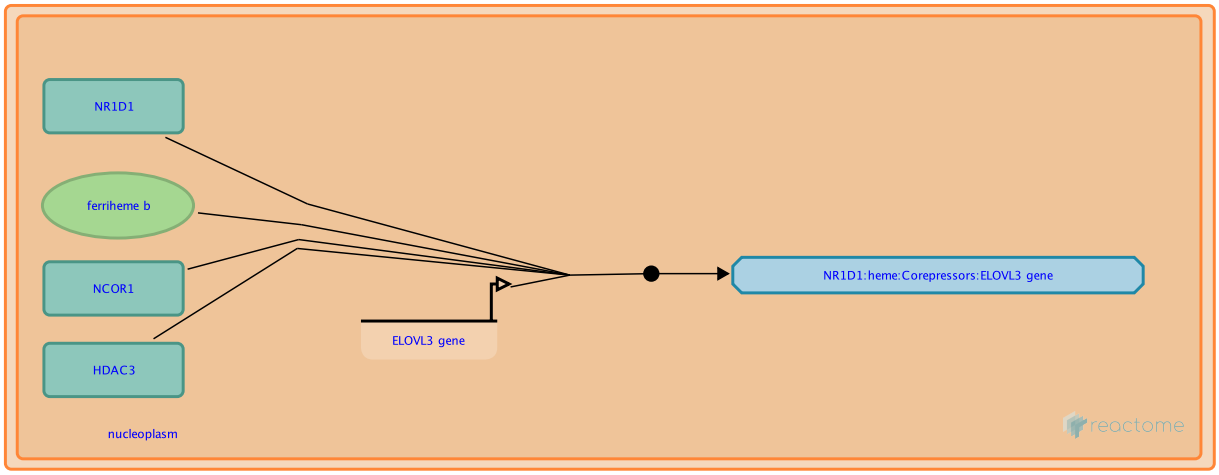
NR1D1 (REV-ERBA) represses gene expression



Delaunay, F., May, B.

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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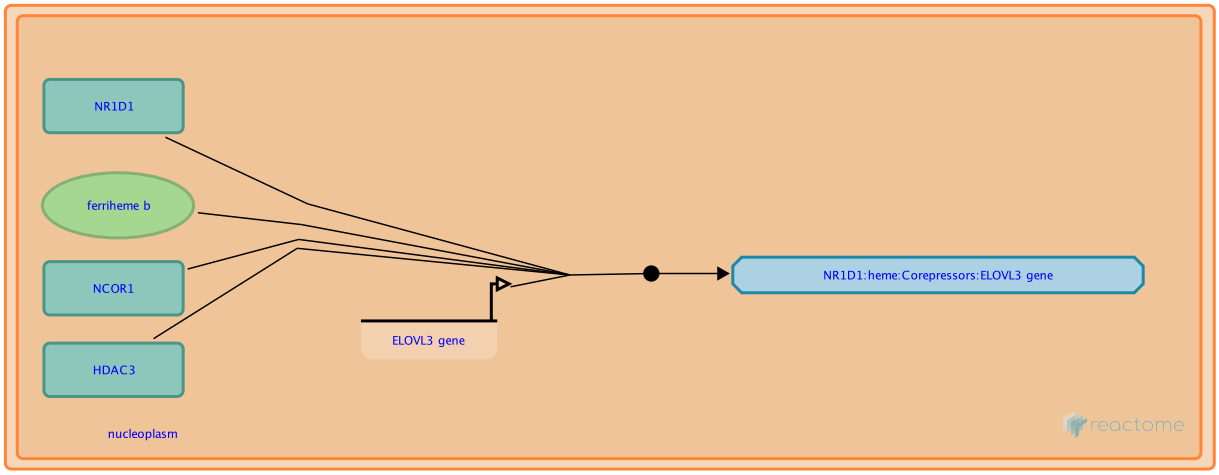
NR1D1 (REV-ERBA) represses gene expression ↗

Stable identifier: R-HSA-1368071

Compartments: nucleoplasm



REV-ERBA binds DNA elements very similar to those bound by the transcription activator RORA. ROR-AREV-ERBA bound to DNA and heme recruits the corepressors NCoR and HDAC3 to repress transcription. Thus REV-ERBA and RORA appear to compete to repress or activate genes, repectively.

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Yin, L., Wu, N., Curtin, JC., Qatanani, M., Szwergold, NR., Reid, RA. et al. (2007). Rev-erbalpha, a heme sensor that coordinates metabolic and circadian pathways. *Science, 318*, 1786-9. ↗

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Yin, L., Wu, N., Lazar, MA. (2010). Nuclear receptor Rev-erbalpha: a heme receptor that coordinates circadian rhythm and metabolism. *Nucl Recept Signal, 8*, e001. ↗

Editions

2011-06-22	Authored, Edited	May, B.
2012-01-28	Reviewed	Delaunay, F.
2015-01-17	Revised	May, B.

NR1D1 (REV-ERBA) binds heme, the ELOVL3 gene, and recruits corepressors ↗

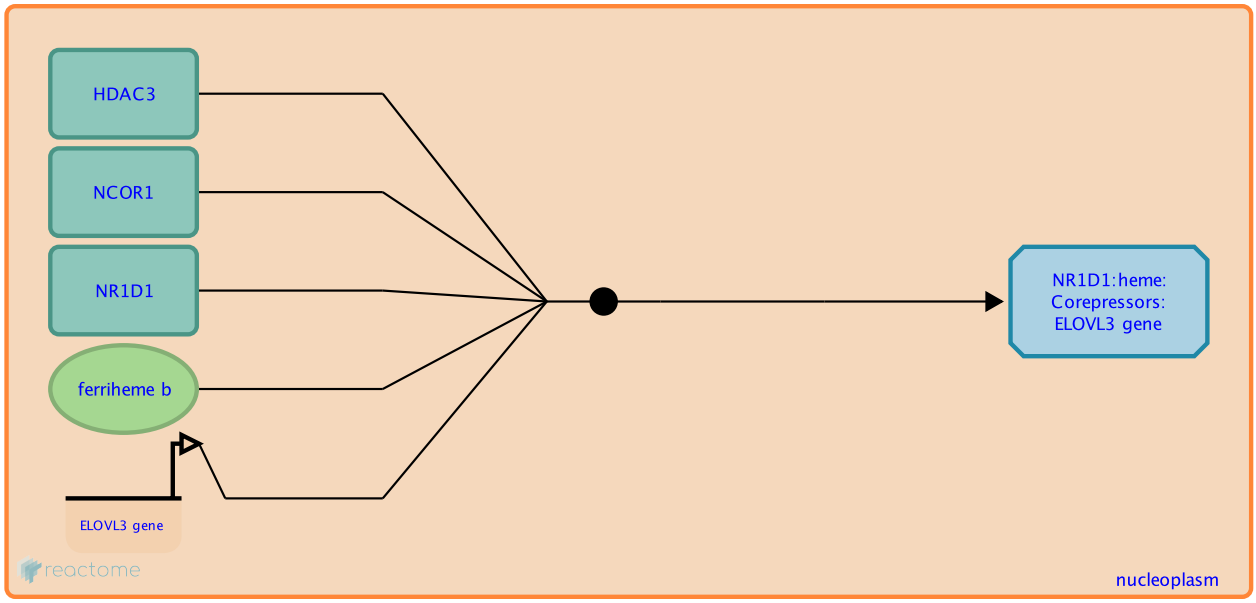
Location: NR1D1 (REV-ERBA) represses gene expression

Stable identifier: R-HSA-5663252

Type: binding

Compartments: nucleoplasm

Inferred from: Nr1d1 (Rev-erba) binds heme, the Elovl3 gene, and recruits corepressors (Mus musculus)



As inferred from mouse homologs, REV-ERBA (NR1D1) binds the promoter of the ELOVL3 gene and represses transcription, possibly by recruiting corepressors.

Editions

2012-01-28	Reviewed	Delaunay, F.
2015-01-16	Authored, Edited	May, B.

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