

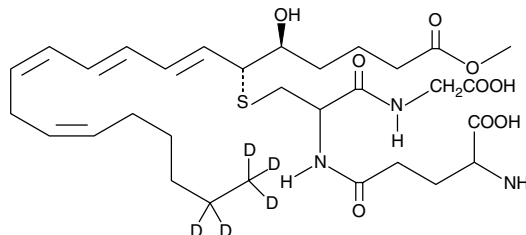
Product Information



Leukotriene C₄-d₅ methyl ester

Item No. 9001287

Formal Name:	5S-hydroxy-6R-(S-glutathionyl)-7E,9E,11Z,14Z-d ₅ -eicosatetraenoic acid, methyl ester
Synonym:	LTC ₄ -d ₅ methyl ester
MF:	C ₃₁ H ₄₄ D ₅ N ₃ O ₉ S
FW:	644.8
Chemical Purity:	≥97% LTC ₄ methyl ester
Deuterium Incorporation:	≥99% deuterated forms (d ₁ -d ₅), ≤1% d ₀
Stability:	≥1 year at -80°C
Supplied as:	A solution in ethanol:water (95:5)
UV/Vis.:	λ _{max} : 282 nm
Miscellaneous:	Light Sensitive



Laboratory Procedures

Leukotriene C₄-d₅ (LTC₄-d₅) methyl ester contains five deuterium atoms at the 19, 19', 20, 20, and 20 positions. It is intended for use as an internal standard for the quantification of LTC₄ methyl ester by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that LTC₄-d₅ methyl ester be stored as supplied at -80°C. It should be stable for at least one year.

LTC₄-d₅ methyl ester is supplied as a solution in ethanol:water (95:5). To change the solvent, simply evaporate the ethanol:water 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 LTC₄-d₅ methyl ester in these solvents is approximately 50 mg/ml.

LTC₄-d₅ methyl ester is used as an internal standard for the quantification of LTC₄ methyl ester by stable isotope dilution MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

LTC₄ is the parent cysteinyl-leukotriene produced by the LTC₄ synthase-catalyzed conjugation of glutathione to LTA₄. LTC₄ is produced by neutrophils, macrophages, and mast cells, and by transcellular metabolism in platelets.¹ It is one of the constituents of slow-reacting substance of anaphylaxis and exhibits potent smooth muscle contracting activity.² LTC₄-induced bronchoconstriction and enhanced vascular permeability contribute to the pathogenesis of asthma and acute allergic hypersensitivity.^{3,4} The concentration of LTC₄ required to produce marked contractions of lung parenchymal strips and isolated tracheal rings is about 1 nM.⁴ LTC₄ methyl ester is a more lipid soluble form of LTC₄. The biological activity of LTC₄ methyl ester has not been reported.

References

1. Maclouf, J.A. and Murphy, R.C. Transcellular metabolism of neutrophil-derived leukotriene A₄ by human platelets. A potential cellular source of leukotriene C₄. *J. Biol. Chem.* **263**, 174-181 (1988).
2. Piper, P.J. Formation and actions of leukotrienes. *Physiol. Rev.* **64**, 744-761 (1984).
3. Samuelsson, B. Leukotrienes: Mediators of immediate hypersensitivity reactions and inflammation. *Science* **220**, 568-575 (1983).
4. Lefer, A.M. Leukotrienes as mediators of ischemia and shock. *Biochem. Pharmacol.* **35**, 123-127 (1986).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/9001287

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL 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 Material Safety Data Sheet, which has been sent *via* email to your institution.

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