

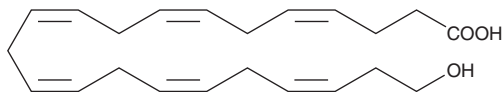
# PRODUCT INFORMATION



## 22-HDHA

Item No. 19321

**CAS Registry No.:** 90780-46-4  
**Formal Name:** 22-hydroxy-4Z,7Z,10Z,13Z,16Z,19Z-docosahexaenoic acid  
**Synonyms:** 22-hydroxy Docosahexaenoic Acid, 22-OH DHA  
**MF:** C<sub>22</sub>H<sub>32</sub>O<sub>3</sub>  
**FW:** 344.5  
**Purity:** ≥95%  
**Supplied as:** A solution in methyl acetate  
**Storage:** -20°C  
**Stability:** ≥2 years



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

### Laboratory Procedures

22-HDHA 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 purged with an inert gas can be used. 22-HDHA is miscible in these solvents.

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 22-HDHA is needed, it can be prepared by evaporating the methyl acetate and directly dissolving the neat oil in aqueous buffers. The solubility of 22-HDHA in PBS, pH 7.2, is approximately 0.8 mg/ml. For greater aqueous solubility, 22-HDHA can be directly dissolved in 0.1 M Na<sub>2</sub>CO<sub>3</sub> (solubility of 2 mg/ml) and then diluted with PBS (pH 7.2) to achieve the desired concentration or pH. We do not recommend storing the aqueous solution for more than one day.

### Description

22-HDHA is an oxidation product of docosahexaenoic acid (DHA; Item No. 90310).<sup>1</sup> *In vitro*, it is formed upon incubation of rat liver microsomes with DHA and NADPH and also by the human cytochrome P450 (CYP) isoform CYP4F3B in BTI-TN-5B1-4 microsomes.<sup>1,2</sup> Serum levels of 22-HDHA increase following dietary DHA supplementation in humans.<sup>3</sup>

### References

1. VanRollins, M., Baker, R.C., Sprecher, H., *et al.* Oxidation of docosahexaenoic acid by rat liver microsomes. *J. Biol. Chem.* **259**(9), 5776-5783 (1984).
2. Harmon, S.D., Fang, X., Kaduce, T.L., *et al.* Oxygenation of ω-3 fatty acids by human cytochrome P450 4F3B: Effect on 20-hydroxyeicosatetraenoic acid production. *Prostaglandins Leukot. Essent. Fatty Acids* **75**(3), 169-177 (2006).
3. Fischer, R., Konkel, A., Mehling, H., *et al.* Dietary omega-3 fatty acids modulate the eicosanoid profile in man primarily via the CYP-epoxygenase pathway. *J. Lipid Res.* **55**(6), 1150-1164 (2014).

#### 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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