Data Sheet (Cat.No.T35698)

TargetMol

Octanoic Acid-13C

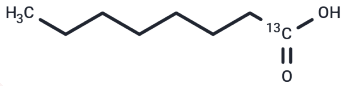
Chemical Properties

CAS No. : 59669-16-8

Formula: C8H16O2

Molecular Weight: 145.2

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.



Biological Description

Description	Octanoic Acid-13C is intended for use as an internal standard for the quantification of Octanoic Acid (T3946) by GC- or LC-MS. Octanoic acid is a medium-chain saturated fatty acid. It has been found in Teleme cheeses made from goat, ovine, or bovine milk.1 Octanoic acid is active against the bacteria S. mutans, S. gordonii, F. nucleatum, and P. gingivalis (IC80s = <125, <125, 1,403, and 2,294 µM, respectively).2 Levels of octanoic acid are increased in the plasma of patients with medium-chain acyl-CoA dehydrogenase (MCAD) deficiency, an inborn error of fatty acid metabolism characterized by hypoketotic hypoglycemia, medium-chain dicarboxylic aciduria, and intolerance to fasting.3,4
Targets(IC50)	Endogenous Metabolite

Solubility Information

Solubility	Ethanol: 30 mg/mL (206.61 mM),Sonication is recommended. DMF: 30 mg/mL (206.61 mM),Sonication is recommended. DMSO: 30 mg/mL (206.61 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	6.8871 mL	34.4353 mL	68.8705 mL
5 mM	1.3774 mL	6.8871 mL	13.7741 mL
10 mM	0.6887 mL	3.4435 mL	6.8871 mL
50 mM	0.1377 mL	0.6887 mL	1.3774 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Mallatou, H., Pappa, E., and Massouras, T. Changes in free fatty acids during ripening of Teleme cheese made with ewes', goats', cows' or a mixture of ewes' and goats' milk. Int. Dairy J. 13(1-3), 211-219 (2003).
Hyang, C.B., Alimova, Y., Myers, T.M., et al. Short- and medium-chain fatty acids exhibit antimicrobial activity for oral microorganisms. Arch. Oral Biol. 56(7), 650-654 (2011).
Onkenhout, W., Venizelos, V., van der Poel, P.F.H., et al. Identification and quantification of intermediates of unsaturated fatty acid metabolism in plasma of patients with fatty acid oxidation disorders. Clin. Chem. 41(10), 1467-1474 (1995).
Rinaldo, P., O'Shea, J.J., Coates, P.M., et al. Medium-chain acyl-CoA dehydrogenase deficiency. Diagnosis by stable-isotope dilution measurement of urinary n-hexanoylglycine and 3-phenylpropionylglycine. N. Engl. J. Med. 319(20), 1308-1313 (1988).