

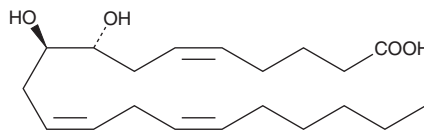
PRODUCT INFORMATION



(±)8(9)-DiHET

Item No. 51351

CAS Registry No.: 192461-96-4
Formal Name: (±)8,9-dihydroxy-5Z,11Z,14Z-eicosatrienoic acid
Synonym: (±)8,9-DiHETrE
MF: C₂₀H₃₄O₄
FW: 338.5
Purity: ≥98%
Supplied as: A solution in ethanol
Storage: -20°C
Stability: ≥2 years



NOTE: Relative stereochemistry shown in chemical structure

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

Laboratory Procedures

(±)8(9)-DiHET 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 DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of (±)8(9)-DiHET in these solvents is approximately 50 mg/ml.

(±)8(9)-DiHET is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of (±)8(9)-DiHET should be diluted with the aqueous buffer of choice. The solubility of (±)8(9)-DiHET in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

(±)8(9)-DiHET is an oxylipin and a racemic mixture of the arachidonic acid metabolites 8(S),9(R)-DiHET and 8(R),9(S)-DiHET.¹ It is formed from arachidonic acid (Item Nos. 90010 | 90010.1 | 10006607) via an (±)8(9)-EET (Item No. 50351) intermediate by epoxide hydrolases. (±)8(9)-DiHET (1 μM) induces cAMP production in primary human coronary artery smooth muscle cells.² Plasma levels of (±)8(9)-DiHET are increased in a mouse model of osteoarthritic pain induced by destabilization of the medial meniscus, an effect that can be reversed by the soluble epoxide hydrolase (sEH) inhibitor TPPU (Item No. 11120).³ Spinal cord levels of (±)8(9)-DiHET are also increased in a rat model of surgically-induced acute spinal cord injury (SCI).⁴

References

- Oliw, E.H., Guengerich, F.P., and Oates, J.A. Oxygenation of arachidonic acid by hepatic monooxygenases. Isolation and metabolism of four epoxide intermediates. *J. Biol. Chem.* **257(7)**, 3771-3781 (1982).
- Matsumoto, N., Singh, N., Lee, K.S., et al. The epoxy fatty acid pathway enhances cAMP in mammalian cells through multiple mechanisms. *Prostaglandins Other Lipid Mediat.* **162**, 106662 (2022).
- Gowler, P.R.W., Turnbull, J., Shahtaheri, M., et al. Clinical and preclinical evidence for roles of soluble epoxide hydrolase in osteoarthritis knee pain. *Arthritis Rheumatol.* **74(4)**, 623-633 (2022).
- Pang, Y., Liu, X., Zhao, C., et al. LC-MS/MS-based arachidonic acid metabolomics in acute spinal cord injury reveals the upregulation of 5-LOX and COX-2 products. *Free Radic. Biol. Med.* **193(Pt 1)**, 363-372 (2022).

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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