

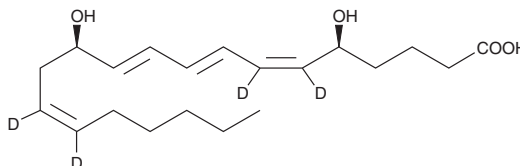
# PRODUCT INFORMATION



## Leukotriene B<sub>4</sub>-d<sub>4</sub>

Item No. 320110

**CAS Registry No.:** 124629-74-9  
**Formal Name:** 5S,12R-dihydroxy-6Z,8E,10E,14Z-eicosatetraenoic-6,7,14,15-d<sub>4</sub> acid  
**Synonym:** LTB<sub>4</sub>-d<sub>4</sub>  
**MF:** C<sub>20</sub>H<sub>28</sub>D<sub>4</sub>O<sub>4</sub>  
**FW:** 340.5  
**Chemical Purity:** ≥97% (LTB<sub>4</sub>)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>4</sub>); ≤1% d<sub>0</sub>  
**UV/Vis.:** λ<sub>max</sub>: 270 nm ε: 50,000  
**Supplied as:** A solution in acetonitrile  
**Storage:** -20°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

Leukotriene B<sub>4</sub>-d<sub>4</sub> (LTB<sub>4</sub>-d<sub>4</sub>) is intended for use as an internal standard for the quantification of LTB<sub>4</sub> (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).

LTB<sub>4</sub>-d<sub>4</sub> 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. The solubility of LTB<sub>4</sub>-d<sub>4</sub> in these solvents is approximately 50 mg/ml.

### Description

LTB<sub>4</sub> is a dihydroxy fatty acid derived from arachidonic acid through the 5-lipoxygenase pathway.<sup>1-3</sup> 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<sup>-10</sup> M), LTB<sub>4</sub> causes chemotaxis and chemokinesis in human PMNL.<sup>4</sup> At higher concentrations, (1.0 × 10<sup>-7</sup> M), LTB<sub>4</sub> leads to neutrophil aggregation and degranulation as well as superoxide anion production.<sup>4,5</sup>

### 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 A<sub>4</sub>. *J. Biol. Chem.* **260**, 12832-12837 (1985).
4. Ford-Hutchinson, A.W. Leukotriene B<sub>4</sub> in inflammation. *Crit. Rev. Immunol.* **10**, 1-12 (1990).
5. McMillan, R.M. and Foster, S.J. Leukotriene B<sub>4</sub> and inflammatory disease. *Agents Actions* **24**, 114-119 (1988).

#### 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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