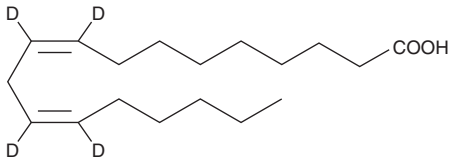
PRODUCT INFORMATION

Linoleic Acid-d_4

Item No. 390150

CAS Registry No.: 79050-23-0
Formal Name: 9Z,12Z-octadecadienoic-9,10,12,13-d_4 acid
Synonyms: C18:2(9Z,12Z)-d_4, C18:2 *n*-6-d_4, FA 18:2-d_4
9,12-Octadecadienoic Acid-d_4,
Telfairic Acid-d_4
MF: $C_{18}H_{28}D_4O_2$
FW: 284.5
Chemical Purity: ≥98%
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_4); ≤1% d_0
Supplied as: A solution in methyl acetate
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

Linoleic acid-d_4 is intended for use as an internal standard for the quantification of linoleic acid (Item No. 90150) 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).

Linoleic acid-d_4 is supplied as a solution in methyl acetate. To change the solvent, simply evaporate the methyl acetate under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide purged with an inert gas can be used. The solubility of linoleic acid-d_4 in these solvents is approximately 100 mg/ml.

Description

Linoleic acid is an essential ω-6 polyunsaturated fatty acid (PUFA).[1] It is the most abundant PUFA in a variety of foods, and dietary sources of linoleic acid include vegetable oils, meats, nuts, seeds, and eggs. Linoleic acid (30 µM) increases migration of IEC-6 rat intestinal epithelial cells in a wound healing assay.[2] Rats fed a linoleate-deficient diet exhibit decreased body weight and an increased ratio of eicosatrienoate to arachidonate in liver and serum phospholipids compared with rats fed a control diet, as well as mild scaling of forepaw skin.[3]

References

1. Whelan, J. and Fritsche, K. Linoleic acid. *Adv. Nutr.* **4(3)**, 311-312 (2013).
2. Ruthig, D.J. and Meckling-Gill, K.A. Both (n-3) and (n-6) fatty acids stimulate wound healing in the rat intestinal epithelial cell line, IEC-6. *J. Nutr.* **129(10)**, 1791-1798 (1999).
3. Cunnane, S.C. and Anderson, M.J. Pure linoleate deficiency in the rat: Influence on growth, accumulation of n-6 polyunsaturates, and [1-^{14}C]linoleate oxidation. *J. Lipid Res.* **38(4)**, 805-812 (1997).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM