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Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

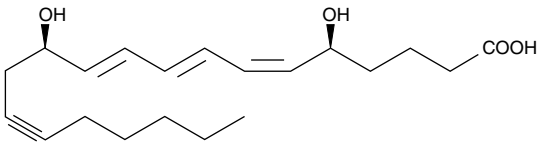
linkedin.com/company/szaboscandic

Product Information

14,15-dehydro Leukotriene B_4

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 LTB_4
MF: $C_{20}H_{30}O_4$
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 B_4 (14,15-dehydro LTB_4) be stored as supplied at -80°C. It should be stable for at least one year.

14,15-dehydro 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 and dimethyl formamide purged with an inert gas can be used. 14,15-dehydro LTB_4 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 LTB_4 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 LTB_4 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.

LTB_4 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 LTB_4 receptors, termed BLT_1 and BLT_2, have been identified. 14,15-dehydro LTB_4 is a LTB_4 receptor antagonist that has a higher binding affinity for BLT_1, demonstrating a K_i value of 27 nM, compared to BLT_2, which has a K_i value of 473 nM.[4] 14,15-dehydro LTB_4 inhibits LTB_4-induced release of lysozymes from rat polymorphonuclear leukoctyes with an IC_{50} value of 1 µM.[5]

References

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4. McMillan, R.M. and Foster, S.J. Leukotriene B_4 and inflammatory disease. *Agents Actions* **24**, 114-119 (1988).
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