

# PRODUCT INFORMATION



## (±)7-HDHA

Item No. 33300

CAS Registry No.: 90780-55-5

Formal Name: (±)7-hydroxy-4Z,8E,10Z,13Z,16Z,19Z-docosahexaenoic acid

Synonyms: 7-hydroxy Docosahexaenoic Acid, (±)7-HDoHE

MF:  $C_{22}H_{32}O_3$

FW: 344.5

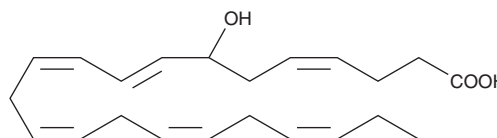
Purity: ≥98%

UV/Vis.:  $\lambda_{max}$ : 237 nm

Supplied as: A solution in ethanol

Storage: -20°C

Stability: ≥2 years



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

### Laboratory Procedures

(±)7-HDHA is supplied as a solution in ethanol. To change the solvent, 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. (±)7-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 (±)7-HDHA is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of (±)7-HDHA in PBS, pH 7.2, is approximately 0.8 mg/ml. For greater aqueous solubility, (±)7-HDHA can be directly dissolved in 0.1 M  $Na_2CO_3$  (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

(±)7-HDHA is an autooxidation product of docosahexaenoic acid (DHA) *in vitro*.<sup>1,2</sup> It is also produced from incubations of DHA in rat liver, brain, and intestinal microsomes.<sup>3-5</sup> Enzymatic transformation of DHA by RBL-1 cells also produces 7-HDHA.<sup>6,7</sup> However, the enzymatic product is most likely the S-isomer. (±)7-HDHA is a potential marker of oxidative stress in brain and retina where DHA is an abundant polyunsaturated fatty acid.

### References

1. VanRollins, M. and Murphy, R.C. *J. Lipid Res.* **25**, 507-517 (1984).
2. Reynaud, D., Thickitt, C.P., and Pace-Asciak, C.R. *Anal. Biochem.* **214**, 165-170 (1993).
3. VanRollins, M., Baker, R.C., Sprecher, H., et al. *J. Biol. Chem.* **259**, 5776-5783 (1984).
4. Yamane, M., Abe, A., and Yamane, S. *Journal of Chromatography B* **652**, 123-136 (1994).
5. Kim, H.Y., Karanian, J.W., Shingu, T., et al. *Prostaglandins* **40**, 473-491 (1990).
6. Corey, E.J., Shih, C., and Cashman, J.R. *Proc. Natl. Acad. Sci. USA* **80**, 3581-3584 (1983).
7. Fischer, S., Schacky, C.V., Siess, W., et al. *Biochem. Biophys. Res. Commun.* **120**, 907-918 (1984).

#### 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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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897  
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM