# **PRODUCT** INFORMATION



(±)5-HEPE

Item No. 32200

CAS Registry No.:	83952-40-3	
Formal Name:	(±)-5-hydroxy-6E,8Z,11Z,14Z,17Z-	
	eicosapentaenoic acid	ОН
MF:	$C_{20}H_{30}O_{3}$	
FW:	318.5	COOH
Purity:	≥97%	
UV/Vis.:	λ <sub>max</sub> : 236 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

(±)5-HEPE 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.  $(\pm)5$ -HEPE 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  $(\pm)$ 5-HEPE is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of (±)5-HEPE in PBS, pH 7.2, is approximately 0.8 mg/ml. For greater aqueous solubility, (±)5-HEPE 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

(±)5-HEPE is produced by non-enzymatic oxidation of eicosapentaenoic acid. It contains equal amounts of 5(S)-HEPE and 5(R)-HEPE. The biological activity of (±)5-HEPE is likely mediated by one of the individual isomers, most commonly the 5(S) isomer in mammalian systems. EPA can be metabolized to 5-HEPE in human and bovine neutrophils, and human eosinophils, which is further metabolized to 5-oxoEPE and LTB<sub>5</sub>,<sup>1-3</sup> The 5-series metabolites of EPA, namely 5-HEPE, 5-oxoEPE, and LTB<sub>5</sub>, have significantly decreased biological effects compared to the arachidonic acid-derived metabolites.<sup>3</sup>

# References

- 1. Powell, W.S., Gravel, S., and Gravelle, F. Formation of a 5-oxo metabolite of 5,8,11,14,17-eicosapentaenoic acid and its effects on human neutrophils and eosinophils. J. Lipid Res. 36, 2590-2598 (1995).
- 2. Lee, T.H., Mencia-Huerta, J.-M., Shih, C., et al. Effects of exogenous arachidonic, eicosapentaenoic, and docosahexaenoic acids on the generation of 5-lipoxygenase pathway products by ionophore-activated human neutrophils. J. Clin. Invest. 74, 1922-1933 (1984).
- 3. Taylor, S.M., Laegreid, W.W., Heidel, J.R., et al. Arachidonic and eicosapentaenoic acid metabolism in bovine neutrophils and platelets: effect of calcium ionophore. J. Leukoc. Biol. 42, 253-262 (1987).

WARNING THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

## SAFFTY 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

uyer 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.

Copyright Cayman Chemical Company, 01/25/2024

# 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