

ALOX5 oxidises 5(S)-Hp-18(S)-HEPE to 5S,6S-epoxy-18(S)-HEPE

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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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- Fabregat, A., Korninger, F., Viteri, G., Sidiropoulos, K., Marin-Garcia, P., Ping, P. et al. (2018). Reactome graph database: Efficient access to complex pathway data. *PLoS computational biology*, 14, e1005968. [↗](#)

Reactome database release: 74

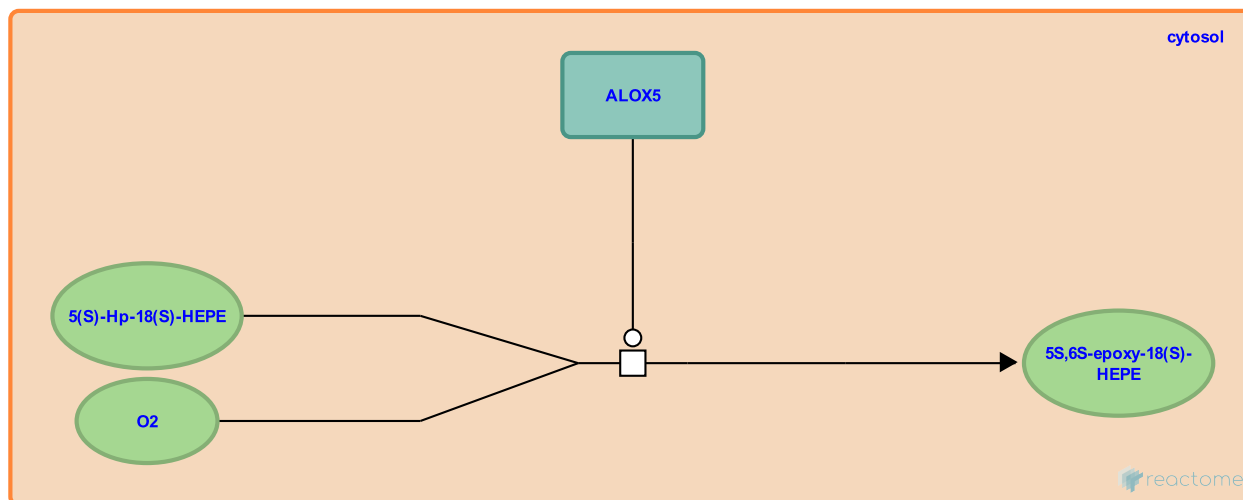
This document contains 1 reaction ([see Table of Contents](#))

ALOX5 oxidises 5(S)-Hp-18(S)-HEPE to 5S,6S-epoxy-18(S)-HEPE ↗

Stable identifier: R-HSA-9018859

Type: transition

Compartments: cytosol



In neutrophils, 5-lipoxygenase (ALOX5) can mediate the insertion of molecular oxygen into 5(S)-hydroperoxy-18(S)-hydroxyeicosapentaenoic acid (5(S)-Hp-18(S)-HEPE) to form 5S,6S-epoxy-18(S)-HEPE which is essential for 18(S)-resolvin E1 biosynthesis (Tjonahen et al. 2006, Oh et al. 2012).

Literature references

Tjonahen, E., Oh, SF., Siegelman, J., Elangovan, S., Percarpio, KB., Hong, S. et al. (2006). Resolvin E2: identification and anti-inflammatory actions: pivotal role of human 5-lipoxygenase in resolvin E series biosynthesis. *Chem. Biol.*, 13, 1193-202. ↗

Oh, SF., Dona, M., Fredman, G., Krishnamoorthy, S., Irimia, D., Serhan, CN. (2012). Resolvin E2 formation and impact in inflammation resolution. *J. Immunol.*, 188, 4527-34. ↗

Editions

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