

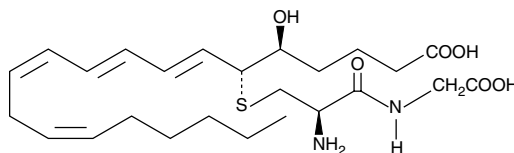
Product Information



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:	LTD ₄
MF:	C ₂₅ H ₄₀ N ₂ O ₆ S
FW:	496.7
Purity:	≥97%*
Stability:	≥1 year at -80°C
Supplied as:	A solution in ethanol
UV/Vis.:	λ _{max} : 280 nm ε: 40,000
Miscellaneous:	Light Sensitive



Laboratory Procedures

For long term storage, we suggest that leukotriene D₄ (LTD₄) be stored as supplied at -80°C. It should be stable for at least one year.

LTD₄ is supplied as a solution in ethanol:H₂O (95:5). 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.

LTD₄ is one of the constituents of slow-reacting substance of anaphylaxis (SRS-A) produced by the metabolism of LTC₄ by γ-glutamyl transpeptidase.^{1,2} LTD₄ is the first cysteinyl-leukotriene metabolite of LTC₄. Like LTC₄, LTD₄ induced bronchoconstriction and enhanced vascular permeability contribute to the pathogenesis of asthma and acute hypersensitivity.^{3,4} LTD₄ is equipotent to LTC₄ in its biological activities, except that LTD₄ is nearly 100-fold more effective in the contraction of peripheral airway smooth muscle.^{5,6}

References

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- Hedqvist, P., Dahlén, S.-E., Gustafsson, L., *et al.* Biological profile of leukotrienes C₄ and D₄. *Acta Physiol. Scand.* **110**, 331-333 (1980).
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- Drazen, J.M., Austen, K.F., Lewis, R.A., *et al.* Comparative airway and vascular activities of leukotrienes C-1 and D *in vivo* and *in vitro*. *Proc. Nat. Acad. Sci USA* **77**, 4354-4358 (1980).

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*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 LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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