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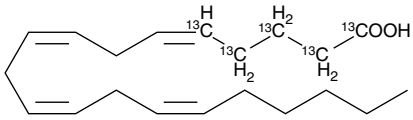
Product Information

Arachidonic Acid 1,2,3,4,5-^{13}C

Item No. 17336

Formal Name: 5Z,8Z,11Z,14Z-eicosatetraenoic-1,2,3,4,5-$^{13}C_5$ acid
Synonym: AA 1,2,3,4,5-^{13}C
MF: $C_{15}[^{13}C]_5H_{32}O_2$
FW: 309.4
Purity: ≥95%
Stability: ≥1 year at -20°C
Supplied as: A solution in methanol
Special Conditions: Oxygen and light sensitive



Laboratory Procedures

For long term storage, we suggest that arachidonic acid 1,2,3,4,5-^{13}C be stored as supplied at -20°C. It should be stable for at least one year.

Arachidonic acid 1,2,3,4,5-^{13}C is supplied as a solution in methanol. To change the solvent, simply evaporate the arachidonic acid 1,2,3,4,5-^{13}C under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO, dimethyl formamide (DMF), and ethanol purged with an inert gas can be used. The solubility of arachidonic acid 1,2,3,4,5-^{13}C in DMSO and DMF is approximately 100 mg/ml and it is miscible in ethanol.

Arachidonic acid 1,2,3,4,5-^{13}C is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Arachidonic acid (Item No. 90010) is an essential fatty acid and a precursor for all prostaglandins, thromboxanes, and leukotrienes. Virtually all cellular arachidonic acid is esterified in membrane phospholipids where its presence is tightly regulated through multiple interconnected pathways.[1] Free arachidonic acid is a transient, critical substrate for the biosynthesis of eicosanoid second messengers. Receptor-stimulated release, metabolism, and re-uptake of free arachidonate are all important aspects of cell signaling and inflammation.[2] Arachidonic acid 1,2,3,4,5-^{13}C is an isotopically enriched form of this PUFA with carbon-13 occurring at positions 1, 2, 3, 4, and 5. It can be used to study metabolic processes related to arachidonic acid by means of mass spectrometry.

References

1. Nixon, A.B., Greene, D.G., and Wykle, R.L. Comparison of acceptor and donor substrates in the CoA-independent transacylase reaction in human neutrophils. *Biochim. Biophys. Acta* **1300(3)**, 187-196 (1996).
2. Burgoyne, R.D. and Morgan, A. The control of free arachidonic acid levels. *Trends Biochem. Sci.* **15(10)**, 365-366 (1990).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/17336

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