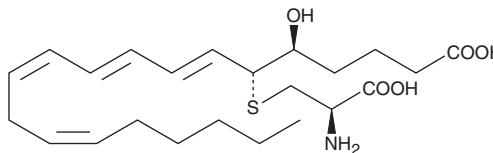


# PRODUCT INFORMATION



## Leukotriene E<sub>4</sub> Item No. 20410

<b>CAS Registry No.:</b>	75715-89-8
<b>Formal Name:</b>	5S-hydroxy-6R-(S-cysteinyl)- 7E,9E,11Z,14Z-eicosatetraenoic acid
<b>Synonym:</b>	LTE <sub>4</sub>
<b>MF:</b>	C <sub>23</sub> H <sub>37</sub> NO <sub>5</sub> S
<b>FW:</b>	439.6
<b>Purity:</b>	≥97%*
<b>UV/Vis.:</b>	λ <sub>max</sub> : 281 nm ε: 40,000
<b>Supplied as:</b>	A solution in ethanol
<b>Storage:</b>	-80°C
<b>Stability:</b>	As supplied, 1 year from the QC date provided on the Certificate of Analysis, when stored properly
<b>Special Conditions:</b>	Light Sensitive



### Laboratory Procedures

Leukotriene E<sub>4</sub> (LTE<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 LTE<sub>4</sub> 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 a physiological effect at low concentrations. If an organic solvent-free solution of LTE<sub>4</sub> is needed, the ethanol can be evaporated under a stream of nitrogen and the neat oil dissolved in the buffer of choice. LTE<sub>4</sub> is soluble in PBS (pH 7.2) at a concentration of 100 µg/ml. The stability of LTE<sub>4</sub> is not enhanced by the addition of an antioxidant.<sup>1</sup> Be certain that your buffers are free of oxygen, transition metal ions, and redox active compounds. We do not recommend storing the aqueous solution for more than one day.

While LTE<sub>4</sub> is sufficiently stable to allow use at room temperature for short periods of time, it will undergo a slow isomerization to the 11-*trans* isomer. Solutions left at 0°C for one week will accumulate about 10% of this impurity, which can be detected by HPLC.

### Description

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

### References

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

\*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 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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