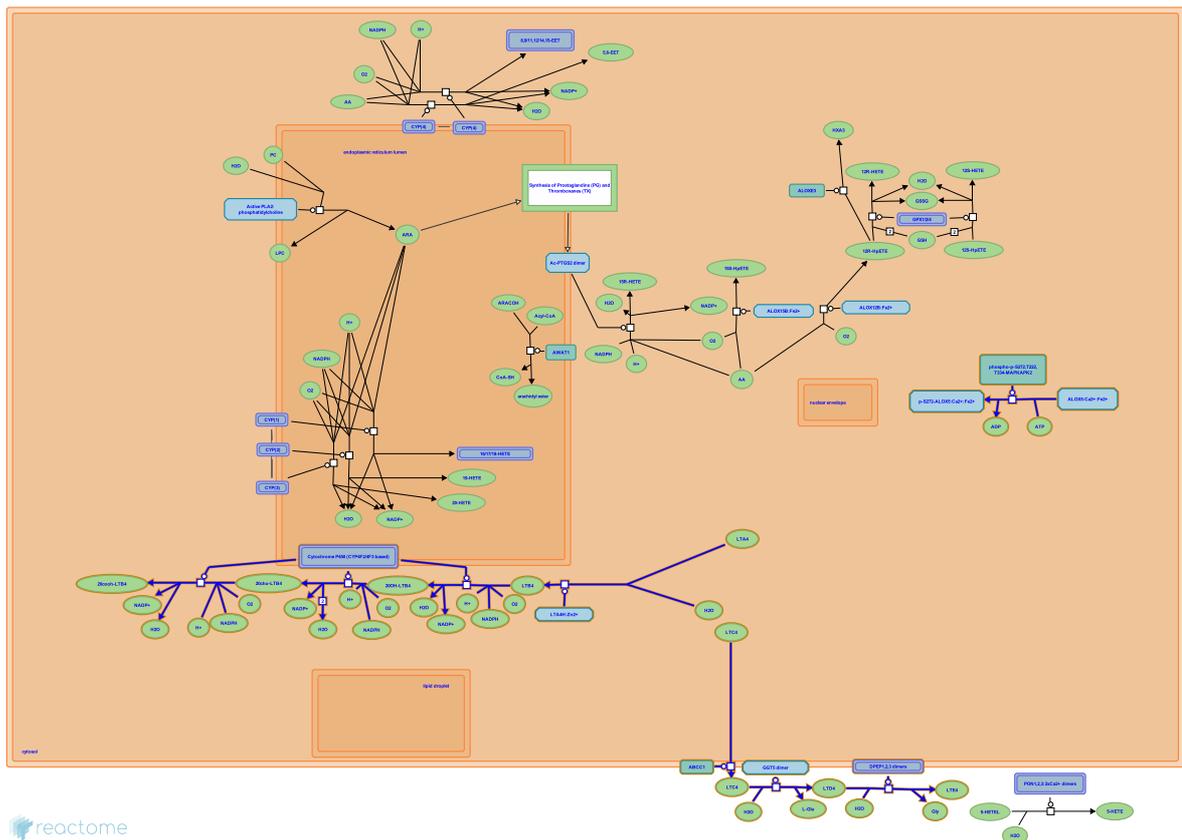


Synthesis of Leukotrienes (LT) and Eoxins

(EX)



European Bioinformatics Institute, New York University Langone Medical Center, Ontario Institute for Cancer Research, Oregon Health and Science University.

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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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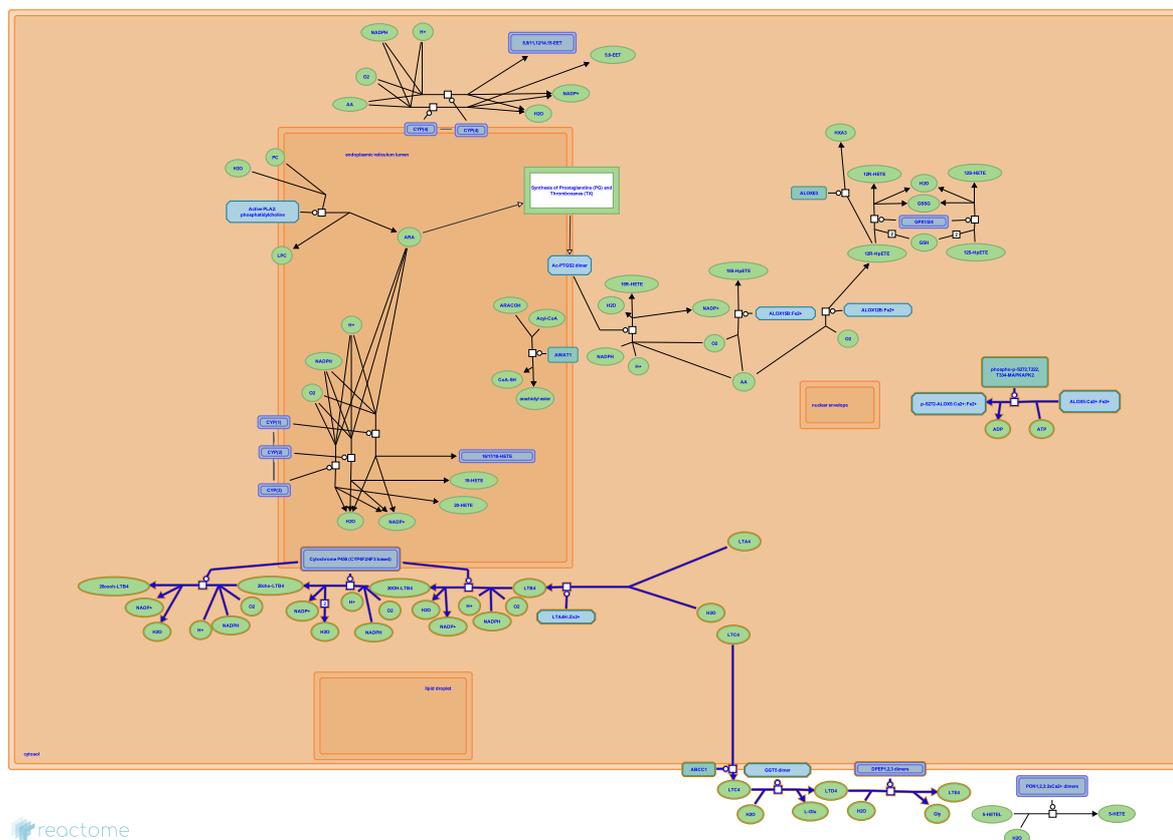
Reactome database release: 74

This document contains 1 pathway and 8 reactions ([see Table of Contents](#))

Synthesis of Leukotrienes (LT) and Eoxins (EX) ↗

Stable identifier: R-SSC-2142691

Inferred from: Synthesis of Leukotrienes (LT) and Eoxins (EX) (Homo sapiens)



This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

[More details and caveats of the event inference in Reactome.](/electronic_inference_compara.html) For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

ALOX5 is phosphorylated by MAPKAP2 ↗

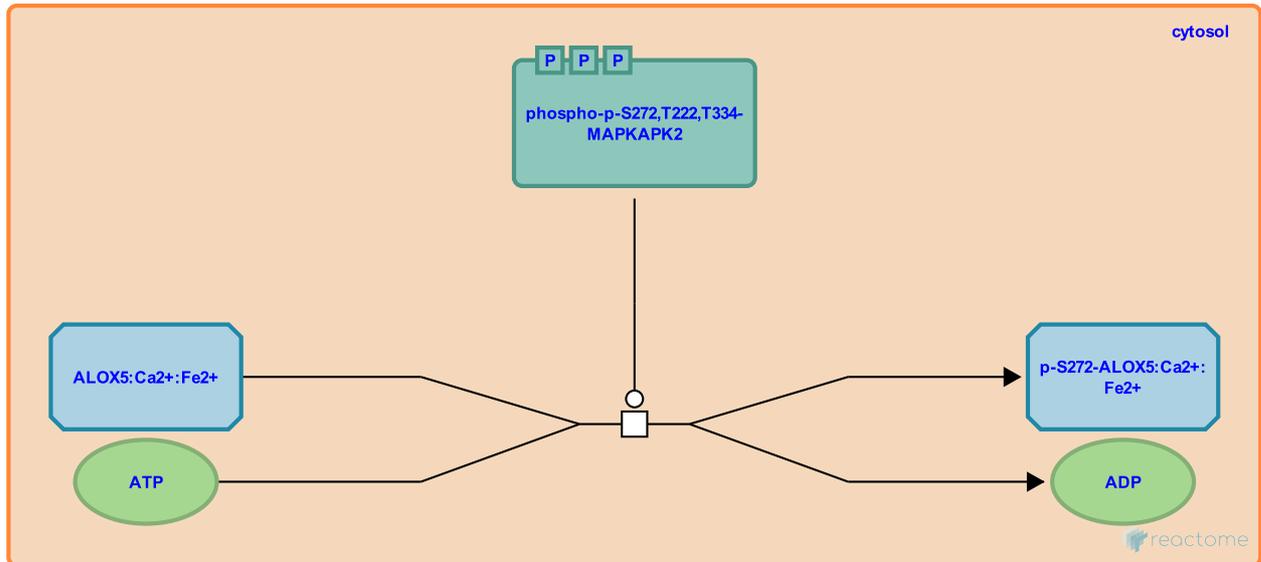
Location: Synthesis of Leukotrienes (LT) and Eoxins (EX)

Stable identifier: R-SSC-429016

Type: transition

Compartments: cytosol

Inferred from: ALOX5 is phosphorylated by MAPKAP2 (Homo sapiens)



This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

[More details and caveats of the event inference in Reactome.](/electronic_inference_compara.html) For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

LTA4 is hydrolysed to LTB4 by LTA4H ↗

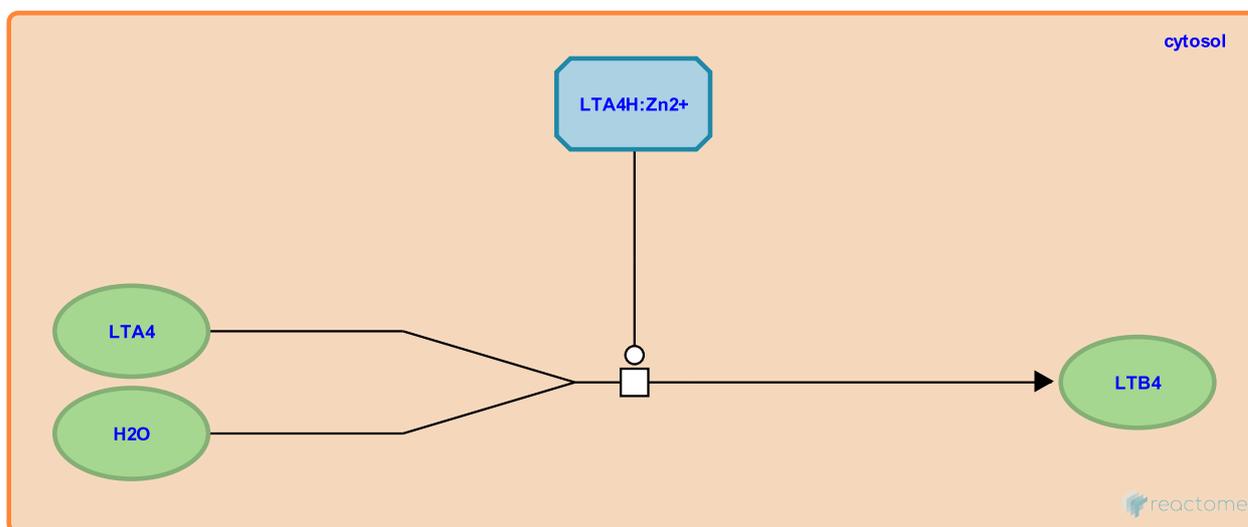
Location: [Synthesis of Leukotrienes \(LT\) and Eoxins \(EX\)](#)

Stable identifier: R-SSC-266072

Type: transition

Compartments: cytosol

Inferred from: [LTA4 is hydrolysed to LTB4 by LTA4H \(Homo sapiens\)](#)



This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

[More details and caveats of the event inference in Reactome.](/electronic_inference_compara.html) For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

Followed by: [CYP4F2, 4F3 20-hydroxylate LTB4](#)

CYP4F2, 4F3 20-hydroxylate LTB4 ↗

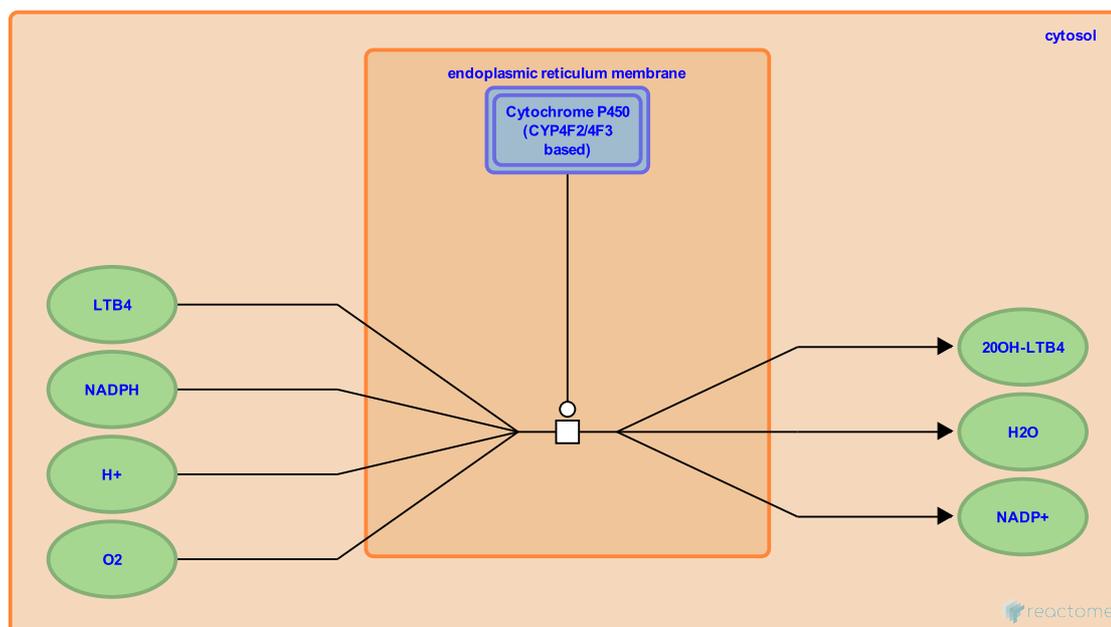
Location: [Synthesis of Leukotrienes \(LT\) and Eoxins \(EX\)](#)

Stable identifier: R-SSC-211873

Type: transition

Compartments: endoplasmic reticulum membrane, cytosol

Inferred from: [CYP4F2, 4F3 20-hydroxylate LTB4 \(Homo sapiens\)](#)



This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

[More details and caveats of the event inference in Reactome.](/electronic_inference_compara.html) For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

Preceded by: [LTA4 is hydrolysed to LTB4 by LTA4H](#)

Followed by: [20oh-LTB4 is oxidised to 20cho-LTB4 by CYP4F2/4F3](#)

20oh-LTB4 is oxidised to 20cho-LTB4 by CYP4F2/4F3 ↗

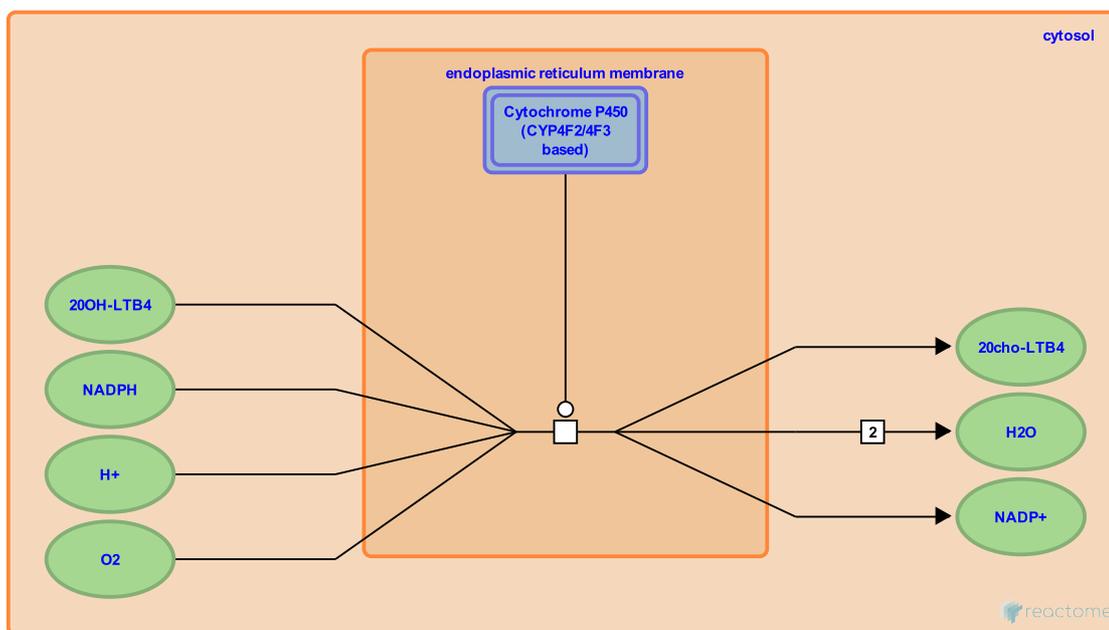
Location: [Synthesis of Leukotrienes \(LT\) and Eoxins \(EX\)](#)

Stable identifier: R-SSC-2161745

Type: transition

Compartments: endoplasmic reticulum membrane, cytosol

Inferred from: [20oh-LTB4 is oxidised to 20cho-LTB4 by CYP4F2/4F3 \(Homo sapiens\)](#)



This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

[More details and caveats of the event inference in Reactome.](/electronic_inference_compara.html) For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

Preceded by: [CYP4F2, 4F3 20-hydroxylate LTB4](#)

Followed by: [20cho-LTB4 is oxidised to 20cooh-LTB4 by CYP4F2/4F3](#)

20cho-LTB4 is oxidised to 20cooh-LTB4 by CYP4F2/4F3 ↗

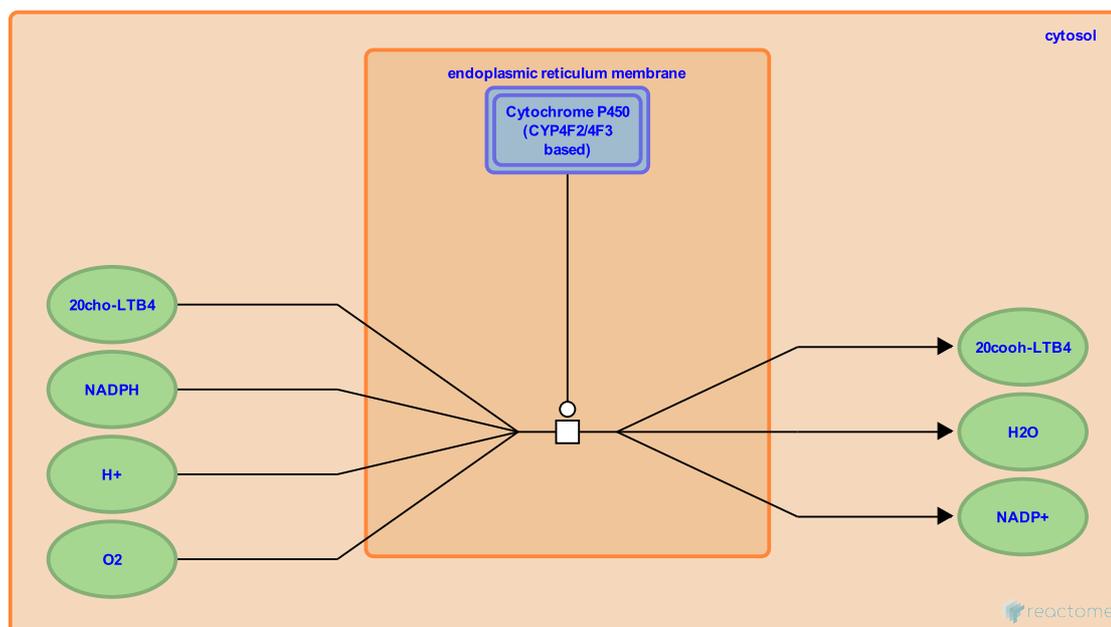
Location: [Synthesis of Leukotrienes \(LT\) and Eoxins \(EX\)](#)

Stable identifier: R-SSC-2161792

Type: transition

Compartments: endoplasmic reticulum membrane, cytosol

Inferred from: [20cho-LTB4 is oxidised to 20cooh-LTB4 by CYP4F2/4F3 \(Homo sapiens\)](#)



This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

[More details and caveats of the event inference in Reactome.](/electronic_inference_compara.html) For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

Preceded by: [20oh-LTB4 is oxidised to 20cho-LTB4 by CYP4F2/4F3](#)

LTC4 is exported from the cytosol by ABCC1 ↗

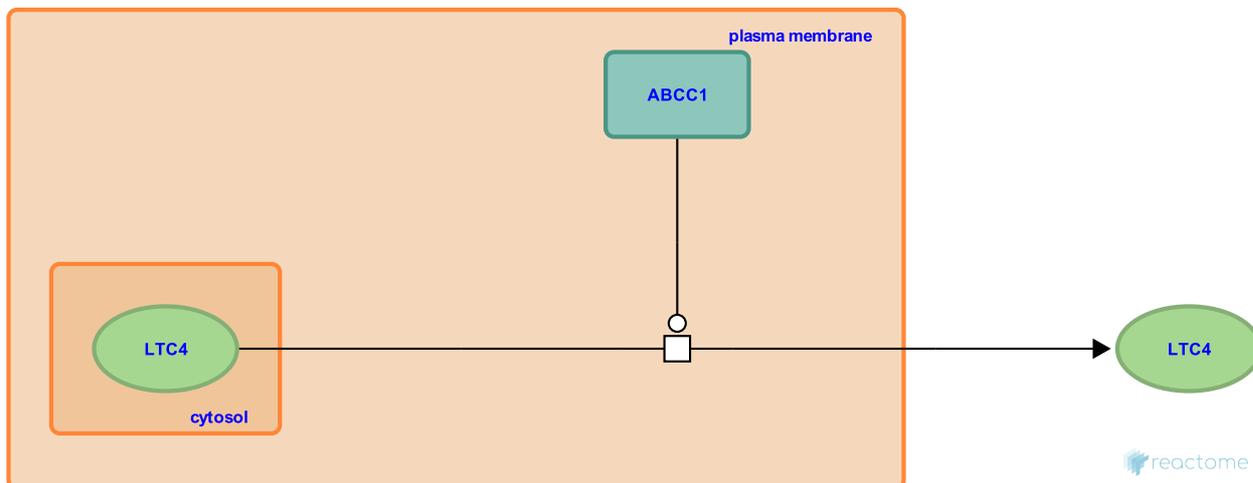
Location: [Synthesis of Leukotrienes \(LT\) and Eoxins \(EX\)](#)

Stable identifier: R-SSC-266070

Type: transition

Compartments: plasma membrane, cytosol, extracellular region

Inferred from: [LTC4 is exported from the cytosol by ABCC1 \(Homo sapiens\)](#)



This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

[More details and caveats of the event inference in Reactome.](/electronic_inference_compara.html) For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

Followed by: [GGT1, 5 dimers hydrolyse LTC4 to LTD4](#)

GGT1, 5 dimers hydrolyse LTC4 to LTD4 ↗

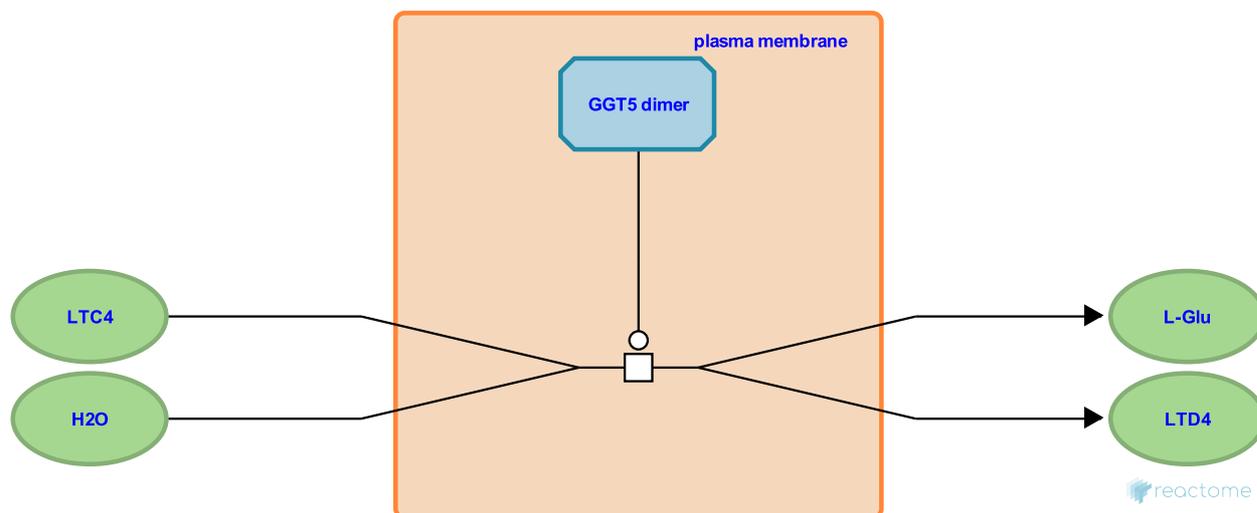
Location: [Synthesis of Leukotrienes \(LT\) and Eoxins \(EX\)](#)

Stable identifier: R-SSC-266046

Type: transition

Compartments: plasma membrane, extracellular region

Inferred from: [GGT1, 5 dimers hydrolyse LTC4 to LTD4 \(Homo sapiens\)](#)



This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

[More details and caveats of the event inference in Reactome.](/electronic_inference_compara.html) For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

Preceded by: [LTC4 is exported from the cytosol by ABCC1](#)

LTD4 is converted to LTE4 by DPEP1/2 ↗

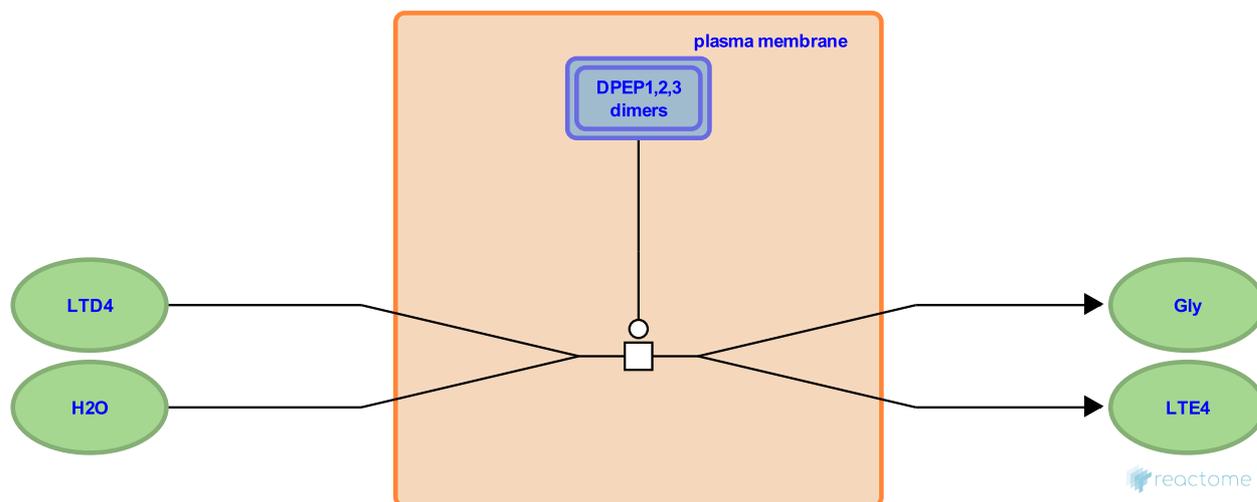
Location: [Synthesis of Leukotrienes \(LT\) and Eoxins \(EX\)](#)

Stable identifier: R-SSC-266012

Type: transition

Compartments: plasma membrane, extracellular region

Inferred from: [LTD4 is converted to LTE4 by DPEP1/2 \(Homo sapiens\)](#)



This event has been computationally inferred from an event that has been demonstrated in another species.

The inference is based on the homology mapping from PANTHER. Briefly, reactions for which all involved PhysicalEntities (in input, output and catalyst) have a mapped orthologue/paralogue (for complexes at least 75% of components must have a mapping) are inferred to the other species. High level events are also inferred for these events to allow for easier navigation.

[More details and caveats of the event inference in Reactome.](/electronic_inference_compara.html) For details on PANTHER see also: <http://www.pantherdb.org/about.jsp>

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