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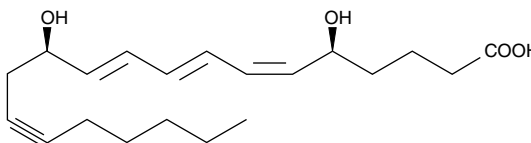
Product Information



14,15-dehydro Leukotriene B₄

Item No. 20150

CAS Registry No.: 114616-11-4
Formal Name: 5S,12R-dihydroxy-6Z,8E,10E-eicosatrien-14-ynoic acid
Synonym: 14,15-dehydro LTB₄
MF: C₂₀H₃₀O₄
FW: 334.5
Purity: ≥97%
Stability: ≥1 year at -80°C
Supplied as: A solution in ethanol
Miscellaneous: Light Sensitive



Laboratory Procedures

For long term storage, we suggest that 14,15-dehydro leukotriene B₄ (14,15-dehydro LTB₄) be stored as supplied at -80°C. It should be stable for at least one year.

14,15-dehydro 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. 14,15-dehydro 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 14,15-dehydro LTB₄ is needed, the ethanol can be evaporated under a stream of nitrogen and the neat oil dissolved directly in the buffer of choice. 14,15-dehydro LTB₄ is soluble in PBS, pH 7.2, at a concentration of 1 mg/ml. Be certain that your buffers are free of oxygen, transition metal ions, and redox active compounds. We do not recommend storing the aqueous solution for more than one day.

LTB₄ is a dihydroxy fatty acid derived from arachidonic acid through the 5-lipoxygenase pathway.^{1,2} It promotes a number of leukocyte functions including aggregation, stimulation of ion fluxes, enhancement of lysosomal enzyme release, superoxide anion production, chemotaxis, and chemokinesis.^{3,4} At least two LTB₄ receptors, termed BLT₁ and BLT₂, have been identified. 14,15-dehydro LTB₄ is a LTB₄ receptor antagonist that has a higher binding affinity for BLT₁, demonstrating a K_i value of 27 nM, compared to BLT₂, which has a K_i value of 473 nM.⁴ 14,15-dehydro LTB₄ inhibits LTB₄-induced release of lysozymes from rat polymorphonuclear leukocytes with an IC₅₀ value of 1 μM.⁵

References

1. Rådmark, O., Malmsten, C., Samuelsson, B., *et al.* Leukotriene A: Stereochemistry and enzymatic conversion to leukotriene B. *Biochem. Biophys. Res. Commun.* **92**, 954-961 (1980).
2. McGee, J. and Fitzpatrick, F. Enzymatic hydration of leukotriene A₄. *J. Biol. Chem.* **260**, 12832-12837 (1985).
3. Ford-Hutchinson, A.W. Leukotriene B₄ in inflammation. *Crit. Rev. Immunol.* **10**, 1-12 (1990).
4. McMillan, R.M. and Foster, S.J. Leukotriene B₄ and inflammatory disease. *Agents Actions* **24**, 114-119 (1988).
5. Wang, S., Gustafson, E., Pang, L., *et al.* A novel hepatointestinal leukotriene B₄ receptor. *J. Biol. Chem.* **275**, 40686-40694 (2000).
6. Shimazaki, T., Kobayashi, Y., Sato, F., *et al.* Some newly synthesized leukotriene B₄ analogs inhibit LTB₄-induced lysozyme release from rat polymorphonuclear leukocytes. *Prostaglandins* **39**, 459-467 (1990).

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