

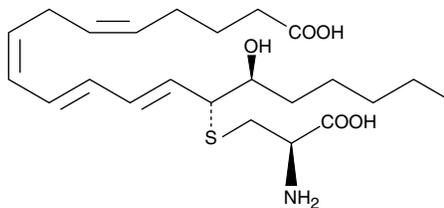
# Product Information



## 14,15-Leukotriene E<sub>4</sub>

Item No. 10011362

<b>CAS Registry No.:</b>	1000852-57-2
<b>Formal Name:</b>	15S-hydroxy-14R-(S-cysteinyl)-5Z,8Z,10E,12E-eicosatetraenoic acid
<b>Synonyms:</b>	Eoxin E <sub>4</sub> , EXE <sub>4</sub> , 14,15-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>Stability:</b>	≥1 year at -80°C
<b>Supplied as:</b>	A solution in methanol
<b>Miscellaneous:</b>	Light Sensitive



### Laboratory Procedures

For long term storage, we suggest that 14,15-leukotriene E<sub>4</sub> (14,15-LTE<sub>4</sub>) be stored as supplied at -80°C. It should be stable for at least one year.

14,15-LTE<sub>4</sub> is supplied as a solution in methanol. To change the solvent, simply evaporate the methanol 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 14,15-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 physiological effects at low concentrations. If an organic solvent-free solution of 14,15-LTE<sub>4</sub> is needed, it can be prepared by evaporating the methanol and directly dissolving the neat oil in aqueous buffers. The solubility of 14,15-LTE<sub>4</sub> in PBS, pH 7.2, is approximately 100 µg/ml. We do not recommend storing the aqueous solution for more than one day.

Leukotrienes (LTs) are a group of acute inflammatory mediators derived from arachidonic acid in leukocytes. The majority of these metabolites are formed through the 5-lipoxygenase (5-LO) pathway.<sup>1</sup> 14,15-LTE<sub>4</sub> is a metabolite of 14,15-LTC<sub>4</sub> and 14,15-LTD<sub>4</sub>, an alternate class of LTs synthesized by a pathway involving the dual actions of 15- and 12-LOs on arachidonic acid *via* 15-HpETE and 14,15-LTA<sub>4</sub> intermediates.<sup>2-5</sup> These metabolites are classified as eoxins because they are formed mostly by eosinophils.<sup>4</sup> Mast cells and nasal polyps can synthesize 14,15-LTC<sub>4</sub> as well, however metabolism to 14,15-LTE<sub>4</sub> in these cells and tissue has not been documented. 14,15-LTE<sub>4</sub> increases vascular permeability of human endothelial cell monolayers with about 10-fold less potency than LTC<sub>4</sub>, but approximately 100-fold greater potency than histamine.<sup>4</sup>

### References

1. Luo, M., Lee, S., and Brock, T.G. Leukotriene synthesis by epithelial cells. *Histol. Histopathol.* **18**, 587-595 (2003).
2. Yokoyama, C., Shinjo, F., Yoshimoto, T., *et al.* Arachidonate 12-lipoxygenase purified from porcine leukocytes by immunoaffinity chromatography and its reactivity with hydroperoxyeicosatetraenoic acids. *J. Biol. Chem.* **261**, 16714-16721 (1986).
3. Bryant, R.W., Schewe, T., Rapoport, S.M., *et al.* Leukotriene formation by a purified reticulocyte lipoxygenase enzyme. Conversion of arachidonic acid and 15-hydroperoxyeicosatetraenoic acid to 14,15-leukotriene A<sub>4</sub>. *J. Biol. Chem.* **260**, 3548-3555 (1985).
4. Feltenmark, S., Gautam, N., Brunnström, Å., *et al.* Eoxins are proinflammatory arachidonic acid metabolites produced *via* the 15-lipoxygenase-1 pathway in human eosinophils and mast cells. *Proc. Natl. Acad. Sci. USA* **105**(2), 680-685 (2008).
5. Sailesh, S., Kumar, Y.V.K., Prasad, M., *et al.* Sheep uterus dual lipoxygenase in the synthesis of 14,15-leukotrienes. *Arch. Biochem. Biophys.* **315**(2), 362-368 (1994).

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