

# Product Information



## $\omega$ -3 Arachidonic Acid Quant-PAK

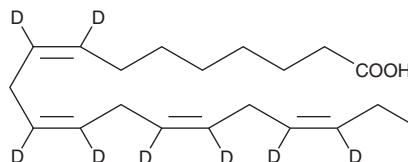
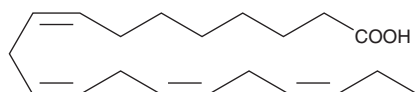
Catalog No. 10006833

### $\omega$ -3 Arachidonic Acid

**CAS Registry No.:** 24880-40-8  
**Formal Name:** 8Z,11Z,14Z,17Z-  
eicosatetraenoic acid  
**MF:** C<sub>20</sub>H<sub>32</sub>O<sub>2</sub>  
**FW:** 304.5  
**Purity:** ≥99%  
**Stability:** ≥1 year at -20°C  
**Supplied as:** A solution in ethanol

### $\omega$ -3 Arachidonic Acid-d<sub>8</sub>

**Formal Name:** 8Z,11Z,14Z,17Z-eicosatetraenoic-  
8,9,11,12,14,15,17,18-d<sub>8</sub> acid  
**MF:** C<sub>20</sub>H<sub>24</sub>D<sub>8</sub>O<sub>2</sub>  
**FW:** 312.5  
**Chemical Purity:** ≥98%  
**Deuterium  
Incorporation:** ≤1% d<sub>0</sub>  
**Stability:** ≥1 year at -20°C  
**Supplied as:** A solution in methyl acetate



This  $\omega$ -3 arachidonic acid Quant-PAK contains 50  $\mu$ g of  $\omega$ -3 arachidonic acid-d<sub>8</sub> and 2-4 mg of  $\omega$ -3 arachidonic acid (please see the vial for exact amount and concentration). For long term storage, we suggest that  $\omega$ -3 arachidonic acid and  $\omega$ -3 arachidonic acid-d<sub>8</sub> be stored as supplied at -20°C. They should be stable for at least one year.

$\omega$ -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. 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.

$\omega$ -3 Arachidonic acid-d<sub>8</sub> is supplied as a solution in methyl acetate. To change the solvent, simply evaporate the methyl acetate under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide (DMF) purged with an inert gas can be used.  $\omega$ -3 Arachidonic acid-d<sub>8</sub> is miscible in ethanol and has a solubility of approximately 100 mg/ml in DMSO and DMF.

$\omega$ -3 Arachidonic acid-d<sub>8</sub> contains eight deuterium atoms at the 8, 9, 11, 12, 14, 15, 17, and 18 positions.  $\omega$ -3 Arachidonic acid-d<sub>8</sub> is used as an internal standard for the quantification of  $\omega$ -3 arachidonic acid by stable isotope dilution mass spectrometry. The accuracy of the sample weight in the  $\omega$ -3 arachidonic acid-d<sub>8</sub> vial is between 5% over and 2% under the weight indicated on the vial. For better precision we have provided a precisely weighed unlabeled  $\omega$ -3 arachidonic acid, with the precise weight (2-4 mg) indicated on the vial. Using this vial the deuterated standard can be quantified by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

$\omega$ -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 protect against heart disease, thrombosis, hypertension, and inflammatory and autoimmune disorders.<sup>1</sup> In human platelet membranes,  $\omega$ -3 arachidonic acid inhibits arachidonoyl-coenzyme A (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**, 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**, 288-293 (1984).

### Related Products

$\omega$ -3 Arachidonic Acid - Cat. No. 90011 •  $\omega$ -3 Arachidonic Acid-d<sub>8</sub> - Cat. No. 390011 • Docosahexaenoic Acid Quant-PAK - Cat. No. 10006829 • Linoleic Acid Quant-PAK - Cat. No. 10006834 • Arachidonic Acid Quant-PAK - Cat. No. 10006835

**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 via email to your institution.

### WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman warrants only to the original customer that the material will meet our specifications at the time of delivery.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any obligation or liability, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer's exclusive remedy and Cayman's sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman's option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

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