

# CHD8 binds beta-catenin to negatively regulate WNT-dependent gene expression

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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

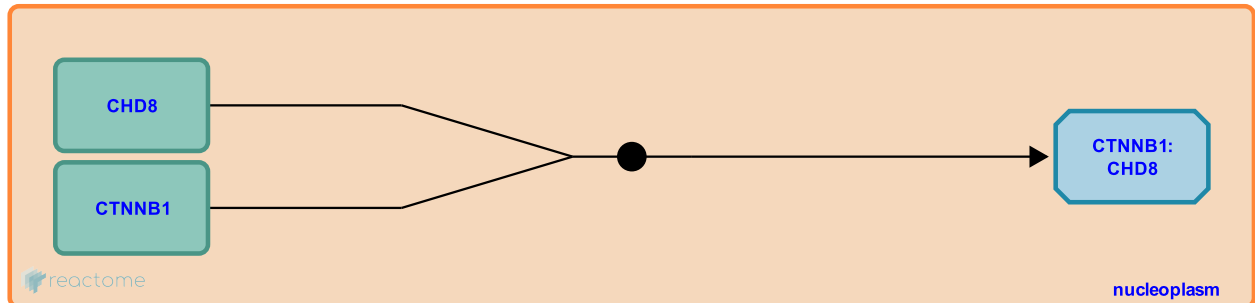
This document contains 1 reaction ([see Table of Contents](#))

## CHD8 binds beta-catenin to negatively regulate WNT-dependent gene expression [↗](#)

**Stable identifier:** R-HSA-5368580

**Type:** binding

**Compartments:** nucleoplasm



CHD8 is a ATP-dependent chromatin remodeling factor that binds directly to beta-catenin to repress transcription of WNT target genes (Thompson et al, 2008; Sakamoto et al, 2000). ChIP studies show that CHD8 is recruited to the promoters of several beta-catenin-responsive targets, and knockdown of CHD8 results in induction of these target genes in vivo (Thompson et al, 2008). An N-terminal fragment of CHD was independently identified as the rat protein Duplin. Duplin was shown to negatively regulate WNT target gene expression by competing with TCF7L2 for beta-catenin binding (Sakamoto et al, 2000; Kobayashi et al, 2002). A corresponding fragment of CHD8 has not been identified in human cells and its significance is not clear.

### Literature references

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### Editions

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