

# PRODUCT INFORMATION



## N-methyl Leukotriene C<sub>4</sub>

Item No. 13390

**CAS Registry No.:** 131391-65-6  
**Formal Name:** N-methyl-L-γ-glutamyl-S-  
[(1R,2E,4E,6Z,9Z)-1-[(1S)-4-carboxy-1-  
hydroxybutyl]-2,4,6,9-pentadecatetraen-  
1-yl]-L-cysteinyl-glycine

**Synonym:** N-methyl LTC<sub>4</sub>

**MF:** C<sub>31</sub>H<sub>49</sub>N<sub>3</sub>O<sub>9</sub>S

**FW:** 639.8

**Purity:** ≥97%

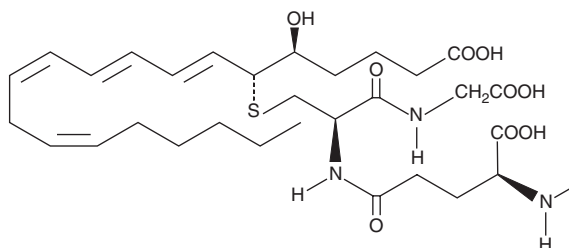
**UV/Vis.:** λ<sub>max</sub>: 282 nm

**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

N-methyl Leukotriene C<sub>4</sub> (N-methyl LTC<sub>4</sub>) 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 N-methyl LTC<sub>4</sub> in these solvents is approximately 50 mg/ml.

N-methyl LTC<sub>4</sub> is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of N-methyl LTC<sub>4</sub> should be diluted with the aqueous buffer of choice. The solubility of N-methyl LTC<sub>4</sub> in PBS (pH 7.2) is approximately 0.1 mg/ml. N-methyl LTC<sub>4</sub> has a solubility of 2 mg/ml in a 95:5 solution of ethanol:H<sub>2</sub>O using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Produced by neutrophils, macrophages, mast cells, and by transcellular metabolism in platelets, leukotriene C<sub>4</sub> (LTC<sub>4</sub>) is the parent cysteinyl leukotriene formed by the LTC<sub>4</sub> synthase-catalyzed conjugation of glutathione to LTA<sub>4</sub>.<sup>1</sup> It is one of the constituents of slow-reacting substance of anaphylaxis (SRS-A) and exhibits potent smooth muscle contracting activity.<sup>2</sup> LTC<sub>4</sub>, however, is rapidly metabolized to LTD<sub>4</sub> and LTE<sub>4</sub>, which makes the characterization of LTC<sub>4</sub> pharmacology difficult.<sup>3</sup> N-methyl LTC<sub>4</sub> is a synthetic analog of LTC<sub>4</sub> that is not readily metabolized to LTD<sub>4</sub> and LTE<sub>4</sub>.<sup>4</sup> It acts as a potent and selective CysLT<sub>2</sub> receptor agonist exhibiting EC<sub>50</sub> values of 122 and > 2,000 nM at the human CysLT<sub>2</sub> and CysLT<sub>1</sub> receptors, respectively.<sup>5</sup> It has essentially the same potency as LTC<sub>4</sub> at both the human and murine receptors CysLT<sub>2</sub> receptors. N-methyl LTC<sub>4</sub> is potent and active *in vivo*, causing vascular leak in mice overexpressing the human CysLT<sub>2</sub> receptor but not in CysLT<sub>2</sub> receptor knockout mice.<sup>5</sup>

### References

1. Maclouf, J.A. and Murphy, R.C. *J. Biol. Chem.* **263**(1), 174-181 (1988).
2. Piper, P.J. *Physiol. Rev.* **64**(2), 744-761 (1984).
3. Campbell, B.J., Baker, S.F., Shukla, S.D., et al. *Biochim. Biophys. Acta* **1042**(1), 107-112 (1990).
4. Gareau, Y., Zamboni, R., and Wong, A.W. *J. Org. Chem.* **58**(6), 1582-1585 (1993).
5. Yan, D., Stocco, R., Sawyer, N., et al. *Mol. Pharmacol.* **79**(2), 270-278 (2010).

#### 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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