

# Product Information



## Docosahexaenoic Acid Quant-PAK

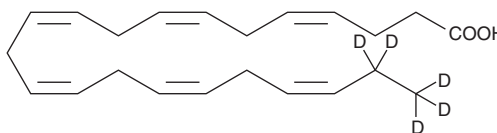
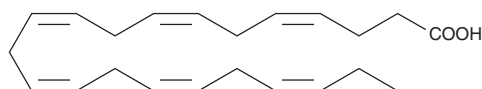
Catalog No. 10006829

### Docosahexaenoic Acid

**CAS Registry No.:** 6217-54-5  
**Formal Name:** 4Z,7Z,10Z,13Z,16Z,19Z-docosahexaenoic acid  
**Synonyms:** Cervonic Acid, DHA  
**MF:** C<sub>22</sub>H<sub>32</sub>O<sub>2</sub>  
**FW:** 328.5  
**Purity:** ≥99%  
**Stability:** ≥1 year at -20°C  
**Supplied as:** A solution in ethanol

### Docosahexaenoic Acid-d<sub>5</sub>

**Formal Name:** 4Z,7Z,10Z,13Z,16Z,19Z-docosahexaenoic-21,21,22,22,22-d<sub>5</sub> acid  
**Synonym:** Cervonic Acid-d<sub>5</sub>, DHA-d<sub>5</sub>  
**MF:** C<sub>22</sub>H<sub>27</sub>D<sub>5</sub>O<sub>2</sub>  
**FW:** 333.5  
**Chemical Purity:** ≥98%  
**Deuterium Incorporation:** ≤1% d<sub>0</sub>  
**Stability:** ≥1 year at -20°C  
**Supplied as:** A solution in ethanol



This docosahexaenoic acid (DHA) Quant-PAK contains 50 µg of DHA-d<sub>5</sub> and 2-4 mg of DHA (please see the vial for exact amount and concentration). For long term storage, we suggest that DHA and DHA-d<sub>5</sub> be stored as supplied at -20°C. They should be stable for at least one year.

Both vials are supplied as solutions 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 DHA and DHA-d<sub>5</sub> in these solvents is 100 and 50 mg/ml, respectively.

DHA-d<sub>5</sub> contains five deuterium atoms at the 21, 21, 22, 22, and 22 positions. It is intended for use as an internal standard for the quantification of DHA by GC- or LC-mass spectrometry. For better precision we have provided a precisely weighed unlabeled DHA, 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).

DHA is an essential fatty acid and the most abundant ω-3 fatty acid in neural tissues, especially in the retina and brain. DHA constitutes as much as 40% of the total polyunsaturated fatty acid pool in retinal and neuronal membranes.<sup>1</sup> Supplementation of dietary DHA using fish oil inhibits the progression of atherosclerosis and delays photoreceptor degeneration in retinitis pigmentosa.<sup>2</sup> Neonatal DHA deprivation causes developmental defects and can lead to hypertension in rats.<sup>3</sup>

### References

1. Salem, N., Kim, H.-Y., and Yergey, J.A. Docosahexaenoic acid: Membrane function and metabolism, Chapter 15, *in* Health Effects of Polyunsaturated Fatty Acids in Seafoods. 263-317 (1986).
2. Hoffman, D.R., Uauy, R., and Birch, D.G. Metabolism of ω-3 fatty acids in patients with autosomal dominant retinitis pigmentosa. *Exp. Eye Res.* **60**, 279-289 (1995).
3. Weisinger, H.S., Armitage, J.A., Sinclair, A.J., *et al.* Perinatal ω-3 fatty acid deficiency affects blood pressure later in life. *Nature Med.* **7**(3), 258-259 (2001).

### Related Products

Docosahexaenoic Acid - Cat. No. 90310 • Docosahexaenoic Acid-d<sub>5</sub> - Cat. No. 10005057 • ω-3 Arachidonic Acid Quant-PAK - Cat. No. 10006833 • 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 under separate cover to the MSDS supervisor at 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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