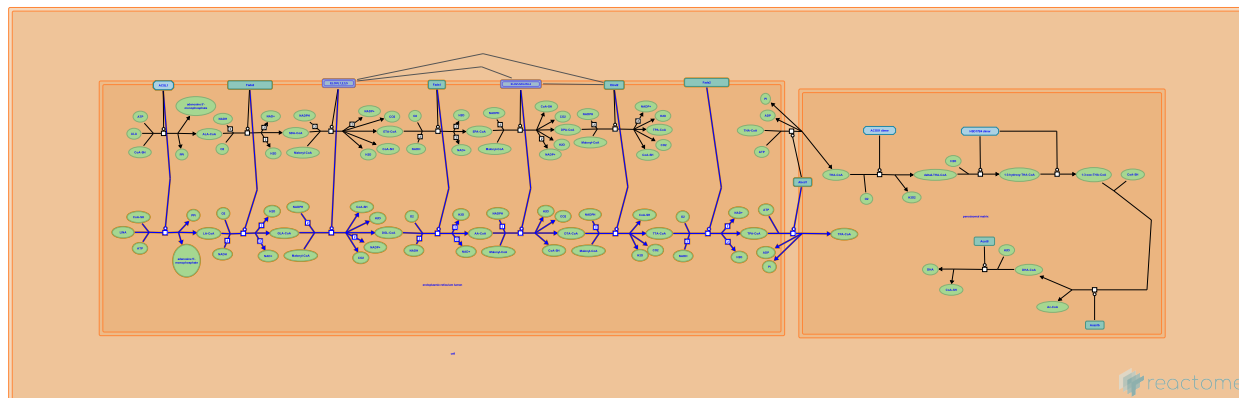


Linoleic acid (LA) metabolism



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

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- Fabregat, A., Jupe, S., Matthews, L., Sidiropoulos, K., Gillespie, M., Garapati, P. et al. (2018). The Reactome Pathway Knowledgebase. *Nucleic Acids Res*, 46, D649-D655. [↗](#)
- 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

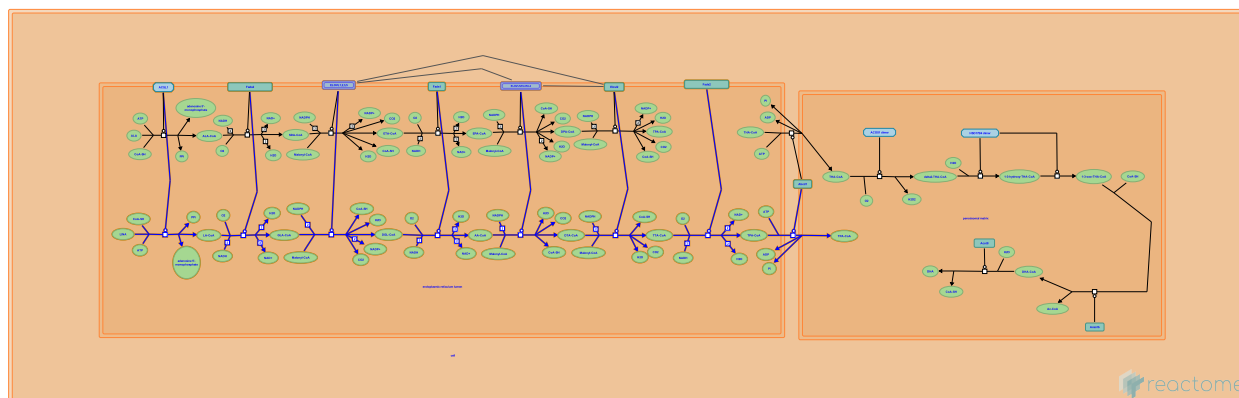
This document contains 1 pathway and 8 reactions ([see Table of Contents](#))

Linoleic acid (LA) metabolism ↗

Stable identifier: R-MMU-2046105

Compartments: endoplasmic reticulum lumen, endoplasmic reticulum membrane, peroxisomal matrix, peroxisomal membrane

Inferred from: [Linoleic acid \(LA\) metabolism \(Homo sapiens\)](#)



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>

Activation of linoleic acid to linoleoyl-CoA ↗

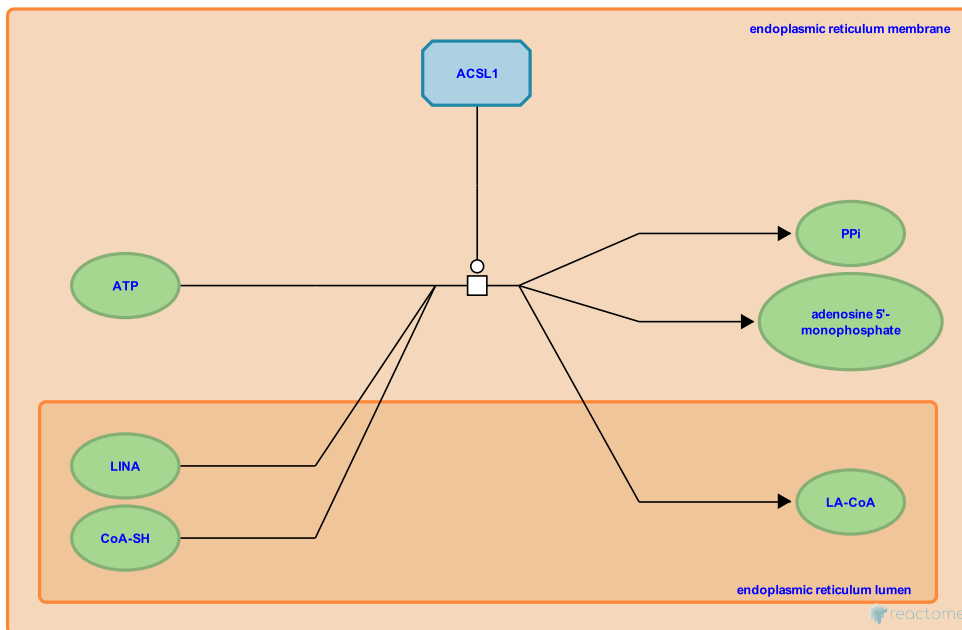
Location: [Linoleic acid \(LA\) metabolism](#)

Stable identifier: R-MMU-2046098

Type: transition

Compartments: endoplasmic reticulum membrane, endoplasmic reticulum lumen

Inferred from: [Activation of linoleic acid to linoleoyl-CoA \(Homo sapiens\)](#)



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.

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Followed by: [Desaturation of Linoleoyl-CoA to gamma-linolenoyl-CoA](#)

Desaturation of Linoleoyl-CoA to gamma-linolenoyl-CoA ↗

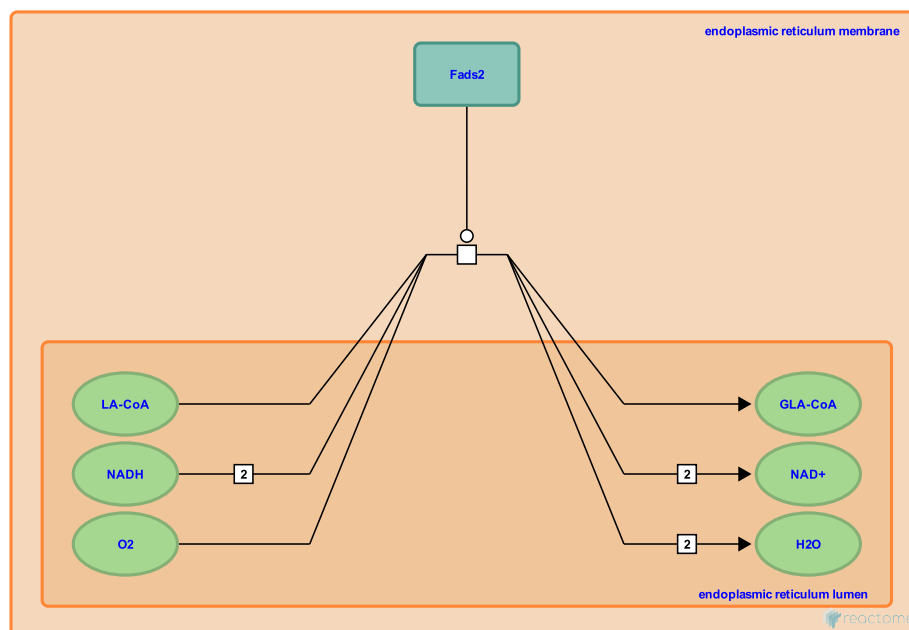
Location: [Linoleic acid \(LA\) metabolism](#)

Stable identifier: R-MMU-2046096

Type: transition

Compartments: endoplasmic reticulum membrane, endoplasmic reticulum lumen

Inferred from: [Desaturation of Linoleoyl-CoA to gamma-linolenoyl-CoA \(Homo sapiens\)](#)



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: [Activation of linoleic acid to linoleoyl-CoA](#)

Followed by: [Elongation of gamma-linolenoyl-CoA to dihomo-gamma-linolenoyl-CoA](#)

Elongation of gamma-lenolenoyl-CoA to dihomogamma-lenolenoyl-CoA ↗

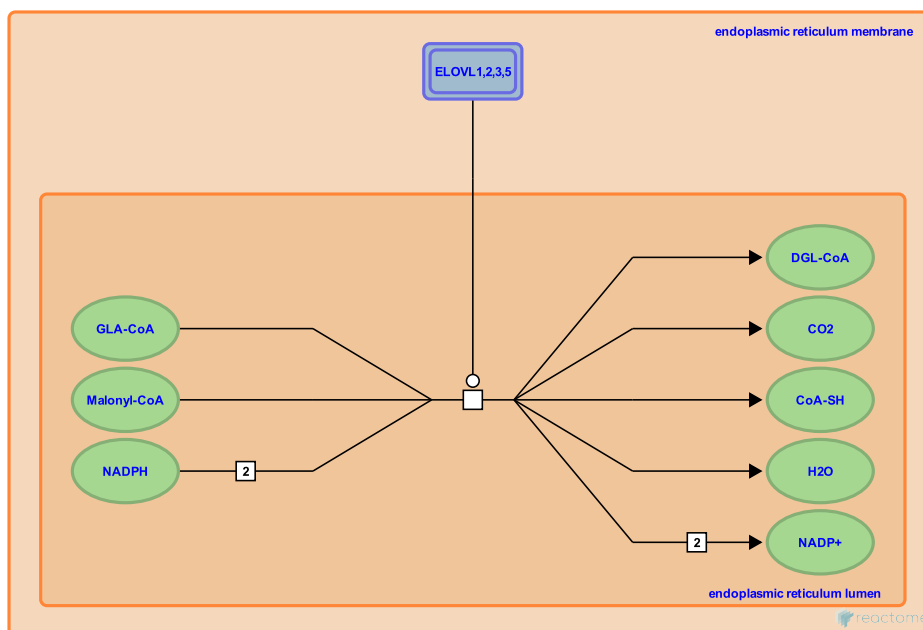
Location: [Linoleic acid \(LA\) metabolism](#)

Stable identifier: R-MMU-2046094

Type: transition

Compartments: endoplasmic reticulum lumen, endoplasmic reticulum membrane

Inferred from: [Elongation of gamma-lenolenoyl-CoA to dihomogamma-lenolenoyl-CoA \(Homo sapiens\)](#)



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: [Desaturation of Linoleoyl-CoA to gamma-linolenoyl-CoA](#)

Followed by: [Desaturation of dihomogamma-lenolenoyl-CoA to arachidonoyl-CoA](#)

Desaturation of dihomo-gamma-linolenoyl-CoA to arachidonoyl-CoA ↗

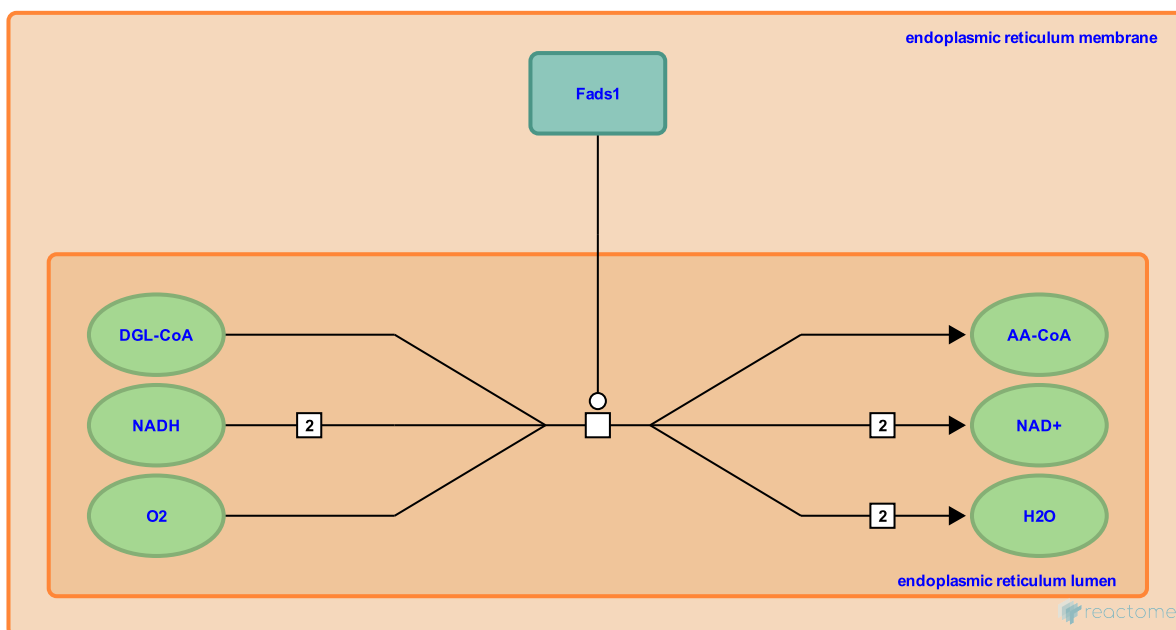
Location: [Linoleic acid \(LA\) metabolism](#)

Stable identifier: R-MMU-2046092

Type: transition

Compartments: endoplasmic reticulum lumen, endoplasmic reticulum membrane

Inferred from: [Desaturation of dihomo-gamma-linolenoyl-CoA to arachidonoyl-CoA \(Homo sapiens\)](#)



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: [Elongation of gamma-linolenoyl-CoA to dihomo-gamma-linolenoyl-CoA](#)

Followed by: [Elongation of arachidonoyl-CoA to docosatetraenoyl-CoA](#)

Elongation of arachidonyl-CoA to docosatetraenoyl-CoA ↗

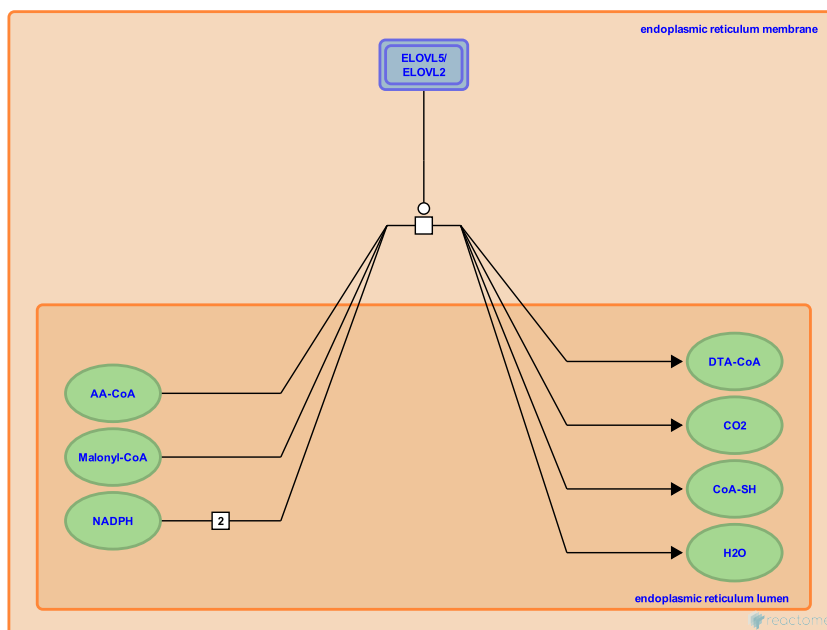
Location: [Linoleic acid \(LA\) metabolism](#)

Stable identifier: R-MMU-2046083

Type: transition

Compartments: endoplasmic reticulum membrane, endoplasmic reticulum lumen

Inferred from: [Elongation of arachidonyl-CoA to docosatetraenoyl-CoA \(Homo sapiens\)](#)



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: [Desaturation of dihomo-gamma-lenolenoyl-CoA to arachidonoyl-CoA](#)

Followed by: [Elongation of docosatetraenoyl-CoA to tetracosatetraenoyl-CoA](#)

Elongation of docosatetraenoyl-CoA to tetracosatetraenoyl-CoA ↗

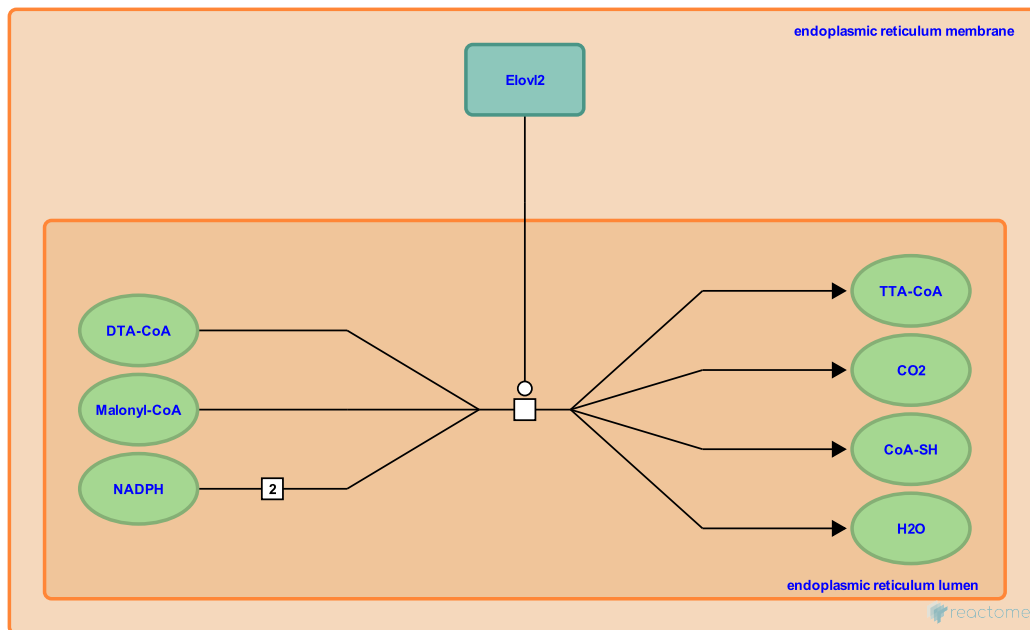
Location: [Linoleic acid \(LA\) metabolism](#)

Stable identifier: R-MMU-2046095

Type: transition

Compartments: endoplasmic reticulum lumen, endoplasmic reticulum membrane

Inferred from: [Elongation of docosatetraenoyl-CoA to tetracosatetraenoyl-CoA \(Homo sapiens\)](#)



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: [Elongation of arachidonoyl-CoA to docosatetraenoyl-CoA](#)

Followed by: [Desaturation of tetracosatetraenoyl-CoA to tetracosapentaenoyl-CoA](#)

Desaturation of tetracosatetraenoyl-CoA to tetracosapentaenoyl-CoA ↗

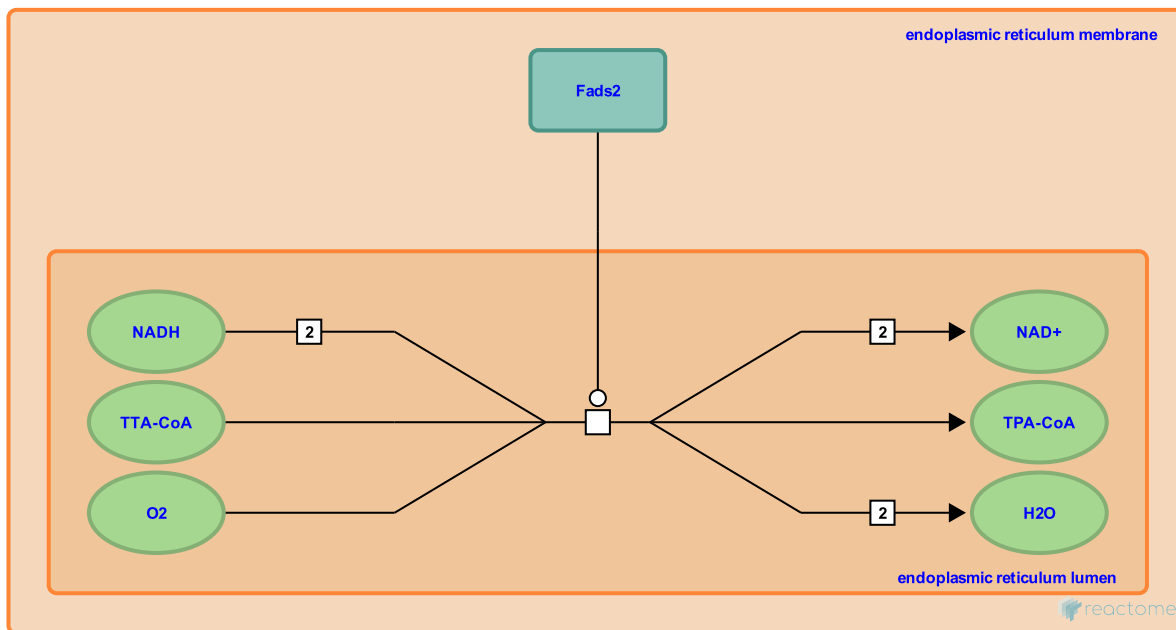
Location: [Linoleic acid \(LA\) metabolism](#)

Stable identifier: R-MMU-2046097

Type: transition

Compartments: endoplasmic reticulum lumen, endoplasmic reticulum membrane

Inferred from: [Desaturation of tetracosatetraenoyl-CoA to tetracosapentaenoyl-CoA \(Homo sapiens\)](#)



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: [Elongation of docosatetraenoyl-CoA to tetracosatetraenoyl-CoA](#)

Followed by: [Translocation of tetracosapentaenoyl-CoA to peroxisomes](#)

Translocation of tetracosapentaenoyl-CoA to peroxisomes ↗

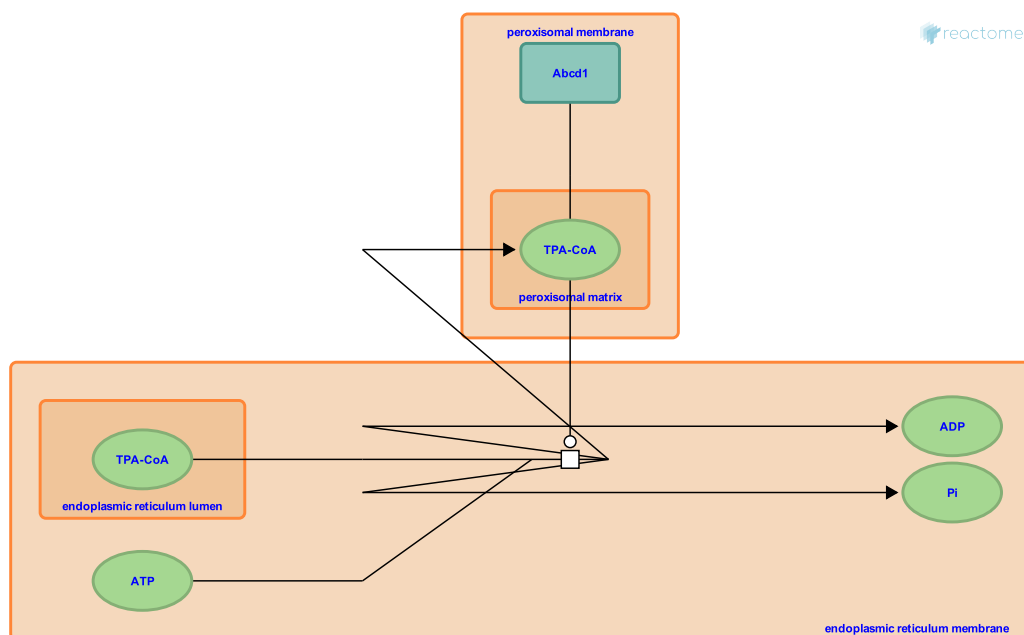
Location: [Linoleic acid \(LA\) metabolism](#)

Stable identifier: R-MMU-2046093

Type: transition

Compartments: endoplasmic reticulum membrane, endoplasmic reticulum lumen, peroxisomal membrane, peroxisomal matrix

Inferred from: [Translocation of tetracosapentaenoyl-CoA to peroxisomes \(Homo sapiens\)](#)



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: [Desaturation of tetracosatetraenoyl-CoA to tetracosapentaenoyl-CoA](#)

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