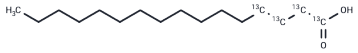
Data Sheet (Cat.No.T35790)

TargetMol

Palmitic acid-1,2,3,4-13C4

Chemical Properties



CAS No. : 287100-89-4

Formula: C16H32O2

Molecular Weight: 260.399

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	Palmitic acid-1,2,3,4-13C4 is intended for use as an internal standard for the quantification of palmitic acid by GC- or LC-MS. Palmitic acid (T2908) is a common 16-carbon saturated fat that represents 10-20% of human dietary fat intake and comprises approximately 25 and 65% of human total plasma lipids and saturated fatty acids, respectively.1,2Acylation of palmitic acid to proteins facilitates anchoring of membrane-bound proteins to the lipid bilayer and trafficking of intracellular proteins, promotes protein-vesicle interactions, and regulates various G protein-coupled receptor functions. 1Red blood cell palmitic acid levels are increased in patients with metabolic syndrome compared to patients without metabolic syndrome and are also increased in the plasma of patients with type 2 diabetes compared to individuals without diabetes.3,4
Targets(IC50)	HSP

Solubility Information

Solubility	DMSO: 10 mg/mL (38.4 mM),Sonication is recommended. DMF: 15 mg/mL (57.6 mM),Sonication is recommended. Ethanol: 1 mg/mL (3.84 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.8402 mL	19.2012 mL	38.4025 mL
5 mM	0.768 mL	3.8402 mL	7.6805 mL
10 mM	0.384 mL	1.9201 mL	3.8402 mL
50 mM	0.0768 mL	0.384 mL	0.768 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

Fatima, S., Hu, X., Gong, R.-H., et al.Palmitic acid is an intracellular signaling molecule involved in disease developmentCell. Mol. Life Sci.76(13)2547-2557(2019)
Santos, M.J., López-Jurado, M., Llopis, J., et al.Influence of dietary supplementation with fish oil on plasma fatty acid composition in coronary heart disease patientsAnn. Nutr. Metab.39(1)52-62(1995)
Yi, L.-Z., He, J., Liang, Y.-Z., et al.Plasma fatty acid metabolic profiling and biomarkers of type 2 diabetes mellitus based on GC/MS and PLS-LDAFEBS Lett.580(30)6837-6845(2006)
Kabagambe, E.K., Tsai, M.Y., Hopkins, P.N., et al.Erythrocyte fatty acid composition and the metabolic syndrome: A National Heart, Lung, and Blood Institute GOLDN studyClin. Chem.54(1)154-162(2008)