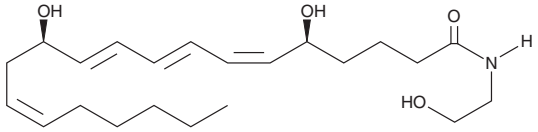
PRODUCT INFORMATION

Leukotriene B_4 Ethanolamide

Item No. 20112

CAS Registry No.: 877459-63-7
Formal Name: N-(2-hydroxyethyl)-5S,12R-dihydroxy-6Z,8E,10E,14Z-eicosatetraenamide
Synonym: LTB_4-EA
MF: $C_{22}H_{37}NO_4$
FW: 379.5
Purity: ≥97%
UV/Vis.: λ_{max}: 270 nm
Supplied as: A solution in ethanol
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

LTB_4-EA 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. The solubility of LTB_4-EA in these solvents is approximately 100 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 LTB_4-EA is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of LTB_4-EA in PBS (pH 7.2) is approximately 12 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

The effects of LTB_4 are mediated by two known receptors, $BLTR_1$ and $BLTR_2$.[1,2] LTB_4 is a high affinity ligand for $BLTR_1$, and many of its pro-inflammatory effects are believed to be transduced through this receptor. $BLTR_2$ is more inegmatic, in that LTB_4 is not a high-affinity ligand, nor is it clear that $BLTR_2$ activation promotes inflammation. LTB_4-EA is a theoretical 5-lipoxygenase metabolite of the endocannabinoid anandamide. In CHO cells transfected with human $BLTR_1$, LTB_4-EA was a potent antagonist with about three times greater affinity for the receptor (K_i=1.22 nM *versus* 3.88 nM) than native LTB_4 itself. LTB_4-EA also antagonized the LTB_4-induced contractions of guinea pig lung parenchyma with an EC_{50} of 10 nM.[3] LTB_4-EA thus represents a potential endogenous anti-inflammatory compound functioning as a natural antagonist of BLTR1.

References

1. Yokomizo, T., Izumi, T., Chang, K., *et al.* A G-protein-coupled receptor for leukotriene B_4 that mediates chemotaxis. *Nature* **387(6633)**, 620-624 (1997).
2. Yokomizo, T., Kato, K., Terawaki, K., *et al.* A second leukotriene B_4 receptor, BLT2: A new therapeutic target in inflammation and immunological disorders. *J. Exp. Med.* **193(3)**, 421-431 (2000).
3. Pharmacological characterization of LTB_4 ethanolamide: Interaction with leukotriene (BLT) and vanilloid (TRPV1) receptors, (2003), 121 *in* 13th Annual ICRS Cannabinoid Symposium.

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM