

Product Data Sheet

Product Name: Palmitelaidic Acid-d13

Cat. No.: GC47858

Chemical Properties

Cas. No. 2692623-91-7

SMILES [2H]C([2H])([2H])C([2H])([2H])C([2H])([2H])C([2H])([2H])C([2H])([2H])C([2H])([2H])/C=C/
CCCCCCCC(O)=O

Formula	C16H17D13O2	M.Wt	267.5
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Solubility	DMF: 30 mg/ml,DMSO: 30 mg/ml,Ethanol: >50mg/ml	Storage	Store at -20°C
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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.
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Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.
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Structure

Chemical structure of 10,10,11,12,13,14-hexadeuterio-9-octadecenoic acid, showing the carboxylic acid group (COOH) and the deuterated (D) segments.

Background

Palmitelaiddic acid-d₁₃ is intended for use as an internal standard for the quantification of palmitelaiddic acid by GC- or LC-MS. Palmitelaiddic acid is a *trans* isomer of palmitoleic acid and dietary fatty acid that has been found in dairy fat products and various partially hydrogenated oils.^{1,2} It decreases nitric oxide (NO) production and levels of soluble E-selectin in isolated human aortic endothelial cells (HAECs) when used at a concentration of 20 μM.¹ Palmitelaiddic acid (49 μM) inhibits Sendai virus-induced hemolysis of isolated human erythrocytes.³ Increased serum levels of palmitelaiddic acid are associated with higher levels of LDL, but lower levels of triglycerides, fasting insulin, blood pressure, and incidence of diabetes.²

1.Livingstone, K.M., Givens, D.I., Jackson, K.G., et al.Comparative effect of dairy fatty acids on cell adhesion molecules, nitric oxide and relative gene expression in healthy and diabetic human aortic endothelial cellsAtherosclerosis234(1)65-72(2014) 2.Mozaffarian, D., de Oliveira Otto, M.C., Lemaitre, R.N., et al.trans-Palmitoleic acid, other dairy fat biomarkers, and incident diabetes: The

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

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multi-ethnic study of atherosclerosis (MESA)Am. J. Clin. Nutr.97(4)854-861(2013) 3.MacDonald, R.C., Ore, V.D., and MacDonald, R.I.Inhibition of sendai virus-induced hemolysis by long chain fatty acidsVirology134(1)103-117(1984)

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