

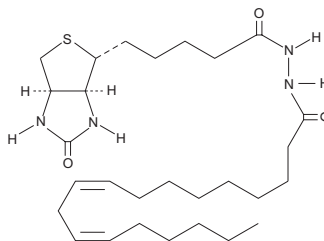
Product Information



Linoleic Acid-biotin

Catalog No. 10010623

Formal Name: 9Z,12Z-octadecadienoyl-N'-biotinoyl-1,5-diaminopentane
MF: C₂₈H₄₈N₄O₃S
FW: 520.8
Purity: ≥95%
Stability: ≥1 year at -20°C
Supplied as: A solution in ethanol



Laboratory Procedures

For long term storage, we suggest that linoleic acid-biotin be stored as supplied at -20°C. It should be stable for at least one year.

Linoleic acid-biotin 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-biotin in these solvents is approximately 50 mg/ml.

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. For greater aqueous solubility, linoleic acid-biotin can be directly dissolved in 0.1 M Na₂CO₃ (solubility of approximately 0.5 mg/ml) and then diluted with PBS (pH 7.2) to achieve the desired concentration or pH. We do not recommend storing the aqueous solution for more than one day.

Linoleic acid is an essential fatty acid and one of the most abundant polyunsaturated fatty acids (PUFAs) 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 15-LO in both plants and animals to form 9- and 13-HODE.³ Linoleic acid-biotin was designed to allow linoleic acid to be detected in complexes with protein binding partners such as fatty acid-binding proteins (FABPs). This it has the potential to serve as a tool to be used in the general elucidation of the signalling and transport of free linoleic acid.

References

1. Soyland, E., Fund, J., Rajka, G., *et al.* Effect of dietary supplementation with very-long-chain *n*-3 fatty acids in patients with psoriasis. *N. Engl. J. Med.* **328**, 1812-1816 (1993).
2. Hashimoto, A., Katagiri, M., Torii, S., *et al.* Effect of the dietary α -linolenate/linoleate balance on leukotriene production and histamine release in rats. *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

Linoleic Acid - Cat. No. 90150 • Oleic Acid-biotin - Cat. No. 10010624

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

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