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PRODUCT INFORMATION



Leukotriene B₄-d₅ Item No. 36097

Formal Name: (5S,6Z,8E,10E,12R,14Z)-5S,12R-dihydroxyicosa-6Z,8E,10E,14Z-tetraenoic-19,19,20,20,20-d₅ acid

Synonym: LTB₄-d₅

MF: C₂₀H₂₇D₅O₄

FW: 341.5

Chemical Purity: ≥95% (LTB₄)

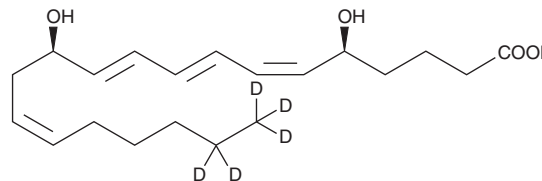
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₅); ≤1% d₀

UV/Vis.: λ_{max}: 270 nm

Supplied as: A solution in ethanol

Storage: -80°C

Stability: ≥1 year



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

Laboratory Procedures

Leukotriene B₄-d₅ (LTB₄-d₅) is intended for use as an internal standard for the quantification of LTB₄ (Item No. 20110) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

LTB₄-d₅ 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 LTB₄-d₅ in these solvents is approximately 50 mg/ml.

Description

LTB₄ is a dihydroxy fatty acid derived from arachidonic acid through the 5-lipoxygenase (5-LO) pathway.³⁻⁵ It promotes a number of leukocyte functions including aggregation, stimulation of ion fluxes, enhancement of lysosomal enzyme release, superoxide anion production, chemotaxis, and chemokinesis. In subnanomolar ranges (3.9 × 10⁻¹⁰ M), LTB₄ induces chemotaxis and chemokinesis in human polymorphonuclear leukocytes.² At higher concentrations, (1.0 × 10⁻⁷ M), LTB₄ leads to neutrophil aggregation and degranulation as well as superoxide anion production.^{1,2}

References

1. McMillan, R.M. and Foster, S.J. Leukotriene B₄ and inflammatory disease. *Agents Actions* **24**(1-2), 114-119 (1988).
2. Ford-Hutchinson, A.W. Leukotriene B₄ in inflammation. *Crit. Rev. Immunol.* **10**(1), 1-12 (1990).
3. Rådmark, O., Malmsten, C., Samuelsson, B., *et al.* Leukotriene A: Stereochemistry and enzymatic conversion to leukotriene B. *Biochem. Biophys. Res. Commun.* **92**(3), 954-961 (1980).
4. Ford-Hutchinson, A.W., Bray, M.A., Doig, M.V., *et al.* Leukotriene B, a potent chemokinetic and aggregating substance released from polymorphonuclear leukocytes. *Nature* **286**(5770), 264-265 (1980).
5. McGee, J. and Fitzpatrick, F. Enzymatic hydration of leukotriene A₄. Purification and characterization of a novel epoxide hydrolase from human erythrocytes. *J. Biol. Chem.* **260**(23), 12832-12837 (1985).

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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