

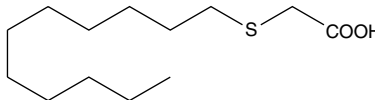
Product Information



3-Thiatetradecanoic Acid

Item No. 90500

CAS Registry No.: 116296-31-2
Formal Name: 2-(undecylthio)-acetic acid
Synonym: 3-thia TDA
MF: C₁₃H₂₆O₂S
FW: 246.4
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that 3-thiatetradecanoic acid (3-thia TDA) be stored as supplied at -20°C. It will be stable for at least two years.

3-thia TDA is supplied as a crystalline solid. A stock solution may be made by dissolving the 3-thia TDA in an organic solvent purged with an inert gas. 3-thia TDA is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 3-thia TDA in these solvents is at least 30 mg/ml.

3-thia TDA is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 3-thia TDA should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. 3-thia TDA has a solubility of 1 mg/ml in a 1:3 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

3-thia TDA is an analog of the 14-carbon saturated fatty acid myristic acid, wherein the C-3 carbon has been replaced by sulfur in a thioether linkage. 3-thia TDA is in the same class of compounds as tetradecylthioacetic acid (TTA). When chronically administered to rats, TTA acts as a peroxisome inducer (peroxisome proliferator-activated receptor ligand), increases fatty acid oxidation, and lowers plasma lipid levels.¹ Incorporation of TTA into dietary regimens at 150 and 300 mg/kg in rats induces the formation of oleic acid *via* Δ⁹-desaturase, and dose-dependently increases Δ⁹-desaturase mRNA levels.²

References

1. Asiedu, D.K., Froyland, L., Vaagenes, H., *et al.* Long-term effect of tetradecylthioacetic acid: A study on plasma lipid profile and fatty acid composition and oxidation in different rat organs. *Biochim. Biophys. Acta* **1300**, 86-96 (1996).
2. Madsen, L., Froyland, L., Grav, H.J., *et al.* Up-regulated Δ⁹-desaturase gene expression by hypolipidemic peroxisome-proliferating fatty acids results in increased oleic acid content in liver and VLDL: Accumulation of a Δ⁹-desaturated metabolite of tetradecylthioacetic acid. *J. Lipid Res.* **38**, 554-563 (1997).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/90500

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

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 Safety Data Sheet, which has been sent *via* email to your institution.

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Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

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