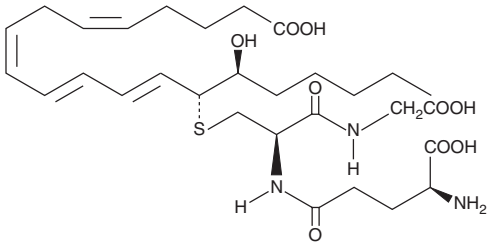
PRODUCT INFORMATION

14,15-Leukotriene C_4

Item No. 10011360

CAS Registry No.: 75290-60-7
Formal Name: 15S-hydroxy-14R-(S-glutathionyl)-5Z,8Z,10E,12E-eicosatetraenoic acid
Synonyms: Eoxin C_4, EXC_4, 14,15-LTC_4
MF: $C_{30}H_{47}N_3O_9S$
FW: 625.8
Purity: ≥95%
UV/Vis.: λ_{max}: 280 nm
Supplied as: A solution in methanol
Storage: -80°C
Stability: As supplied, 1 year from the QC date provided on the Certificate of Analysis, when stored properly
Special Conditions: Light Sensitive



Laboratory Procedures

14,15-Leukotriene C_4 (14,15-LTC_4) is supplied as a solution in methanol. To change the solvent, simply evaporate the methanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide (DMF) purged with an inert gas can be used. The solubility of 14,15-LTC_4 in ethanol is approximately 1 mg/ml and approximately 50 mg/ml in DMSO and DMF.

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-LTC_4 is needed, it can be prepared by evaporating the methanol and directly dissolving the neat oil in aqueous buffers. The solubility of 14,15-LTC_4 in PBS, pH 7.2, is approximately 100 µg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

LTs are a group of acute inflammatory mediators derived from arachidonic acid in leukocytes. The majority of these metabolites are formed through the 5-lipoxygenase (5-LO) pathway.[1] 14,15-LTC_4 is a member of an alternate class of LTs synthesized by a pathway involving the dual actions of 15- and 12-LOs on arachidonic acid *via* 15-HpETE and 14,15-LTA_4 intermediates.[2-5] 14,15-LTC_4 is classified as an eoxin, because it is formed mostly by eosinophils.[4] However, mast cells and nasal polyps can synthesize 14,15-LTC_4 as well. Little is known about the physiological actions of 14,15-LTC_4. It has weak contractile activity on both guinea pig ileum and pulmonary parenchyma in contrast to the effects of 5-LO-derived LTs.[6,7] However, in an *in vitro* permeability assay, 14,15-LTC_4 can increase vascular permeability of human endothelial cell monolayers, with similar potency to that of 5-LO-derived LTs resulting in plasma leakage - a hallmark of inflammation.[4]

References

1. Luo, M., Lee, S., and Brock, T.G. Leukotriene synthesis by epithelial cells. *Histol. Histopathol.* **18**, 587-595 (2003).
2. Yokoyama, C., Shinjo, F., Yoshimoto, T., *et al. J. Biol. Chem.* **261**, 16714-16721 (1986).
3. Bryant, R.W., Schewe, T., Rapoport, S.M., *et al. J. Biol. Chem.* **260**, 3548-3555 (1985).
4. Feltenmark, S., Gautam, N., Brunnström, Å., *et al. Proc. Natl. Acad. Sci. USA* **105(2)**, 680-685 (2008).
5. Sailesh, S., Kumar, Y.V.K., Prasad, M., *et al. Arch. Biochem. Biophys.* **315(2)**, 362-368 (1994).
6. Drazen, J.M., Lewis, R.A., Austen, K.F., *et al. Proc. Natl. Acad. Sci. USA* **78(5)**, 3195-3198 (1987).
7. Sala, A., Civelli, M., Oliva, D., *et al. Eicosanoids* **3**, 105-110 (1990).

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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