

# PRODUCT INFORMATION

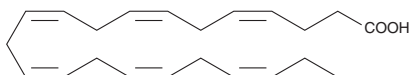


## Docosahexaenoic Acid Quant-PAK

Item No. 10006829

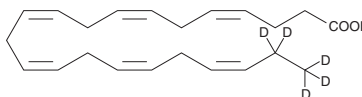
### Docosahexaenoic Acid

**CAS Registry No.:** 6217-54-5  
**Formal Name:** 4Z,7Z,10Z,13Z,16Z,19Z-docosahexaenoic acid  
**Synonyms:** C22:6 n-3, C22:6(4Z,7Z,10Z,13Z,16Z,19Z), Cervonic Acid, DHA, 4,7,10,13,16,19-Docosahexaenoic Acid  
**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>

**CAS Registry No.:** 1197205-71-2  
**Formal Name:** 4Z,7Z,10Z,13Z,16Z,19Z-docosahexaenoic-21,21,22,22,22-d<sub>5</sub> acid  
**Synonyms:** C22:6 n-3-d<sub>5</sub>, C22:6(4Z,7Z,10Z,13Z,16Z,19Z)-d<sub>5</sub>, Cervonic Acid-d<sub>5</sub>, DHA-d<sub>5</sub>, 4,7,10,13,16,19-Docosahexaenoic Acid-d<sub>5</sub>, FA 22:6-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:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>5</sub>); ≤1% d<sub>0</sub>  
**Stability:** ≥2 years at -20°C  
**Supplied as:** A solution in ethanol



### Laboratory Procedures

This docosahexaenoic acid (DHA) Quant-PAK contains 50 µg of DHA-d<sub>5</sub> and 5 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> is intended for use as an internal standard for the quantification of DHA (Item No. 90310) by GC- or LC-MS. For better precision we have provided a precisely weighed unlabeled DHA, with the precise weight (5 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).

### Description

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**(3), 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).

#### 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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