

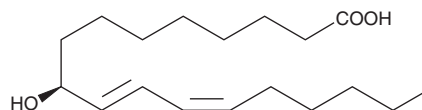
# PRODUCT INFORMATION



## 9(S)-HODE

Item No. 38410

**CAS Registry No.:** 73543-67-6  
**Formal Name:** 9S-hydroxy-10E,12Z-octadecadienoic acid  
**Synonym:**  $\alpha$ -Dimorphecolic Acid  
**MF:** C<sub>18</sub>H<sub>32</sub>O<sub>3</sub>  
**FW:** 296.5  
**Purity:**  $\geq$ 98%  
**UV/Vis.:**  $\lambda_{\text{max}}$ : 234 nm  $\epsilon$ : 23,000  
**Supplied as:** A solution in ethanol  
**Storage:** -20°C  
**Stability:**  $\geq$ 2 years



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

### Laboratory Procedures

9(S)-HODE is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol 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. The solubility of 9(S)-HODE in these solvents is approximately 50 mg/ml.

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 9(S)-HODE is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of 9(S)-HODE in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### 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  $\mu$ 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  $\mu$ M.<sup>4</sup> 9(S)-HODE has been found in oxidized LDL (oxLDL).<sup>5</sup>

### References

1. 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).
2. Kühn, H., Belkner, J., and Wiesner, R. Subcellular distribution of lipoxygenase products in rabbit reticulocyte membranes. *Eur. J. Biochem.* **191(1)**, 221-227 (1990).
3. 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).
4. 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).
5. Ku, G., Thomas, C.E., Akeson, 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.

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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