

LTA4H:Zn²⁺ hydrolyses 5S,6S-epoxy-18(S)- HEPE to 18(S)-RvE1

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Introduction

Reactome is open-source, open access, manually curated and peer-reviewed pathway database. Pathway annotations are authored by expert biologists, in collaboration with Reactome editorial staff and cross-referenced to many bioinformatics databases. A system of evidence tracking ensures that all assertions are backed up by the primary literature. Reactome is used by clinicians, geneticists, genomics researchers, and molecular biologists to interpret the results of high-throughput experimental studies, by bioinformaticians seeking to develop novel algorithms for mining knowledge from genomic studies, and by systems biologists building predictive models of normal and disease variant pathways.

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Literature references

- Fabregat, A., Sidiropoulos, K., Viteri, G., Forner, O., Marin-Garcia, P., Arnau, V. et al. (2017). Reactome pathway analysis: a high-performance in-memory approach. *BMC bioinformatics*, 18, 142. [↗](#)
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Reactome database release: 88

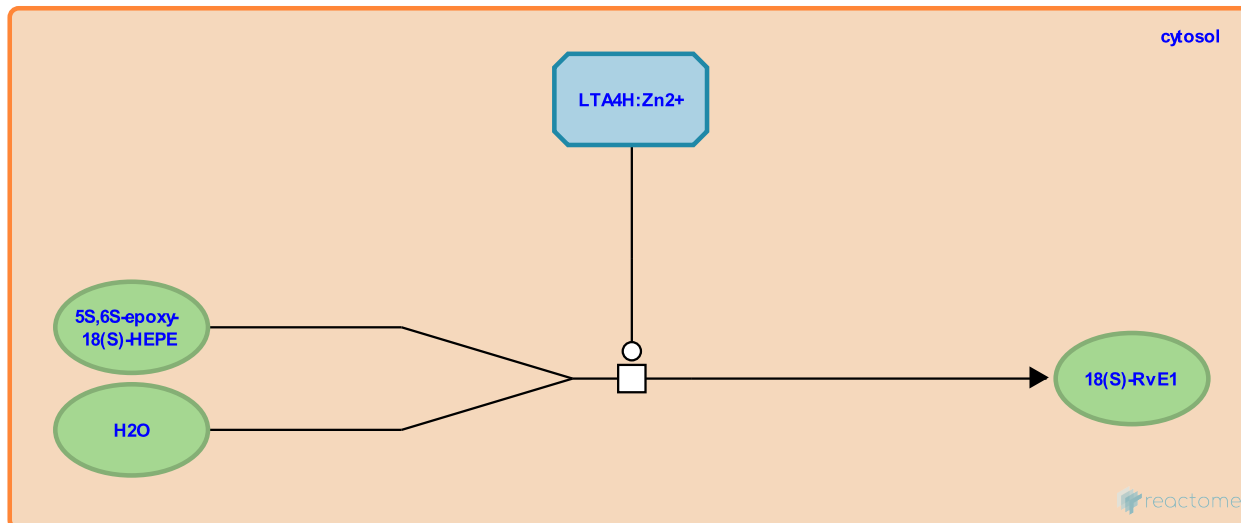
This document contains 1 reaction ([see Table of Contents](#))

LTA4H:Zn²⁺ hydrolyses 5S,6S-epoxy-18(S)-HEPE to 18(S)-RvE1 [↗](#)

Stable identifier: R-HSA-9018862

Type: transition

Compartments: cytosol



Leukotriene A4 hydrolase (LTA4H) is a monomeric, soluble enzyme that uses a Zn²⁺ cofactor to catalyse the hydrolysis of the allylic epoxide leukotriene A4 (LTA4) (McGee & Fitzpatrick 1985). LTA4H can also catalyse the hydrolysis of 5S,6S-epoxy-18(S)-HEPE to the 18(S) stereoisomer of resolvin E1 (18(S)-RvE1) (Oh et al. 2011). The E-resolvins are anti-inflammatory, pro-resolving, and non-phlogistic (that is, they mediate the clearance of leukocytes without eliciting an inflammatory response) (Serhan et al. 2008).

Literature references

Pillai, PS., Serhan, CN., Oh, SF., Yang, R., Recchiuti, A. (2011). Pro-resolving actions and stereoselective biosynthesis of 18S E-series resolvins in human leukocytes and murine inflammation. *J. Clin. Invest.*, 121, 569-81. [↗](#)

Editions

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