

Certificate of Analysis

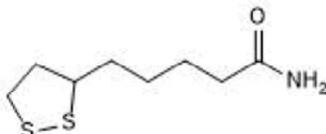
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Product Name: (±)-α-Lipoamide
CAS Number: 940-69-2
IUPAC Name: 1,2-Dithiolane-3-pentanamide

Catalog No.: 7045 **Batch No.:** 1

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₈H₁₅NOS₂
Batch Molecular Weight: 205.33
Physical Appearance: Yellow solid
Solubility: DMSO to 100 mM
 ethanol to 20 mM
Storage: Store at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 100% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	46.79	7.36	6.82
Found	46.82	7.41	6.86

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

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Catalog No.: 7045

Batch No.: 1

CAS Number: 940-69-2

IUPAC Name: 1,2-Dithiolane-3-pentanamide

Description:

Phase-separated condensate modifier. Reduces propensity of stress granule proteins to aggregate ($EC_{50} = 20 \mu\text{M}$ in HeLa and iPSCs), and causes FUS stress granule proteins to return to the nucleus in vitro. Stimulates mitochondrial biogenesis in 3T3-L1 adipocytes. Prevents dieback of ALS patient-derived (FUS mutant) motor neuron axons in culture, and recovers motor defects in *D. melanogaster* expressing FUS mutants. Suppresses the effects of ALS-associated FUS mutations in vivo in different systems. Orally bioavailable.

Physical and Chemical Properties:

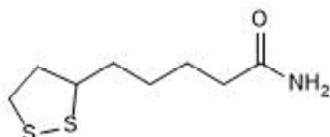
Batch Molecular Formula: $\text{C}_8\text{H}_{15}\text{NOS}_2$

Batch Molecular Weight: 205.33

Physical Appearance: Yellow solid

Minimum Purity: >98%

Batch Molecular Structure:



References:

Wheeler *et al* (2019) Small molecules for modulating protein driven liquid-liquid phase separation in treating neurodegenerative disease .

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.

Storage: Store at -20°C

Solubility & Usage Info:

DMSO to 100 mM

ethanol to 20 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.

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