

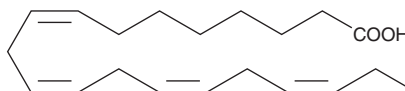
# PRODUCT INFORMATION



## $\omega$ -3 Arachidonic Acid

Item No. 90011

**CAS Registry No.:** 24880-40-8  
**Formal Name:** 8Z,11Z,14Z,17Z-eicosatetraenoic acid  
**Synonyms:**  $\omega$ -3 AA, FA 20:4  
**MF:** C<sub>20</sub>H<sub>32</sub>O<sub>2</sub>  
**FW:** 304.5  
**Purity:**  $\geq$ 98%  
**Supplied as:** A solution in ethanol  
**Storage:** -20°C  
**Stability:**  $\geq$ 2 years



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

### Laboratory Procedures

$\omega$ -3 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.  $\omega$ -3 Arachidonic acid is miscible in ethanol, but solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of  $\omega$ -3 arachidonic acid in these solvents is approximately 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 solution of  $\omega$ -3 arachidonic acid is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of  $\omega$ -3 arachidonic acid in 0.1 M Na<sub>2</sub>CO<sub>3</sub> is approximately 1.7 mg/ml. This solution can be diluted with PBS to reach the desired concentration. We do not recommend storing the aqueous solution for more than one day.

### Description

$\omega$ -3 Arachidonic acid is a rare polyunsaturated fatty acid found in trace amounts in dietary sources.  $\omega$ -3 Fatty acids are now known to be essential for infant growth and development and to protect against heart disease, thrombosis, hypertension, and inflammatory and autoimmune disorders.<sup>1</sup> In human platelet membranes,  $\omega$ -3 arachidonic acid inhibits arachidonoyl-CoA synthetase with a K<sub>i</sub> of 14  $\mu$ M. It also inhibits arachidonoyl-CoA synthetase in calf brain extracts with an IC<sub>50</sub> value of about 5  $\mu$ M.<sup>2</sup>

### References

1. Simopoulos, A.P. Omega-3 fatty acids in health and disease and in growth and development. *Am. J. Clin. Nutr.* **54**(3), 438-463 (1991).
2. Neufeld, E.J., Sprecher, H., Evans, R.W., *et al.* Fatty acid structural requirements for activity of arachidonoyl-CoA synthetase. *J. Lipid Res.* **25**(3), 288-293 (1984).

#### 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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