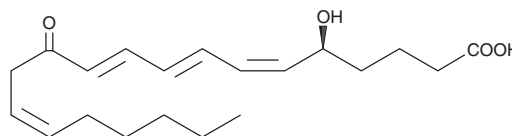


PRODUCT INFORMATION

12-oxo Leukotriene B₄

Item No. 20140

CAS Registry No.: 136696-10-1
Formal Name: 5S-hydroxy-12-oxo-6Z,8E,10E,14Z-eicosatetraenoic acid
Synonyms: 12-keto LTB₄, 12-oxo LTB₄
MF: C₂₀H₃₀O₄
FW: 334.4
Purity: ≥90%
UV/Vis.: λ_{max}: 314 nm
Supplied as: A solution in acetonitrile
Storage: -80°C
Stability: ≥1 year
Special Conditions: Light Sensitive



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

Laboratory Procedures

12-oxo Leukotriene B₄ is supplied as a solution in acetonitrile. To change the solvent, simply evaporate the acetonitrile 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. 12-oxo LTB₄ 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 12-oxo LTB₄ is needed, it can be prepared by evaporating the acetonitrile and directly dissolving the neat oil in aqueous buffers. The solubility of 12-oxo LTB₄ in PBS, pH 7.2, is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Leukotriene B₄ (LTB₄) is a dihydroxy fatty acid derived from arachidonic acid through the 5-LO pathway. It promotes a number of leukocyte functions including aggregation, stimulation of ion fluxes, enhancement of lysosomal enzyme release, superoxide anion production, chemotaxis, and chemokinesis. 12-oxo LTB₄ is an initial metabolite of LTB₄ formed via the LTB₄ 12-hydroxydehydrogenase pathway.¹⁻³ It is rapidly converted to 10,11-dihydro-12-oxo-LTB₄, followed by reduction of the 12-oxo group to give 10,11-dihydro-LTB₄.² 12-oxo-LTB₄ (EC₅₀ = 33 nM) is about 70-fold less potent than LTB₄ (EC₅₀ = 0.46 nM) at stimulating Ca²⁺ mobilization in human neutrophils.⁴ It is also significantly less potent than LTB₄ at stimulating neutrophil migration with EC₅₀ values of 170 and 2.7 nM for 12-oxo-LTB₄ and LTB₄, respectively.⁴

References

1. Yokomizo, T., Izumi, T., Takahashi, T., et al. *J. Biol. Chem.* **268**, 18128-18135 (1993).
2. Wainwright, S.L. and Powell, W.S. *J. Biol. Chem.* **266**(31), 20899-20906 (1991).
3. Wheelan, P., Zirrolli, J.A., Morelli, J.G., et al. *J. Biol. Chem.* **268**, 25439-25448 (1993).
4. Powell, W.S., Rokach, J., Khanapure, S.P., et al. *J. Pharmacol. Exp. Ther.* **276**(2), 728-736 (1996).

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