

DUOX1,2 reduce O₂ to H₂O₂

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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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Reactome database release: 74

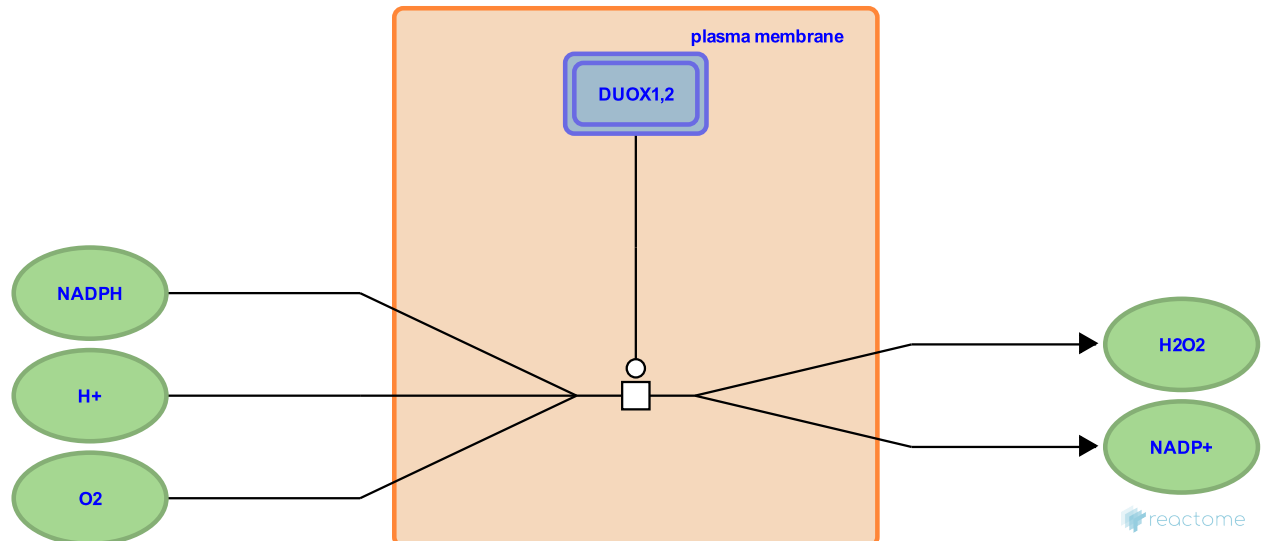
This document contains 1 reaction ([see Table of Contents](#))

DUOX1,2 reduce O2 to H2O2 ↗

Stable identifier: R-HSA-5693681

Type: transition

Compartments: plasma membrane, extracellular region



Dual oxidases 1 and 2 (DUOX1, 2) mediates the generation of hydrogen peroxide (H₂O₂) which is required for the activity of thyroid peroxidase for thyroid hormone formation and lactoperoxidase (Edens et al. 2001, Ameziane-El-Hassani et al. 2005).

Literature references

Edens, WA., Sharling, L., Cheng, G., Shapira, R., Kinkade, JM., Lee, T. et al. (2001). Tyrosine cross-linking of extracellular matrix is catalyzed by Duox, a multidomain oxidase/oxidoreductase with homology to the phagocyte oxidase subunit gp91phox. *J. Cell Biol.*, 154, 879-91. ↗

Ameziane-El-Hassani, R., Morand, S., Boucher, JL., Frapart, YM., Apostolou, D., Agnandji, D. et al. (2005). Dual oxidase-2 has an intrinsic Ca²⁺-dependent H₂O₂-generating activity. *J. Biol. Chem.*, 280, 30046-54. ↗

Editions

2015-05-18	Authored, Edited	Jassal, B.
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