

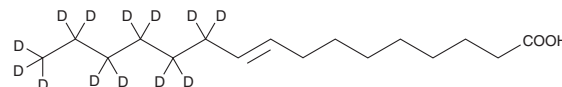
PRODUCT INFORMATION



Palmitelaidic Acid-d₁₃

Item No. 27713

CAS Registry No.: 2692623-91-7
Formal Name: (9E)-hexadecenoic-11,11,12,12,13,13,14,14,15,15,16,16,16-d₁₃ acid
Synonyms: C16:1(9E)-d₁₃, 9-*trans*-Hexadecenoic Acid-d₁₃, FA 16:1-d₁₃
MF: C₁₆H₁₇D₁₃O₂
FW: 267.5
Chemical Purity: ≥95% (Palmitelaidic Acid)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₁₃); ≤1% d₀
Supplied as: A solution in ethanol
Storage: -20°C
Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Palmitelaidic acid-d₁₃ is intended for use as an internal standard for the quantification of palmitelaidic acid (Item No. 9001798) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Palmitelaidic acid-d₁₃ is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of palmitelaidic acid-d₁₃ in these solvents is approximately 30 mg/ml.

Description

Palmitelaidic acid is a *trans* isomer of palmitoleic acid (Item Nos. 10009871 | 21911) 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 Palmitelaidic acid (49 μM) inhibits Sendai virus-induced hemolysis of isolated human erythrocytes.³ Increased serum levels of palmitelaidic acid are associated with higher levels of LDL, but lower levels of triglycerides, fasting insulin, blood pressure, and incidence of diabetes.²

References

- 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 cells. *Atherosclerosis* **234**(1), 65-72 (2014).
- Mozaffarian, D., de Oliveira Otto, M.C., Lemaitre, R.N., *et al.* *trans*-Palmitoleic acid, other dairy fat biomarkers, and incident diabetes: The multi-ethnic study of atherosclerosis (MESA). *Am. J. Clin. Nutr.* **97**(4), 854-861 (2013).
- MacDonald, R.C., Ore, V.D., and MacDonald, R.I. Inhibition of sendai virus-induced hemolysis by long chain fatty acids. *Virology* **134**(1), 103-117 (1984).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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