

Certificate of Analysis

www.tocris.com

Product Name: (±)-α-Lipoic acid

Catalog No.: 7044

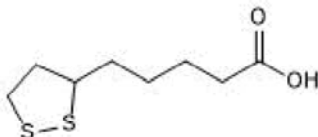
Batch No.: 1

CAS Number: 1077-28-7

IUPAC Name: 1,2-Dithiolane-3-pentanoic acid

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₈H₁₄O₂S₂
Batch Molecular Weight: 206.32
Physical Appearance: Yellow solid
Solubility: DMSO to 100 mM
 ethanol to 100 mM
Storage: Store at +4°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 100.0% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	46.57	6.84	
Found	46.56	6.87	

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

bio-techne.com

info@bio-techne.com

techsupport@bio-techne.com

North America

Tel: (800) 343 7475

China

info.cn@bio-techne.com

Tel: +86 (21) 52380373

Europe Middle East Africa

Tel: +44 (0)1235 529449

Rest of World

www.tocris.com/distributors

Tel: +1 612 379 2956

Product Name: (±)-α-Lipoic acid

Catalog No.: 7044

Batch No.: 1

CAS Number: 1077-28-7

IUPAC Name: 1,2-Dithiolane-3-pentanoic acid

Description:

(±)-α-Lipoic acid (ALA) is a liquid-liquid phase separated condensate modifier. Reduces stress granule formation in HeLa cells. Also stimulates mitochondrial biogenesis in 3T3-L1 adipocytes. Prevents dieback of FUS mutant motor neurons in culture and reverses motor defects in D. melanogaster expressing mutated human FUS. (±)-α-Lipoic acid is also an antioxidant. In hematopoietic stem cells (HSC) (±)-α-Lipoic acid reduces levels of reactive oxygen species (ROS) and inhibits apoptosis. It also promotes the generation of hematopoietic stem/progenitor cells from hPSCs in vitro and maintenance of functional cord bloo... Please see product specific page on www.tocris.com for full description.

Physical and Chemical Properties:

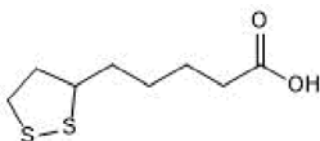
Batch Molecular Formula: C₈H₁₄O₂S₂

Batch Molecular Weight: 206.32

Physical Appearance: Yellow solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Store at +4°C. This product is packaged under an inert atmosphere.

Solubility & Usage Info:

DMSO to 100 mM

ethanol to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Dong et al (2020) Alpha lipoic acid promotes development of hematopoietic progenitors derived from human embryonic stem cells by antagonizing ROS signals. J.Leukoc.Biol. **108** 1711. PMID: 32640500.

Wheeler et al (2019) Small molecules for modulating protein driven liquid-liquid phase separation in treating neurodegenerative disease. BioRxiv - paper not yet peer reviewed.

Shen et al (2011) Lipoamide or lipoic acid stimulates mitochondrial biogenesis in 3T3-L1 adipocytes via the endothelial NO synthase-cGMP-protein kinase G signalling pathway. Br.J.Pharmacol. **162** 1213. PMID: 21108628.

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

bio-techne.com

info@bio-techne.com

techsupport@bio-techne.com

North America

Tel: (800) 343 7475

China

info.cn@bio-techne.com

Tel: +86 (21) 52380373

Europe Middle East Africa

Tel: +44 (0)1235 529449

Rest of World

www.tocris.com/distributors

Tel: +1 612 379 2956