

# PRODUCT INFORMATION



## Leukotriene D<sub>4</sub> methyl ester

Item No. 10007165

**Formal Name:** 5S-hydroxy-6R-(S-cysteinylglycyl)-  
7E,9E,11Z,14Z-eicosatetraenoic  
acid, methyl ester

**Synonym:** LTD<sub>4</sub> methyl ester

**MF:** C<sub>26</sub>H<sub>42</sub>N<sub>2</sub>O<sub>6</sub>S

**FW:** 510.7

**Purity:** ≥97%

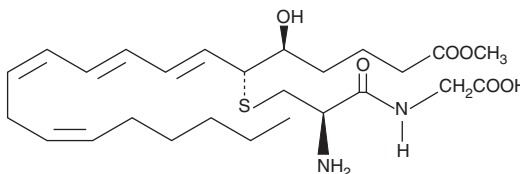
**UV/Vis.:** λ<sub>max</sub>: 280 nm

**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 D<sub>4</sub> methyl ester (LTD<sub>4</sub> methyl ester) 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 LTD<sub>4</sub> methyl ester in these solvents is approximately 20 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 LTD<sub>4</sub> methyl ester is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of LTD<sub>4</sub> methyl ester in PBS (pH 7.2) is approximately 0.15 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

LTD<sub>4</sub> is one of the constituents of slow-reacting substance of anaphylaxis (SRS-A) produced by the metabolism of LTC<sub>4</sub> by γ-glutamyl transpeptidase.<sup>1,2</sup> LTD<sub>4</sub>-induced bronchoconstriction and enhanced vascular permeability contribute to the pathogenesis of asthma and acute hypersensitivity.<sup>3,4</sup> LTD<sub>4</sub> is several hundred fold more potent than LTC<sub>4</sub> at the cysteinyl-leukotriene 1 (CysLT<sub>1</sub>) receptor, but they exhibit approximately equal affinity at the CysLT<sub>2</sub> receptor.<sup>5,6</sup> LTD<sub>4</sub> methyl ester is a more lipid soluble form of LTD<sub>4</sub>. The biological activity of LTD<sub>4</sub> methyl ester has not been reported.

### References

1. Örning, L., Hammarström, S., and Samuelsson, B. *Proc. Natl. Acad. Sci. USA* **77**, 2014-2017 (1980).
2. Hammarström, S., Örning, L., and Bernström, K. *Mol. Cell. Biochem.* **69**, 7-16 (1985).
3. Hedqvist, P., Dahlén, S.-E., Gustafsson, L., et al. *Acta Physiol. Scand.* **110**, 331-333 (1980).
4. Samuelsson, B., Dahlén, S.-E., Lindgren, J.Å., et al. *Science* **237**, 1171-1176 (1987).
5. Lynch, K.R., O'Neill, G.P., Liu, Q., et al. *Nature* **399**, 789-793 (1999).
6. Heise, C.E., O'Dowd, B.F., Figueroa, D.J., et al. *J. Biol. Chem.* **275**, 30531-30536 (2000).

#### 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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