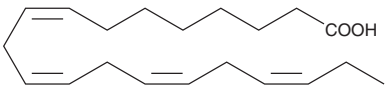
PRODUCT INFORMATION

ω-3 Arachidonic Acid Quant-PAK

Item No. 10006833

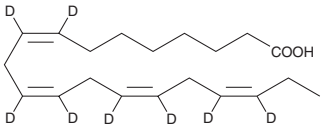
ω-3 Arachidonic Acid

CAS Registry No.:	24880-40-8
Formal Name:	8Z,11Z,14Z,17Z-eicosatetraenoic acid
Synonym:	ω-3 AA
MF:	$C_{20}H_{32}O_2$
FW:	304.5
Purity:	≥99%
Stability:	≥1 year at -20°C
Supplied as:	A solution in ethanol



ω-3 Arachidonic Acid-d_8

Formal Name:	8Z,11Z,14Z,17Z-eicosatetraenoic-8,9,11,12,14,15,17,18-d_8 acid
Synonym:	ω-3 AA-d_8
MF:	$C_{20}H_{24}D_8O_2$
FW:	312.5
Chemical Purity:	≥98%
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_8); ≤1% d_0
Stability:	≥2 years at -20°C
Supplied as:	A solution in methyl acetate



Laboratory Procedures

This ω-3 arachidonic acid Quant-PAK contains 50 µg of ω-3 arachidonic acid-d_8 and 2-4 mg of ω-3 arachidonic acid (please see the vial for exact amount and concentration). For long term storage, we suggest that ω-3 arachidonic acid and ω-3 arachidonic acid-d_8 be stored as supplied at -20°C. ω-3 Arachidonic acid should be stable for at least one year. ω-3 Arachidonic acid-d_8 should be stable for at least two years.

ω-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 ω-3 arachidonic acid in these solvents is approximately 100 mg/ml.

ω-3 Arachidonic acid-d_8 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. ω-3 Arachidonic acid-d_8 is misible in ethanol and has a solubility of approximately 100 mg/ml in DMSO and DMF.

Description

ω-3 Arachidonic acid-d_8 contains eight deuterium atoms at the 8, 9, 11, 12, 14, 15, 17, and 18 positions. ω-3 Arachidonic acid-d_8 is used as an internal standard for the quantification of ω-3 arachidonic acid by stable isotope dilution mass spectrometry. The accuracy of the sample weight in the ω-3 arachidonic acid-d_8 vial is between 5% over and 2% under the weight indicated on the vial. For better precision we have provided a precisely weighed unlabeled ω-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).

ω-3 Arachidonic acid is a rare polyunsaturated fatty acid found in trace amounts in dietary sources. ω-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.[1] In human platelet membranes, ω-3 arachidonic acid inhibits arachidonoyl-coenzyme A (CoA) synthetase with a K_i of 14 µM. It also inhibits arachidonoyl-CoA synthetase in calf brain extracts with an IC_{50} value of about 5 µM.[2]

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.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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PRODUCT INFORMATION

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).

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