ALOX15 oxidises DHA to 17(S)-Hp-DHA

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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

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Sidiropoulos, K., Viteri, G., Sevilla, C., Jupe, S., Webber, M., Orlic-Milacic, M. et al. (2017). Reactome enhanced pathway visualization. *Bioinformatics, 33*, 3461-3467. ↗

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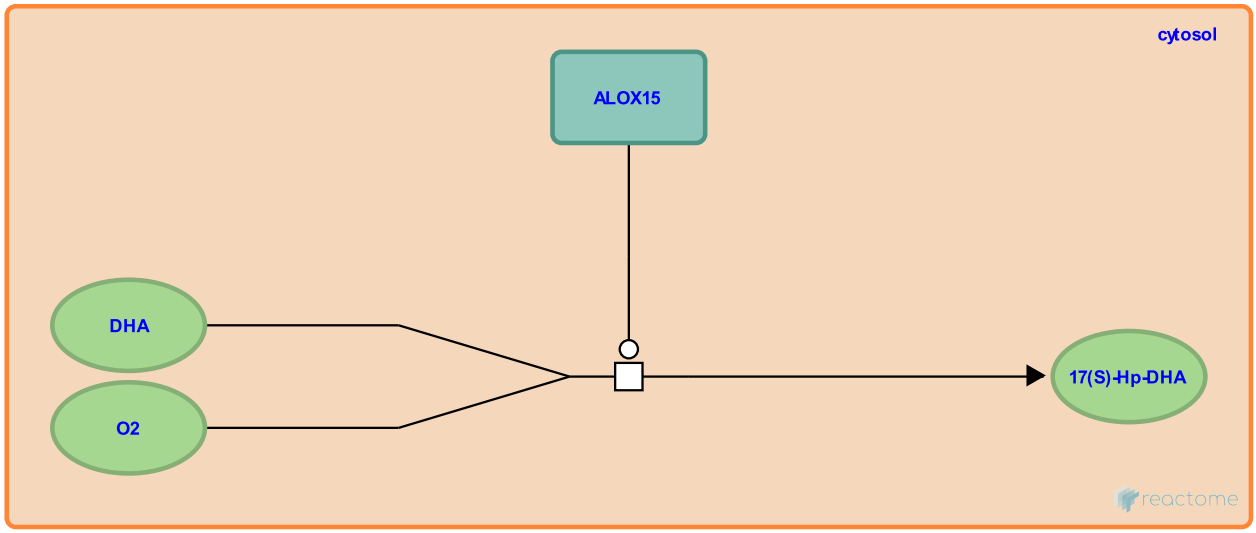
Stable identifier: R-HSA-9020275

Type: transition

Compartments: cytosol



In the absence of aspirin in human whole blood, isolated leukocytes and glial cells, 15-lipoxygenase (ALOX15) can oxygenate docosahexanoic acid (DHA) (Kim et al. 1990) to the 17(S) epimer 17(S)-hydroperoxy-docosahexanoic acid (17(S)-Hp-DHA) (Hong et al. 2003). This intermediate leads to the production of 17(S) epimer D-resolvins (as opposed to aspirin-triggered 17(R) epimer D-resolvins), as well as being the precursor for protectins and the proposed precursor for the production of protectin conjugates in tissue regeneration (PCTRs) and resolvin conjugates in tissue regeneration (RCTRs) (Dalli et al. 2015, Ramon et al. 2016).

Literature references

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Editions

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