

Product Data Sheet

Product Name: Linoleic Acid-d11

Cat. No.: GC45499

Chemical Properties

Cas. No. 2055171-21-4

SMILES [2H]C(C([2H])([2H])C([2H])([2H])C([2H])([2H])C([2H])([2H])[2H])([2H])/C=C/C/C=C\CCCC(O)=O

Formula $C_{18}H_{21}D_{11}O_2$ M.Wt 291.5

Solubility 0.15 M Tris-HCl pH 8.5: 1 mg/ml, DMF: 100 mg/ml, DMSO: 100 mg/ml, Ethanol: 100 mg/ml, PBS (pH 7.2): 100 μ g/ml

Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.



Background

Linoleic acid-d11 contains 11 deuterium atoms at the 14, 14', 15, 15', 16, 16', 17, 17', 18, 18, and 18 positions. It is intended for use as an internal standard for the quantification of linoleic acid by GC- or LC-mass spectrometry. Linoleic acid is a PUFA found in plant tissues and most cooking oils. Deficiencies in the essential fatty acid linoleic acid are linked to coronary heart disease, growth retardation, and allergies.^{1,2} Linoleic acid can be metabolized by prostaglandin H synthases (PGHS) to form 9- and 13-HODE.³ The K_m is 12 μ M for human PGHS-1 and 27 μ M for PGHS-2.³

References

1. 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).

Caution: Product has not been fully validated for medical applications. For research use only.

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2. Laneuville, O., Breuer, D.K., Xu, N., et al. Fatty acid substrate specificities of human prostaglandin-endoperoxide H synthase-1 and -2. Formation of 12-hydroxy-(9Z,13E/Z,15Z)-octadecatrienoic acids from α -linolenic acid. The Journal of Biological Chemistry 270, 19330-19336 (1995).
3. 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).

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