

# PRODUCT INFORMATION



## (±)18-HEPE MaxSpec® Standard

Item No. 23567

CAS Registry No.: 141110-17-0

Formal Name: (±)-18-hydroxy-5Z,8Z,11Z,14Z,16E-eicosapentaenoic acid

Synonyms: (±)18-Hydroxyeicosapentaenoic Acid, (±)18-hydroxy-EPA

MF: C<sub>20</sub>H<sub>30</sub>O<sub>3</sub>

FW: 318.5

Purity: ≥95%

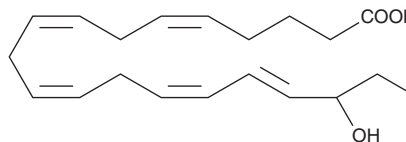
Supplied as: A solution in ethanol; in a deactivated glass ampule

Concentration: 10 µg/ml (nominal); see certificate of analysis for verified concentration

Storage: -20°C

Stability: ≥3 years; *Stability testing is ongoing to ensure concentration accuracy. The certificate of analysis and product expiry date will be updated upon completion of testing.*

Special Conditions: Store upright and unopened at -20°C. Warm to room temperature prior to opening. Light sensitive.



### Description

(±)18-HEPE is produced by non-enzymatic oxidation of eicosapentaenoic acid (EPA; Item Nos. 90110 | 90110.1 | 21908).<sup>1</sup> 18-HEPE levels are increased in the plasma and heart, as well as in the supernatant of cultured peritoneal macrophages isolated from *fat-1* transgenic mice that are capable of endogenously producing ω-3 fatty acids from ω-6 fatty acids.<sup>2-4</sup> It reduces increases in cardiac fibrosis and the expression of *Nppa*, *Col1a1*, *Tgfb1*, *Cx3cl1*, and *Adgre1* induced by transverse aortic constriction in a mouse model of cardiac hypertrophy when administered at doses of 1 and 5 µg.<sup>3</sup>

(±)18-HEPE MaxSpec® standard is a quantitative grade standard of (±)18-HEPE (Item No. 32840) that has been prepared specifically for mass spectrometry or any application where quantitative reproducibility is required. The solution has been prepared gravimetrically and is supplied in a deactivated glass ampule sealed under argon. The concentration was verified by comparison to an independently prepared calibration standard. This (±)18-HEPE MaxSpec® standard is guaranteed to meet identity, purity, stability, and concentration specifications and is provided with a batch-specific certificate of analysis. Ongoing stability testing is performed to ensure the concentration remains accurate throughout the shelf life of the product.

**Note:** *The amount of solution added to the vial is in excess of the listed amount. Therefore, it is necessary to accurately measure volumes for preparation of calibration standards. Follow recommended storage and handling conditions to maintain product quality.*

### References

1. Onodera, T., Fukuhara, A., Shin, J., *et al.* Eicosapentaenoic acid and 5-HEPE enhance macrophage-mediated Treg induction in mice. *Sci. Rep.* **7(1)**, 4560 (2017).
2. Li, J., Chen, C.-Y., Arita, M., *et al.* An omega-3 polyunsaturated fatty acid derivative, 18-HEPE, protects against CXCR4-associated melanoma metastasis. *Carcinogenesis* **39(11)**, 1380-1388 (2018).
3. Endo, J., Sano, M., Isobe, Y., *et al.* 18-HEPE, an n-3 fatty acid metabolite released by macrophages, prevents pressure overload-induced maladaptive cardiac remodeling. *J. Exp. Med.* **211(8)**, 1673-1687 (2014).
4. Kang, J.X. *Fat-1* transgenic mice: A new model for omega-3 research. *Prostaglandins Leukot. Essent. Fatty Acids* **77(5-6)**, 263-267 (2007).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer 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.

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