

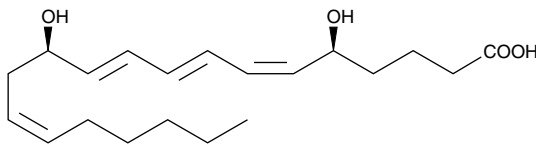
Product Information



Leukotriene B₄

Item No. 20110

CAS Registry No.:	71160-24-2
Formal Name:	5S,12R-dihydroxy-6Z,8E,10E,14Z-eicosatetraenoic acid
Synonym:	LTB ₄
MF:	C ₂₀ H ₃₂ O ₄
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 leukotriene B₄ (LTB₄) be stored as supplied at -20°C. It should be stable for at least one year.

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 or dimethyl formamide purged with an inert gas can be used. 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. If an organic solvent-free solution of LTB₄ is needed, the ethanol can be evaporated under a stream of nitrogen and the neat oil dissolved in the buffer of choice. 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. Also, ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. 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.¹⁻³ 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 x 10⁻¹⁰ M), LTB₄ causes chemotaxis and chemokinesis in human polymorphonuclear leukocytes.⁴ At higher concentrations, (1.0 x 10⁻⁷ M), LTB₄ leads to neutrophil aggregation and degranulation as well as superoxide anion production.^{4,5}

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. 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**, 264-265 (1980).
3. McGee, J. and Fitzpatrick, F. Enzymatic hydration of leukotriene A₄. *J. Biol. Chem.* **260**, 12832-12837 (1985).
4. Ford-Hutchinson, A.W. Leukotriene B₄ in inflammation. *Crit. Rev. Immunol.* **10**, 1-12 (1990).
5. McMillan, R.M. and Foster, S.J. Leukotriene B₄ and inflammatory disease. *Agents Actions* **24**, 114-119 (1988).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/20110

*All cysteinyl leukotrienes may contain a small amount of the 11-*trans* isomer. The purity for all such leukotrienes excludes the 1-4% *trans* isomer which may be present.

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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