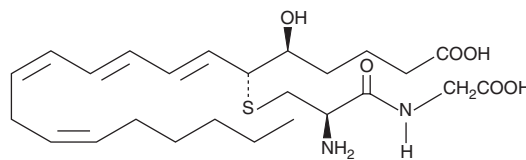


PRODUCT INFORMATION



Leukotriene D₄ Item No. 20310

CAS Registry No.: 73836-78-9
Formal Name: 5S-hydroxy-6R-(S-cysteinylglycyl)-7E,9E,11Z,14Z-eicosatetraenoic acid
Synonym: LTD₄
MF: C₂₅H₄₀N₂O₆S
FW: 496.7
Purity: ≥97%*
UV/Vis.: λ_{max}: 280 nm
Supplied as: A solution in ethanol
Storage: -80°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

Leukotriene D₄ (LTD₄) 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 LTD₄ in these solvents is approximately 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 LTD₄ is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of LTD₄ in PBS (pH 7.2) is approximately 100 µg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

LTD₄ is an active metabolite of LTC₄ (Item No. 20210) and a constituent of slow-reacting substance of anaphylaxis (SRS-A).^{1,2} It is formed *via* metabolism of LTC₄ by γ-glutamyl transpeptidase. Like LTC₄, LTD₄ (0.01-0.1 pM) induces contractions in isolated guinea pig parenchymal strips and tracheal spirals.³ *In vivo*, LTD₄ increases insufflation pressure, a marker of bronchoconstriction, in anesthetized guinea pigs by 100% when administered at a dose of 89 pmol per animal.⁴ It also increases vascular permeability in guinea pig skin when administered intradermally at a dose of 0.1 pmol per animal.

References

- Örning, L., Hammarström, S., and Samuelsson, B. Leukotriene D: A slow reacting substance from rat basophilic leukemia cells. *Proc. Natl. Acad. Sci. USA* **77(4)**, 2014-2017 (1980).
- Hammarström, S., Örning, L., and Bernström, K. Metabolism of leukotrienes. *Mol. Cell Biochem.* **69(1)**, 7-16 (1985).
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- Hedqvist, P., Dahlén, S.E., Gustafsson, L., et al. Biological profile of leukotrienes C₄ and D₄. *Acta Physiol. Scand.* **110(3)**, 331-333 (1980).

*All cysteinyl leukotrienes may contain a small amount of the 11-*trans* isomer. The purity for all such leukotrienes excludes the 1-4% *trans* isomer which may be present.

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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