

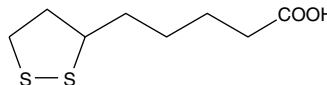
Product Information



DL- α -Lipoic Acid

Item No. 10005728

CAS Registry No.: 1077-28-7
Formal Name: 1,2-dithiolane-3-pentanoic acid
Synonym: Thiocctic acid
MF: C₈H₁₄O₂S₂
FW: 206.3
Purity: \geq 95%
Stability: \geq 2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max} : 203, 333 nm



Laboratory Procedures

For long term storage, we suggest that DL- α -lipoic acid be stored as supplied at -20°C. It should be stable for at least two years.

DL- α -lipoic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the DL- α -lipoic acid in an organic solvent purged with an inert gas. DL- α -lipoic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of DL- α -lipoic acid in these solvents is approximately 30 mg/ml.

DL- α -lipoic acid is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, DL- α -lipoic acid should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. DL- α -lipoic acid has a solubility of approximately 0.25 mg/ml in a 1:8 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

DL- α -lipoic acid is a cyclic disulfide antioxidant that interconverts with its reduced dithiol form. It is an essential cofactor for decarboxylation reactions of the citric acid cycle, and acts as a general antioxidant.¹⁻³ DL- α -lipoic acid can act as a direct radical scavenger, as a cofactor to regenerate reduced glutathione, and as a metal chelator.

References

1. Biewenga, G.Ph., Haenen, G.R.M.M., and Bast, A. The pharmacology of the antioxidant lipoic acid. *General Pharmacology: The Vascular System* **29(3)**, 315-331 (1997).
2. Randle, P.J. Regulatory interactions between lipids and carbohydrates: The glucose fatty acid cycle after 35 years. *Diabetes Metab. Rev.* **14(4)**, 263-283 (1998).
3. Biewenga, G.Ph., Haenen, G.R.M.M., and Bast, A. The role of lipoic acid in the treatment of diabetic polyneuropathy*. *Drug Metab. Rev.* **29(4)**, 1025-1054 (1997).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/10005728

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent *via* email to your institution.

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