NR1H2 & NR1H3 regulate gene expression to limit cholesterol uptake

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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


Reactome database release: 72

This document contains 1 pathway and 2 reactions (see Table of Contents)

https://release.reactome.org
NR1H2 & NR1H3 regulate gene expression to limit cholesterol uptake

Stable identifier: R-HSA-9031525

Liver X receptors NR1H3 (LXR alpha) and NR1H2 (LXR beta) are sterol-responsive transcription factors that become activated upon the engagement with their cognate oxysterol ligands. Ligand-activated NR1H2 & NR1H3 induce a genetic program aimed at reducing the cellular sterol load by limiting cholesterol uptake, attenuating cholesterol biosynthesis and promoting cholesterol efflux. This Reactome module describes the NR1H2 & NR1H3-regulated expression of MYLIP (IDOL) gene, an E3 ubiquitin ligase, that triggers ubiquitination of the low-density lipoprotein receptor (LDLR) on its cytoplasmic domain, targeting it for degradation and thereby limiting cholesterol uptake (Zelcer N et al. 2009; Zhang L et al. 2012).

Literature references


Editions

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NR1H2,3 binds the MYLIP gene

Location: NR1H2 & NR1H3 regulate gene expression to limit cholesterol uptake

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