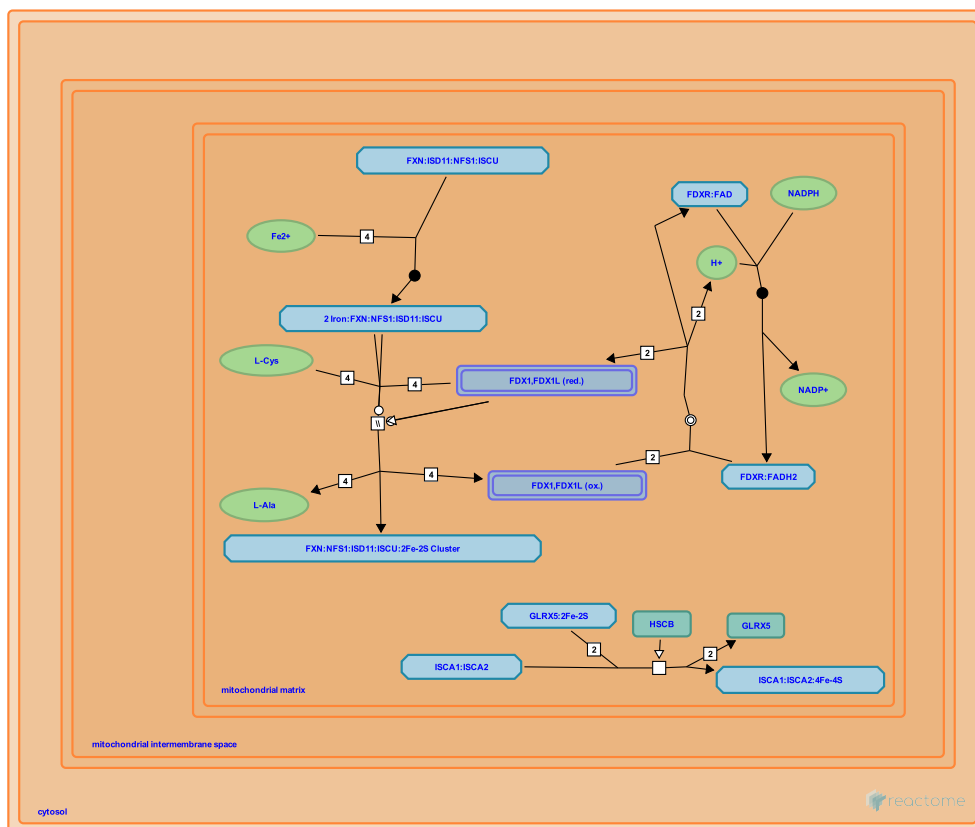


Mitochondrial iron-sulfur cluster biogenesis



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.

The development of Reactome is supported by grants from the US National Institutes of Health (P41 HG003751), University of Toronto (CFREF Medicine by Design), European Union (EU STRP, EMI-CD), and the European Molecular Biology Laboratory (EBI Industry program).

Literature references

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Reactome database release: 69

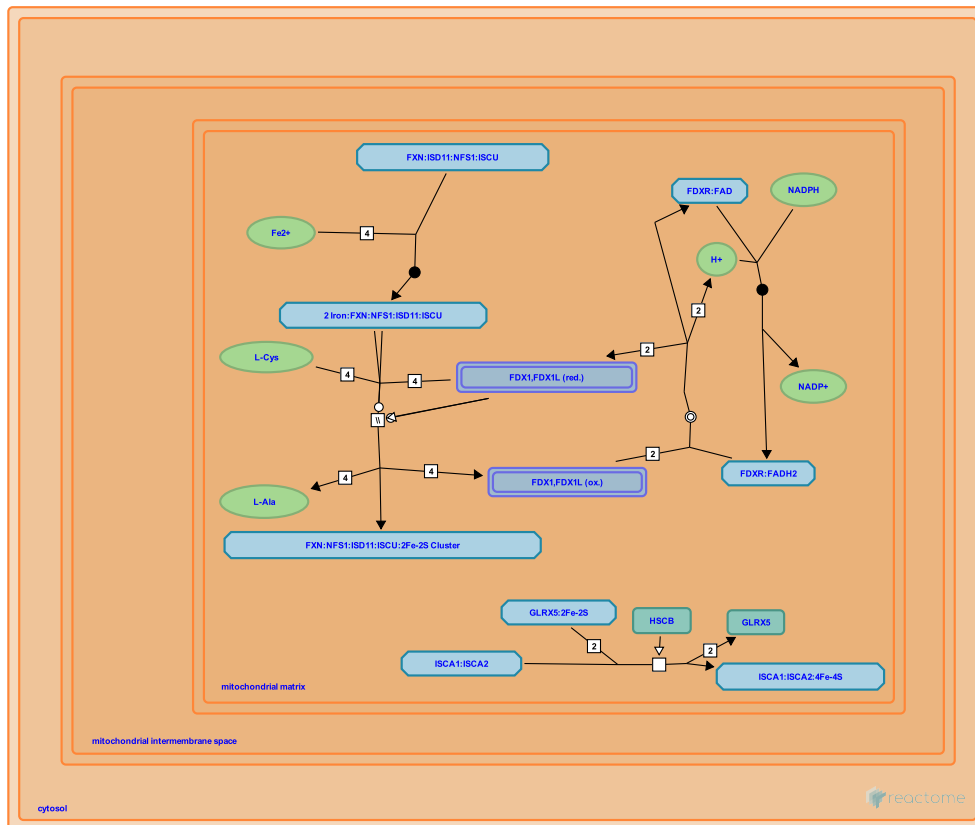
This document contains 2 pathways and 3 reactions ([see Table of Contents](#))

Mitochondrial iron-sulfur cluster biogenesis ↗

Stable identifier: R-CFA-1362409

Compartments: mitochondrial inner membrane, mitochondrial matrix, mitochondrial intermembrane space

Inferred from: [Mitochondrial iron-sulfur cluster biogenesis \(Homo sapiens\)](#)



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>

Frataxin binds iron [↗](#)

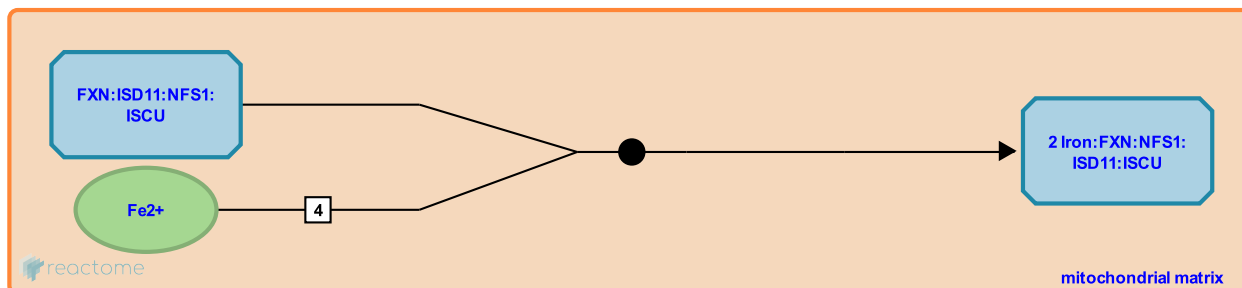
Location: [Mitochondrial iron-sulfur cluster biogenesis](#)

Stable identifier: R-CFA-1362416

Type: binding

Compartments: mitochondrial matrix

Inferred from: [Frataxin binds iron \(Homo sapiens\)](#)



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: [FXN:NFS1:ISD11:ISCU assembles 2Fe-2S iron-sulfur cluster](#)

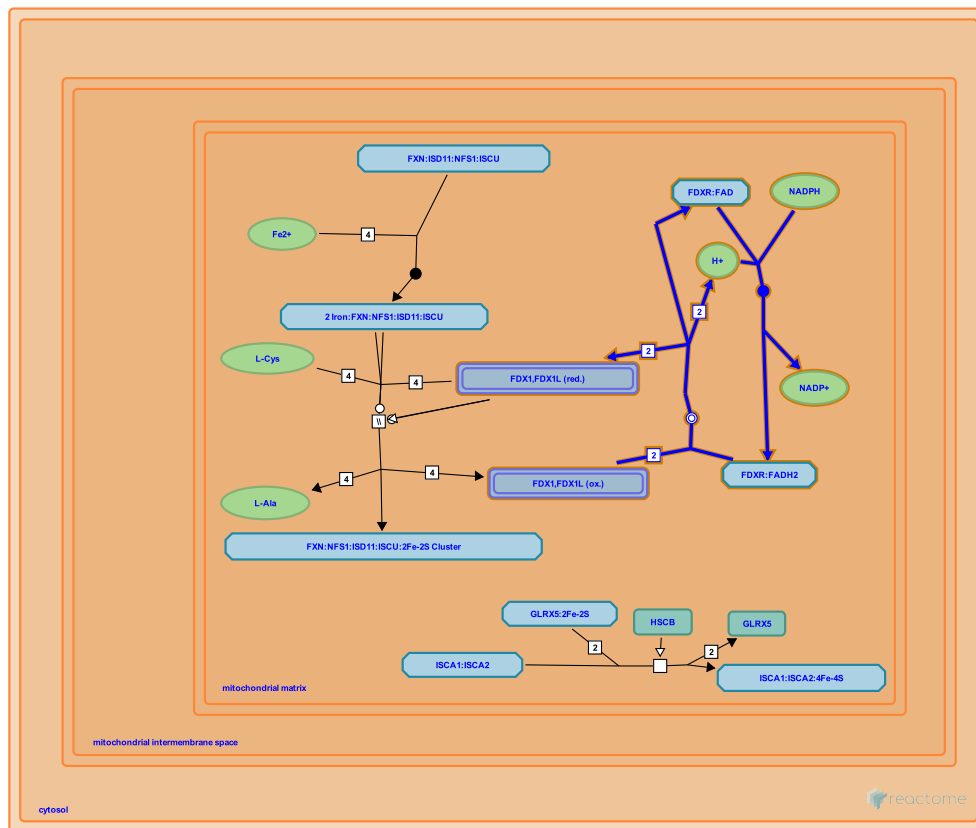
Electron transport from NADPH to Ferredoxin ↗

Location: Mitochondrial iron-sulfur cluster biogenesis

Stable identifier: R-CFA-2395516

Compartments: mitochondrial matrix

Inferred from: Electron transport from NADPH to Ferredoxin (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>

FXN:NFS1:ISD11:ISCU assembles 2Fe-2S iron-sulfur cluster ↗

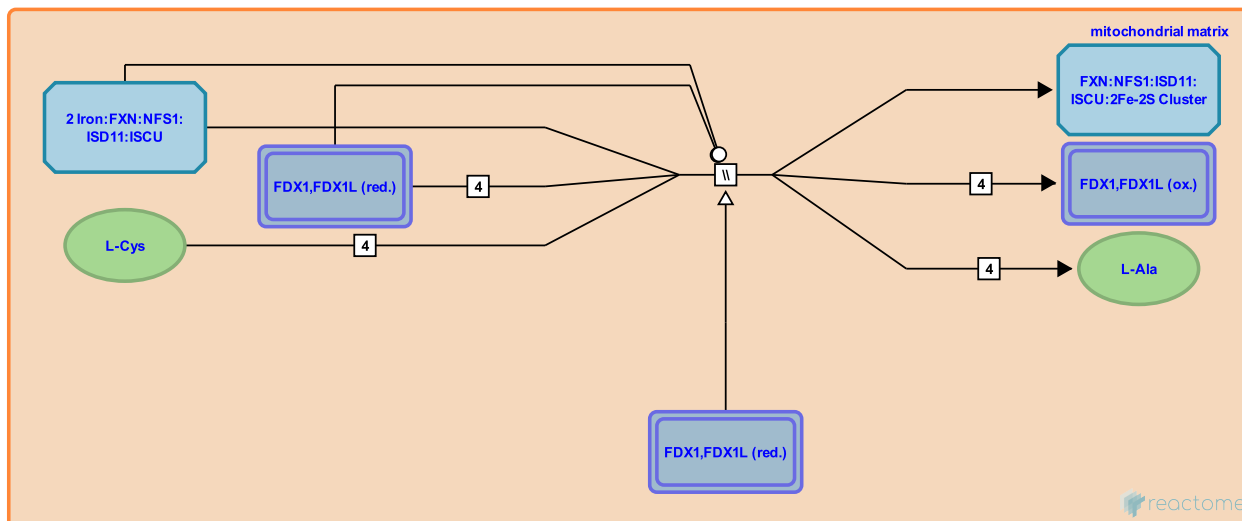
Location: [Mitochondrial iron-sulfur cluster biogenesis](#)

Stable identifier: R-CFA-1362408

Type: omitted

Compartments: mitochondrial matrix

Inferred from: [FXN:NFS1:ISD11:ISCU assembles 2Fe-2S iron-sulfur cluster \(Homo sapiens\)](#)



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: [Frataxin binds iron](#)

Formation of 4Fe-4S cluster on ISCA1:ISCA2 ↗

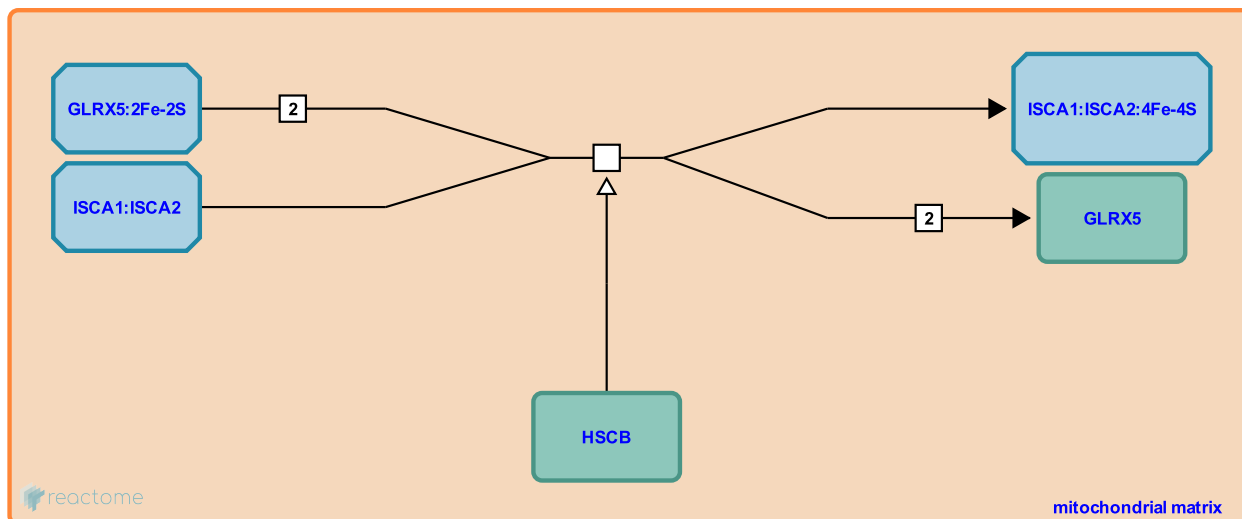
Location: Mitochondrial iron-sulfur cluster biogenesis

Stable identifier: R-CFA-8878815

Type: transition

Compartments: mitochondrial matrix

Inferred from: Formation of 4Fe-4S cluster on ISCA1:ISCA2 (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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