

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: 73

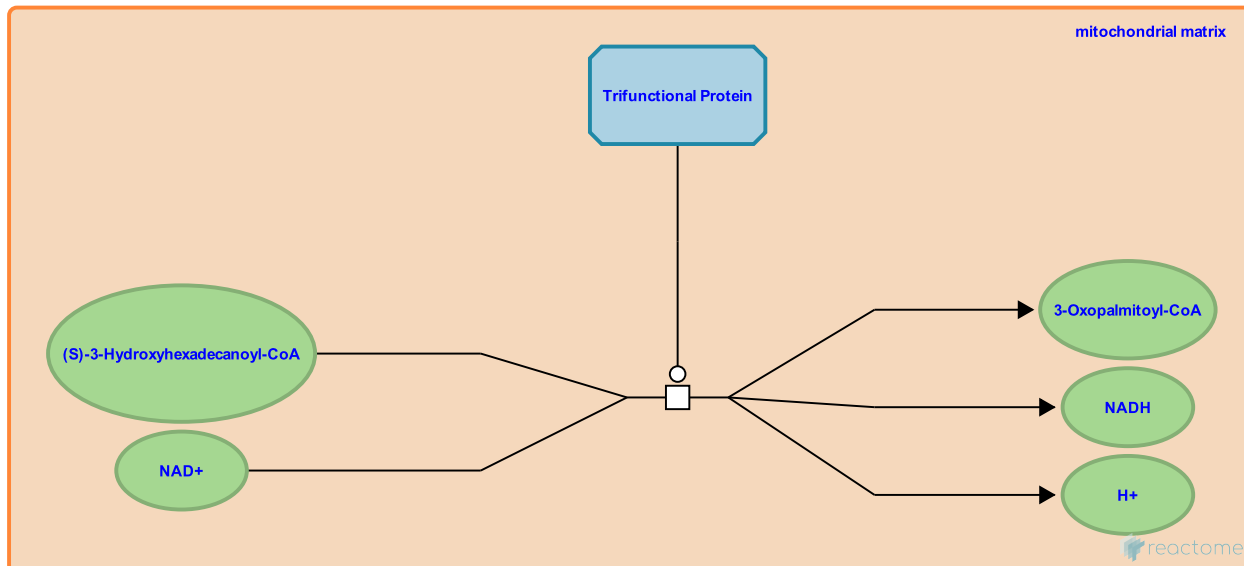
This document contains 1 reaction ([see Table of Contents](#))

(S)-3-Hydroxyhexadecanoyl-CoA+NAD<=>3-Oxopalmitoyl-CoA+NADH+H [↗](#)

Stable identifier: R-HSA-77303

Type: transition

Compartments: mitochondrial matrix



At the beginning of this reaction, 1 molecule of 'NAD+', and 1 molecule of '(S)-3-Hydroxyhexadecanoyl-CoA' are present. At the end of this reaction, 1 molecule of '3-Oxopalmitoyl-CoA', 1 molecule of 'H+', and 1 molecule of 'NADH' are present.

This reaction takes place in the 'mitochondrial matrix' and is mediated by the '3-hydroxyacyl-CoA dehydrogenase activity' of 'Trifunctional Protein'.

Literature references

Carpenter, K., Pollitt, R.J., Middleton, B. (1992). Human liver long-chain 3-hydroxyacyl-coenzyme A dehydrogenase is a multifunctional membrane-bound beta-oxidation enzyme of mitochondria. *Biochem Biophys Res Commun*, 183, 443-8. [↗](#)