

NOTCH2-ligand complex is cleaved to produce NEXT2

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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: 88

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

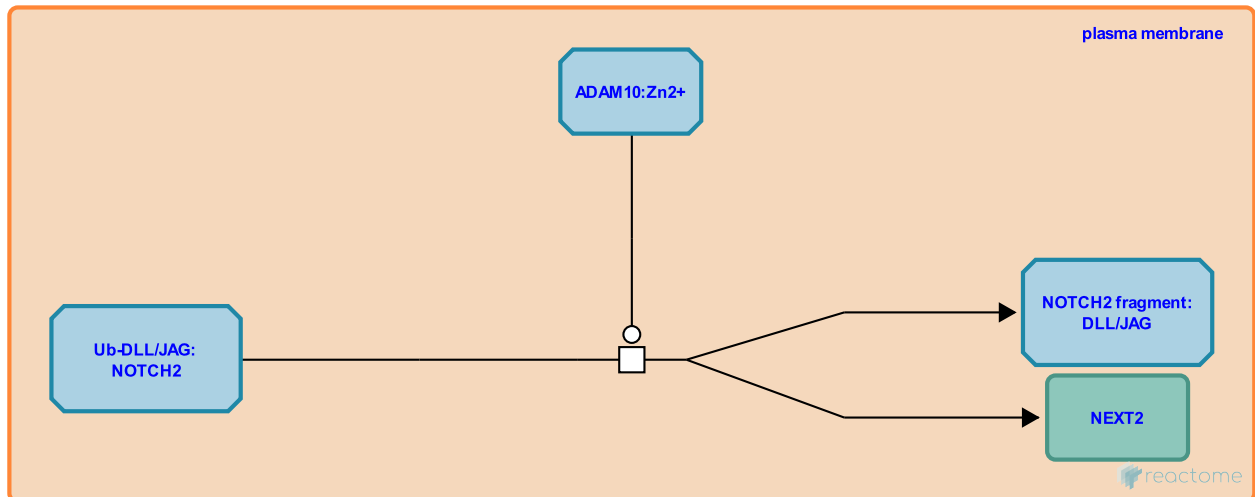
NOTCH2-ligand complex is cleaved to produce NEXT2 [↗](#)

Stable identifier: R-HSA-157629

Type: transition

Compartments: plasma membrane

Inferred from: [Adam10 cleaves Notch2 \(Mus musculus\)](#)



Ligand binding induces a conformational change in NOTCH2, through mechanical pulling of NOTCH triggered by endocytosis of the receptor-attached ligand (Meloty-Kapella et al. 2012). This conformational change exposes the S2 site in the extracellular region of NOTCH2 and results in cleavage of NOTCH2 by ADAM10 metalloprotease (Gibb et al. 2010, Groot et al. 2014), generating the membrane-anchored NOTCH2 fragment NEXT2 (Shimizu et al. 2000). The extracellular NOTCH2 portion remains attached to the ligand presented on the plasma membrane of a neighboring cell.

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Editions

2013-01-11	Authored	Orlic-Milacic, M.
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