PRODUCT INFORMATION

Dihydrolipoic Acid
Item No. 16372

CAS Registry No.: 462-20-4
Formal Name: 6,8-dimercapto-octanoic acid
Synonym: DHLA
MF: C₈H₁₆O₂S₂
FW: 208.3
Purity: ≥95%
Supplied as: A neat oil
Storage: -20°C
Stability: As supplied, 1 year from the QC date provided on the Certificate of Analysis, when stored properly

Laboratory Procedures

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

DHLA is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, DHLA should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. DHLA 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

DHLA is a dithiol-containing carboxylic acid that is the reduced form of α-lipoic acid (Item No. 10005728). It acts as a general antioxidant that is highly reactive against a variety of reactive oxygen species, including hydroxyl radicals, peroxynitrite, hydrogen peroxide, and hypochlorite, at concentrations ranging from 0.01-0.5 mM. At concentrations of 50-100 µM, DHLA triggers apoptosis of mouse embryonic stem cells and human cancer cells, suppressing proliferation.

References


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