

Product Information



Leukotriene E₄-d₅

Item No. 10007858

CAS Registry No.: 1240398-14-4

Formal Name: 5S-hydroxy-6R-(S-cysteinyl)-7E,9E,11Z,14Z-eicosatetraenoic-19,19,20,20,20-d₅ acid

Synonym: LTE₄-d₅

MF: C₂₃H₃₂D₅NO₅S

FW: 444.64

Chemical Purity: ≥97%

Deuterium

Incorporation: ≥99% deuterated forms (d₁-d₅); ≤1% d₀

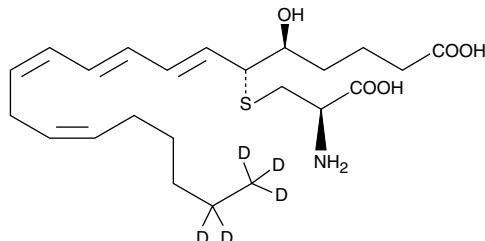
Stability: ≥1 year at -80°C

Supplied as: A solution in ethanol

Misc: Oxygen and light sensitive

UV/Vis.: λ_{max}: 281 nm ε: 40,000

Miscellaneous: Light Sensitive



Laboratory Procedures

Leukotriene E₄-d₅ (LTE₄-d₅) 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 LTE₄ by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that LTE₄-d₅ be stored as supplied at -80°C. It should be stable for at least one year.

LTE₄-d₅ 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 ethanol, DMSO, and dimethyl formamide purged with an inert gas can be used. The solubility of LTE₄-d₅ in these solvents is approximately 50 mg/ml.

LTE₄-d₅ is used as an internal standard for the quantification of LTE₄ 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).

LTE₄ is produced by the action of dipeptidase on LTD₄, leaving only the cysteinyl group still attached to the fatty acid backbone.¹ It is one of the constituents of slow-reacting substance of anaphylaxis (SRS-A).² LTE₄ is considerably less active (8 to 12-fold) than LTC₄ in the biological activities characteristic of cysteinyl leukotrienes.^{1,3} Unlike LTC₄ and LTD₄, LTE₄ accumulates in both plasma and urine. Therefore, urinary excretion of LTE₄ is most often used as an indicator of asthma.⁴⁻⁶ In humans, basal levels of LTE₄ range from 1-100 pg/mg creatinine. In asthmatic patients, urinary LTE₄ levels increase to 80-1,000 pg/mg creatinine.⁵

References

- Bernström, K. and Hammarström, S. *J. Biol. Chem.* **256**, 9579-9582 (1981).
- Samuelsson, B. *Science* **220**, 568-575 (1983).
- Lefer, A.M. *Biochem. Pharmacol.* **35**, 123-127 (1986).
- Kumlin, M., Stensvad, F., Larsson, L., et al. *Clin. Exp. Allergy* **25**, 467-479 (1995).
- Drazen, J.M., O'Brien, J., Sparrow, D., et al. *Am. Rev. Respir. Dis.* **146**, 104-108 (1992).
- Kumlin, M., Dahlén, B., Björck, T., et al. *Am. Rev. Respir. Dis.* **146**, 96-103 (1992).

Related Products

For a list of related products please visit: www.caymancell.com/catalog/10007858

*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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