

# PRODUCT INFORMATION



## 9(S)-HODE MaxSpec® Standard

Item No. 23569

CAS Registry No.: 73543-67-6

Formal Name: 9S-hydroxy-10E,12Z-octadecadienoic acid

Synonym:  $\alpha$ -Dimorphelic Acid

MF:  $C_{18}H_{32}O_3$

FW: 296.4

Purity:  $\geq 95\%$

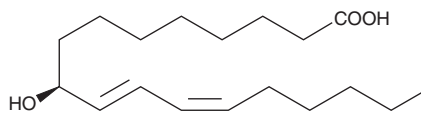
Supplied as: A solution in ethanol; in a deactivated glass ampule

Concentration: 100  $\mu\text{g/ml}$  (nominal); see certificate of analysis for verified concentration

Storage:  $-20^\circ\text{C}$

Stability:  $\geq 5$  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  $-20^\circ\text{C}$ . Warm to room temperature prior to opening. Light sensitive.



### Description

9(S)-HODE is a metabolite of the  $\omega$ -6 polyunsaturated fatty acid linoleic acid (Item Nos. 90150 | 90150.1 | 21909).<sup>1,2</sup> It is formed from linoleic acid by lipoxygenases. 9(S)-HODE (68  $\mu\text{M}$ ) increases transactivation of peroxisome proliferator-activated receptor  $\alpha$  (PPAR $\alpha$ ) and PPAR $\gamma$  in reporter assays using mouse aortic endothelial cells.<sup>3</sup> It induces chemotaxis of primary human monocytes when used at a concentration of 10  $\mu\text{M}$ .<sup>4</sup> 9(S)-HODE has been found in oxidized LDL (oxLDL).<sup>5</sup>

9(S)-HODE MaxSpec® standard is a quantitative grade standard of 9(S)-HODE (Item No. 38410) 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. The verified concentration is provided on the certificate of analysis. This 9(S)-HODE 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

- Gardner, H.W. Soybean lipoxygenase-1 enzymically forms both (9S)- and (13S)-hydroperoxides from linoleic acid by a pH-dependent mechanism. *Biochim. Biophys. Acta* **1001(3)**, 274-281 (1989).
- Kühn, H., Belkner, J., and Wiesner, R. Subcellular distribution of lipoxygenase products in rabbit reticulocyte membranes. *Eur. J. Biochem.* **191(1)**, 221-227 (1990).
- Hourton, D., Delerive, P., Stanková, J., et al. Oxidized low-density lipoprotein and peroxisome-proliferator-activated receptor  $\alpha$  down-regulate platelet-activating-factor receptor expression in human macrophages. *Biochem. J.* **354(Pt 1)**, 225-232 (2001).
- Rolin, J., Vego, H., and Maghazachi, A.A. Oxidized lipids and lysophosphatidylcholine induce the chemotaxis, up-regulate the expression of CCR9 and CXCR4 and abrogate the release of IL-6 in human monocytes. *Toxins (Basel)* **6(9)**, 2840-2856 (2014).
- Ku, G., Thomas, C.E., Akesson, A.L., et al. Induction of interleukin 1 $\beta$  expression from human peripheral blood monocyte-derived macrophages by 9-hydroxyoctadecadienoic acid. *J. Biol. Chem.* **267(20)**, 14183-14188 (1992).

#### 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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#### 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