

Product Data Sheet

Product Name: Palmitic Acid-d₅

Cat. No.: GC47862

Chemical Properties

Cas. No. 285979-77-3

SMILES [2H]C([2H])([2H])C([2H])([2H])CCCCCCCCCCCCC(O)=O

Formula C₁₆H₂₇D₅O₂

M.Wt 261.5

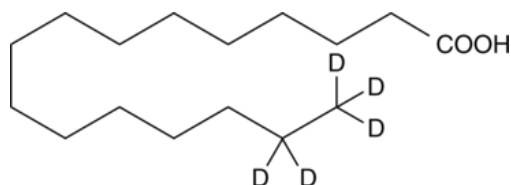
Solubility DMF: 20 mg/ml, DMSO: 20 mg/ml, Ethanol: 30 mg/ml, Ethanol: PBS (pH 7.2) (1:3): 0.25 mg/ml

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

Palmitic acid-d₅ is intended for use as an internal standard for the quantification of palmitic acid by GC- or LC-MS. Palmitic acid 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.^{1,2} Acylation 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.¹ Red 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}

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

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1.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) 2.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) 3.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) 4.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)

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