

Product Information

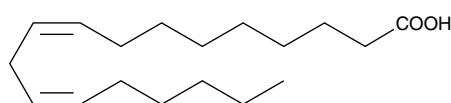


Linoleic Acid Quant-PAK

Item No. 10006834

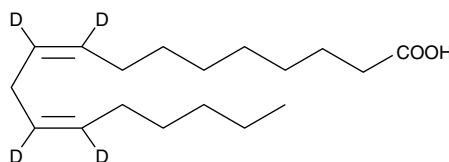
Linoleic Acid

CAS Registry No.: 60-33-3
Formal Name: 9Z,12Z-octadecadienoic acid
Synonym: Telfairic acid
MF: $C_{18}H_{32}O_2$
FW: 280.5
Purity: $\geq 99\%$
Stability: ≥ 2 years at -20°C
Supplied as: A solution in ethanol



Linoleic Acid-d₄

CAS Registry No.: 79050-23-0
Formal Name: 9Z,12Z-octadecadienoic-9,10,12,13-d₄ acid
Synonym: Telfairic acid-d₄
MF: $C_{18}H_{28}D_4O_2$
FW: 284.5
Chemical Purity: $\geq 98\%$
Deuterium Incorporation: $\geq 99\%$ deuterated forms (d₁-d₄); $\leq 1\%$ d₀
Stability: ≥ 1 year at -20°C
Supplied as: A solution in methyl acetate



This linoleic acid Quant-PAK contains 50 μg of linoleic acid-d₄ and 2-4 mg of linoleic acid (please see the vial for exact amount and concentration). For long term storage, we suggest that linoleic acid and linoleic acid-d₄ be stored as supplied at -20°C . They should be stable for at least one year.

Linoleic acid 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 linoleic acid in these solvents is approximately 100 mg/ml.

Linoleic acid-d₄ 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-d₄ in these solvents is approximately 100 mg/ml.

Linoleic acid-d₄ contains four deuterium atoms at the 9, 10, 12, 13 positions. It is intended for use as an internal standard for the quantification of linoleic acid by stable isotope dilution mass spectrometry. The accuracy of the sample weight in the linoleic acid-d₄ vial is between 5% over and 2% under the weight indicated on the vial. For better precision we have provided a precisely weighed unlabeled linoleic acid, with the precise weight (2-4 mg) indicated on the vial. Using this vial the deuterated standard can be quantified by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Linoleic acid is an essential fatty acid and one of the most abundant polyunsaturated fatty acids in the western diet. Deficiencies in linoleic acid are linked to defective wound healing, growth retardation, and dermatitis.^{1,2} Linoleic acid is metabolized by arachidonate 5-lipoxygenase (LO) and 15-LO to form 9(S)- and 13(S)-HODE, respectively.³

References

1. Soyland, E., Fund, J., Rajka, G., *et al.* *N. Engl. J. Med.* **328**, 1812-1816 (1993).
2. Hashimoto, A., Katagiri, M., Torii, S., *et al.* *Prostaglandins* **36**, 3-15 (1988).
3. Vick, B.A. Oxygenated fatty acids of the lipoxygenase pathway, Chapter 5, *in* Lipid Metabolism in Plants. Moore, T.S., Jr., editor. CRC Press, Boca Raton, 167-191 (1993).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/10006834

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman warrants only to the original customer that the material will meet our specifications at the time of delivery.

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This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

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Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

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