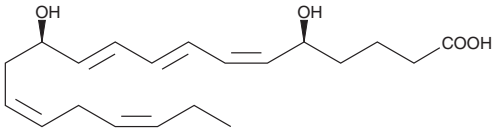
PRODUCT INFORMATION

Leukotriene B_5

Item No. 21110

CAS Registry No.: 80445-66-5
Formal Name: 5S,12R-dihydroxy-6Z,8E,10E,14Z,17Z-eicosapentaenoic acid
Synonym: LTB_5
MF: $C_{20}H_{30}O_4$
FW: 334.5
Purity: ≥98%
UV/Vis.: λ_{max}: 271 nm ε: 50,000
Supplied as: A solution in ethanol
Storage: -20°C
Stability: ≥1 years
Special Conditions: Oxygen and light sesitive



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

Laboratory Procedures

Leukotriene B_5 (LTB_5) 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 or nitrogen can be used. LTB_5 is soluble in these solvents at concentrations of at least 50 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. 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. If an organic solvent-free solution of LTB_5 is needed, evaporate the ethanol under a stream of nitrogen and dissolve the neat oil in the buffer of choice. LTB_5 is soluble in PBS (pH 7.2) at concentrations of at least 1 mg/ml. For more concentrated aqueous solutions, use basic buffers (pH >8.0 and ionic strength ≥0.1 M). Store aqueous solutions of LTB_5 on ice and use within 12 hours.

Description

LTB_5 is a leukotriene with diverse biological activities.[1-5] It is a metabolite of eicosapentaenoic acid (EPA; Item Nos. 90110 | 90110.1 | 21908) formed through the 5-lipoxygenase (5-LO) pathway.[6] LTB_5 increases contraction of bullfrog lung strips *ex vivo* in a concentration-dependent manner.[1] *In vivo*, LTB_5 (100 nM) reduces tumor volume in mice injected with Tm1 murine melanoma cells.[2] LTB_5 also elicits chemokinesis and lysosomal enzyme release from polymorphonuclear leukocytes (PMNLs) 20- to 30-fold less, and induces platelet aggregation 8-fold less, potently than LTB_4 (Item No. 20110).[3-5]

References

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3. Lee, T.H., Mencia-Huerta, J.M., Shih, C., *et al. J. Biol. Chem.* **259(4)**, 2383-2389 (1984).
4. Leitch, A.G., Lee, T.H., Ringel, E.W., *et al. J. Immunol.* **132(5)**, 2559-2565 (1984).
5. Terano, T., Salmon, J.A., and Moncada, S. *Prostaglandins* **27(2)**, 217-232 (1984).
6. Ford-Hutchinson, A.W., Bray, M.A., Doig, M.V., *et al. Nature* **286(5770)**, 264-265 (1980).

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