

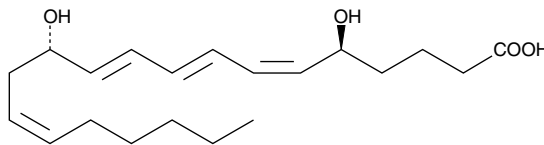
Product Information



12-*epi* Leukotriene B₄

Item No. 20135

CAS Registry No.: 83709-73-3
Formal Name: 5S,12S-dihydroxy-6Z,8E,10E,14Z-eicosatetraenoic acid
Synonym: 12-*epi* LTB₄
MF: C₂₀H₃₂O₄
FW: 336.5
Purity: ≥97%
Stability: ≥1 year at -20°C
Supplied as: A solution in ethanol
UV/Vis.: λ_{max}: 270 nm ε: 50,000
Miscellaneous: Light Sensitive



Laboratory Procedures

For long term storage, we suggest that 12-*epi* leukotriene B₄ (12-*epi* LTB₄) be stored as supplied at -20°C. It should be stable for at least one year.

12-*epi* LTB₄ 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 12-*epi* LTB₄ 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 12-*epi* LTB₄ is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of 12-*epi* LTB₄ in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

LTB₄ compounds are produced by both enzymatic and non-enzymatic processes. The products of enzymatic origin, *via* LTA₄ hydrolase, are stereospecifically 12(R). Non-enzymatic hydrolysis products are 50:50 mixtures at C-12, but are almost exclusively *trans* at C-6. Thus, the non-enzymatic hydrolysis product of LTA₄ is 6-*trans*-12-*epi* LTB₄. 12-*epi* LTB₄ is an isomer which would not be expected to occur in either non-enzymatic hydrolysis products, or in the enzymatic products of LTA₄ hydrolase.¹ Compared to LTB₄, 12-*epi* LTB₄ has significantly reduced activity for the LTB₄ receptor on human neutrophils (IC₅₀ of 7.5 μM),² and on guinea pig lung membranes with a K_i of 4.7 μM.³ 12-*epi* LTB₄ is a weak agonist at both the recombinant human BLT₁ and BLT₂ receptors, requiring approximately 10 μM for full activation of the receptor.⁴

References

1. Sala, A., Bolla, M., Zarini, S., *et al.* Release of leukotriene A₄ versus leukotriene B₄ from human polymorphonuclear leukocytes. *J. Biol. Chem.* **271**, 17944-17948 (1996).
2. Jackson, R.H., Morrissey, M.M., Sills, M.A., *et al.* Comparison of antagonist and agonist binding to the leukotriene B₄ receptor on intact human polymorphonuclear neutrophils (PMN). *J. Pharmacol. Exp. Ther.* **262**(1), 80-89 (1992).
3. Cristol, J.P., Provençal, B., Borgeat, P., *et al.* Characterization of leukotriene B₄ binding sites on guinea pig lung macrophages. *J. Pharmacol. Exp. Ther.* **247**(3), 1199-1203 (1988).
4. Yokomizo, T., Kato, K., Hagiya, H., *et al.* Hydroxyeicosanoids bind to and activate the low affinity leukotriene B₄ receptor, BLT₂. *J. Biol. Chem.* **276**(15), 12454-12459 (2001).

Related Products

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