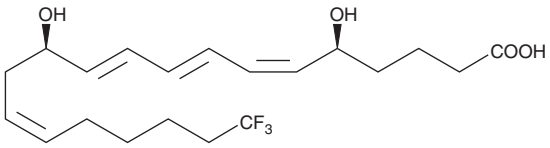
PRODUCT INFORMATION

20-trifluoro Leukotriene B_4

Item No. 20195

CAS Registry No.: 115178-97-7
Formal Name: 5S,12R-dihydroxy-20,20,20-trifluoro-6Z,8E,10E,14Z-eicosatetraenoic acid
Synonym: 20-trifluoro LTB_4
MF: $C_{20}H_{29}F_3O_4$
FW: 390.4
Purity: ≥97%
UV/Vis.: λ_{max}: 270 nm
Supplied as: A solution in ethanol
Storage: -20°C
Special Conditions: Light sensitive



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

Laboratory Procedures

20-trifluoro LTB_4 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. The solubility of 20-trifluoro LTB_4 in these solvents is 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. 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 20-trifluoro LTB_4 is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of 20-trifluoro LTB_4 in PBS (pH 7.2) is approximately 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.

Description

20-trifluoro LTB_4 is a synthetic analog of LTB_4 resistant to metabolism by ω-oxidation.[1] It is equipotent to LTB_4 in chemotactic activity with an EC_{50} of 3 nM.[2,3] In contrast to its chemotactic activity, 20-trifluoro LTB_4 inhibits LTB_4 induced degranulation of neutrophils with an IC_{50} of 1-2 nM.[1-3]

References

1. Tanaka, Y., Klauck, T.M., Jubiz, W., *et al.* Biosynthesis of 20,20,20-trifluoroleukotriene B_4 from 20,20,20-trifluoroarachidonic acid: A metabolically stable analog of leukotriene B_4 and its application to a study of stimulation of leukotriene B_4 synthesis by immunoglobulin G. *Arch. Biochem. Biophys.* **263**, 178-190 (1988).
2. Tsai, B.S., Keith, R.H., Villani-Price, D., *et al.* Differential effects of 20-trifluoromethyl leukotriene B_4 on human neutrophil functions. *Prostaglandins* **37**, 287-302 (1989).
3. Nilssin, E., Gyllenhammar, H., Lerner, R., *et al.* The effect of 20-trifluoromethyl leukotriene B_4 on neutrophil functional responses. *Scand. J. Immunol.* **33**, 357-363 (1991).

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