

PRODUCT INFORMATION



Linoleic Acid (peroxide free)

Item No. 90150.1

CAS Registry No.: 60-33-3
Formal Name: 9Z,12Z-octadecadienoic acid
Synonyms: C18:2(9Z,12Z) (peroxide free), C18:2 n-6 (peroxide free), FA 18:2 (peroxide free), 12-Octadecadienoic Acid (peroxide free), Telfairic Acid (peroxide free)

MF: C₁₈H₃₂O₂

FW: 280.5

Purity: ≥98%

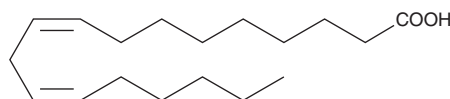
Supplied as: A solution in ethanol containing 0.1% BHT

Storage: -20°C

Stability: ≥1 year

Special Conditions: Oxygen and light sensitive

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



Laboratory Procedures

Linoleic acid (peroxide free) is supplied as a solution in ethanol containing 0.1% of the antioxidant BHT (2,6-Di-*tert*-butyl-4-methylphenol).

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, dimethyl formamide, or acetonitrile purged with an inert gas or nitrogen can be used. Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations.

Organic solvent-free solutions of linoleic acid can be prepared using concentrated basic buffers (pH > 8.0 and ionic strength ≥ 0.1 M). Add 400 μl of cold buffer (0°C) per mg of linoleic acid and mix vigorously on a vortex mixer until all the linoleic acid is dissolved. Store aqueous solutions of linoleic acid on ice and use within 12 hours of preparation. Although the aqueous solutions of linoleic acid may be stable for more than 12 hours, we strongly recommend using a fresh preparation each day.

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 Linoleic acid (peroxide free) contains the antioxidant BHT (Item No. 89910). BHT-free linoleic acid (Item Nos. 90150 | 21909) is also available.

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 [1-¹⁴C]linoleate oxidation. *J. Lipid Res.* **38**(4), 805-812 (1997).

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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