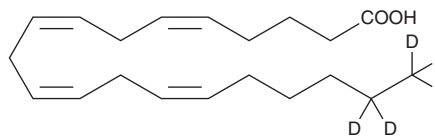


# PRODUCT INFORMATION



## Arachidonic Acid-d<sub>5</sub> Item No. 9000477

**CAS Registry No.:** 123167-26-0  
**Formal Name:** (all-Z)-5,8,11,14-eicosatetraenoic-19,19,20,20,20-d<sub>5</sub> acid  
**Synonyms:** AA-d<sub>5</sub>, FA 20:4-d<sub>5</sub>  
**MF:** C<sub>20</sub>H<sub>27</sub>D<sub>5</sub>O<sub>2</sub>  
**FW:** 309.5  
**Chemical Purity:** ≥98% (Arachidonic Acid)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>5</sub>); ≤1% d<sub>0</sub>  
**Supplied as:** A solution in ethanol  
**Storage:** -20°C  
**Stability:** ≥2 years



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

### Laboratory Procedures

Arachidonic acid-d<sub>5</sub> is intended for use as an internal standard for the quantification of arachidonic acid (Item Nos. 90010 | 90010.1 | 10006607) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Arachidonic acid-d<sub>5</sub> 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 arachidonic acid-d<sub>5</sub> in these solvents is approximately 50 mg/ml.

### Description

Arachidonic acid 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.<sup>1</sup> 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.<sup>2</sup>

### 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).

#### 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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