMC5744882.

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