

Product Data Sheet

Product Name: Thiodiglycolic Acid-d₄

Cat. No.: GC48166

Chemical Properties

Cas. No. 132090-51-8

SMILES OC(C([2H])([2H])SC([2H])([2H])C(=O)O)=O

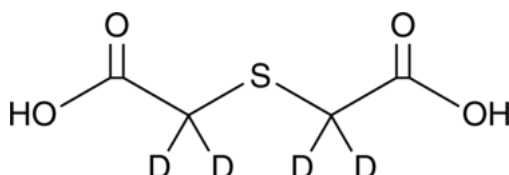
Formula C₄H₂D₄O₄S M.Wt 154.2

Solubility DMF: 30 mg/ml, DMSO: 25 mg/ml, Ethanol: 30 mg/ml, PBS (pH 7.2): 2 mg/ml
Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

Thiodiglycolic acid-d₄ (TDGA-d₄) contains four deuterium atoms at the 2, 2, 2', and 2' positions. It is intended for use as an internal standard for the quantification of TDGA by GC- or LC-mass spectrometry. TDGA is a product of interaction of the cysteine component of glutathione with two-carbon units released during catabolism. It is found in concentrations below 20 mg/l in urine of healthy individuals and elevated following ingestion of certain drugs.¹ Determination of TDGA concentration in urine has been used to characterize the metabolism of substances participating in methionine synthesis in order to identify imbalances leading to hyperhomocystinuria.² Additionally, because TDGA is used as raw material in the polymer industry, its detection in human urine has served as a biomarker for exposure to carcinogenic vapors such as vinylchloride monomer produced during polymer manufacture.²

Caution: Product has not been fully validated for medical applications. For research use only.

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1.Navratil, T., Petr, M., Senholdova, Z., et al.Diagnostic significance of urinary thiodiglycolic acid as a possible tool for studying the role of vitamins B12 and folates in the metabolism of thiolic substancesPhysiol.Res.56(1)113-122(2007) 2.Cheng, Y.J., Huang, Y.F., and Ma, Y.C.Urinary thiodiglycolic acid levels for vinyl chloride monomer-exposed polyvinyl chloride workersJ.Occup.Environ.Med.43(11)934-938(2001)

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