

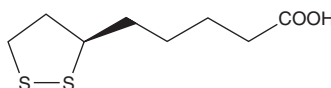
PRODUCT INFORMATION



(R)- α -Lipoic Acid

Item No. 27299

CAS Registry No.: 1200-22-2
Formal Name: (3R)-1,2-dithiolane-3-pentanoic acid
Synonym: (R)-(+)-Lipoic Acid
MF: $C_8H_{14}O_2S_2$
FW: 206.3
Purity: $\geq 98\%$
UV/Vis.: λ_{\max} : 331 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥ 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

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

(R)- α -Lipoic acid is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, (R)- α -lipoic acid should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. (R)- 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.

Description

(R)- α -Lipoic acid is the naturally occurring enantiomer of lipoic acid, a cyclic disulfide antioxidant.¹ It acts as a cofactor in 2-oxo dehydrogenase complex reactions, where it is reduced to dihydrolipoic acid (DHLA; Item No. 16372). (R)- α -Lipoic acid (100 mg/kg per day) decreases serum levels of malondialdehyde (MDA) and increases the activity of superoxide dismutase (SOD) and total antioxidative capabilities (T-AOC) in a mouse model of accelerated senescence induced by D-galactose (Item No. 20890).² It also reduces the escape latency in the Morris water maze compared to both D-galactose and vehicle control groups and rescues decreases in neural progenitor cell proliferation in the hippocampal dentate gyrus.

References

1. Biewenga, G.P., Haenen, G.R.M.M., and Bast, A. The pharmacology of the antioxidant lipoic acid. *Gen. Pharmacol.* **29**(3), 315-331 (1997).
2. Cui, X., Zuo, P., Zhang, Q., *et al.* Chronic systemic D-galactose exposure induces memory loss, neurodegeneration, and oxidative damage in mice: Protective effects of R- α -lipoic acid. *J. Neurosci. Res.* **84**(3), 647-654 (2006).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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