

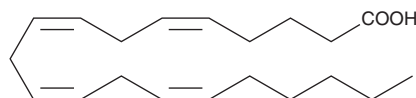
# Product Information



## Arachidonic Acid

Catalog No. 90010

**CAS Registry No:** 506-32-1  
**Formal Name:** 5Z,8Z,11Z,14Z-Eicosatetraenoic acid  
**MF:** C<sub>20</sub>H<sub>32</sub>O<sub>2</sub>  
**FW:** 304.5  
**Purity:** ≥98%  
**Stability:** ≥1 year at -20°C  
**Supplied as:** A solution in ethanol  
**Misc.:** Oxygen and light sensitive



### Laboratory Procedures

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

Arachidonic 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 or dimethyl formamide can be used. To prevent oxidation of arachidonic acid, the solvent should be purged with an inert gas. The solubility of arachidonic acid in these solvents is at least 100 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. If an organic solvent-free aqueous solution of arachidonic acid is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in basic buffers. Arachidonic acid is sparingly soluble in neutral buffers. Store aqueous solutions of arachidonic acid on ice and use within 12 hours of preparation. Although the aqueous solutions of arachidonic acid may be stable for more than 12 hours, we strongly recommend using a fresh preparation each day.

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**, 187-196 (1996).
2. Burgoyne, R.D. and Morgan, A. The control of free arachidonic acid levels. *Trends Biochem. Sci.* **15**, 365-366 (1990).

### Related Products

Arachidonic Acid methyl ester - Cat. No. 90014 • Arachidonic Acid-d8 - Cat. No. 390010 • *trans*-4,5-epoxy-2(E)-Decenal - Cat. No. 10004257 • DDA - Cat. No. 10005432 • Methyl Pentacosanoate - Cat. No. 10006451 • Dihomo- $\gamma$ -Linolenic Acid methyl ester - Cat. No. 10006580 • Arachidonic Acid (sodium salt) - Cat. No. 10006607 • Arachidonic Acid Quant-PAK - Cat. No. 10006835 • Arachidonic Acid Lipid Maps MS Standard - Cat. No. 10007268 • Arachidonic Acid-biotinamide - Cat. No. 10007466 • 20-carboxy Arachidonic Acid - Cat. No. 10007912 • Arachidonic Acid ethyl ester - Cat. No. 10008200 • Arachidonic Acid Leelamide - Cat. No. 10008617 • 15-Lipoxygenase-2 (human recombinant) - Cat. No. 10011263 • 15-Lipoxygenase-2 Western Ready Control - Cat. No. 10011500

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

### MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent under separate cover to the MSDS supervisor at your institution.

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