

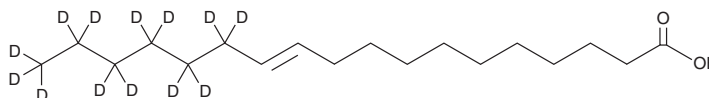
PRODUCT INFORMATION



trans-Vaccenic Acid-d₁₃

Item No. 27717

Formal Name: (E)-octadec-11-enoic-13,13,14,14,15,15,16,16,17,17,18,18-d₁₃ acid
Synonyms: C18:1(11E)-d₁₃, C18:1 n-7-d₁₃, FA 18:1-d₁₃, *trans*-11-Octadecenoic Acid-d₁₃
MF: C₁₈H₂₁D₁₃O₂
FW: 295.5
Chemical Purity: ≥95% (*trans*-Vaccenic Acid)



Deuterium Incorporation: ≥99% deuterated forms (d₁-d₁₃); ≤1% d₀
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years

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

Laboratory Procedures

trans-Vaccenic acid-d₁₃ is intended for use as an internal standard for the quantification of *trans*-vaccenic acid (Item No. 15301) 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).

trans-Vaccenic acid-d₁₃ is supplied as a crystalline solid. A stock solution may be made by dissolving the *trans*-vaccenic acid-d₁₃ in the solvent of choice, which should be purged with an inert gas. *trans*-Vaccenic acid-d₁₃ is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of *trans*-vaccenic acid-d₁₃ in ethanol is approximately 100 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Description

trans-Vaccenic acid-d₁₃ is intended for use as an internal standard for the quantification of *trans*-vaccenic acid (Item No. 15301) by GC- or LC-MS. *trans*-Vaccenic acid is an ω-7 fatty acid that has been found in bovine milk fats.¹ Dietary administration of *trans*-vaccenic acid (1% w/w) reduces total body fat, mesenteric fat, and adipocyte size, increases inguinal fat mass, and decreases intestinal and hepatic triglyceride secretion in a rat model of obesity with features of metabolic syndrome.² It decreases hepatocellular ballooning and steatosis, markers of non-alcoholic fatty liver disease (NAFLD), in the same model. Dietary administration of a butter enriched with *trans*-vaccenic acid decreases serum cholesterol levels and the formation of aortic atherosclerotic lesions in *Ldlr*^{-/-} mice.³

References

1. Santora, J.E., Palmquist, D.L., and Roehrig, K.L. *Trans*-vaccenic acid is desaturated to conjugated linoleic acid in mice. *J. Nutr.* **130**(2), 208-215 (2000).
2. Jacome-Sosa, M.M., Borthwick, F., Mangat, R., *et al.* Diets enriched in *trans*-11 vaccenic acid alleviate ectopic lipid accumulation in a rat model of NAFLD and metabolic syndrome. *J. Nutr. Biochem.* **25**(7), 692-701 (2014).
3. Bassett, C.M., Edel, A.L., Patenaude, A.F., *et al.* Dietary vaccenic acid has antiatherogenic effects in *LDLr*^{-/-} mice. *J. Nutr.* **140**(1), 18-24 (2010).

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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