

Contactin-1 (CNTN1) binds NOTCH1

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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.

The development of Reactome is supported by grants from the US National Institutes of Health (P41 HG003751), University of Toronto (CFREF Medicine by Design), European Union (EU STRP, EMI-CD), and the European Molecular Biology Laboratory (EBI Industry program).

Literature references

- Fabregat, A., Sidiropoulos, K., Viteri, G., Forner, O., Marin-Garcia, P., Arnau, V. et al. (2017). Reactome pathway analysis: a high-performance in-memory approach. *BMC bioinformatics*, 18, 142. [↗](#)
- Sidiropoulos, K., Viteri, G., Sevilla, C., Jupe, S., Webber, M., Orlic-Milacic, M. et al. (2017). Reactome enhanced pathway visualization. *Bioinformatics*, 33, 3461-3467. [↗](#)
- Fabregat, A., Jupe, S., Matthews, L., Sidiropoulos, K., Gillespie, M., Garapati, P. et al. (2018). The Reactome Pathway Knowledgebase. *Nucleic Acids Res*, 46, D649-D655. [↗](#)
- Fabregat, A., Korninger, F., Viteri, G., Sidiropoulos, K., Marin-Garcia, P., Ping, P. et al. (2018). Reactome graph database: Efficient access to complex pathway data. *PLoS computational biology*, 14, e1005968. [↗](#)

Reactome database release: 70

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

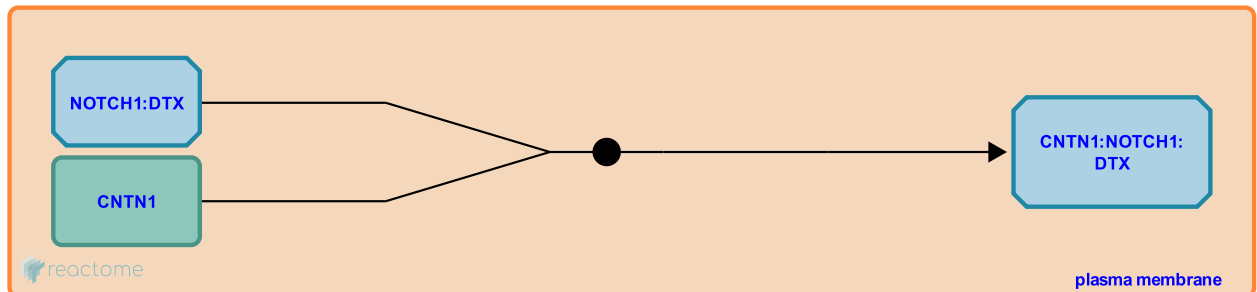
Contactin-1 (CNTN1) binds NOTCH1 [↗](#)

Stable identifier: R-HSA-373706

Type: binding

Compartments: plasma membrane

Inferred from: [Notch1 binds Cntn1 \(Rattus norvegicus\)](#)



Contactin-1 (CNTN1) is composed of six Ig domains followed by four FNIII repeats and is anchored to the membrane via a glycosyl-phosphatidylinositol (GPI) tail. It is expressed transiently during CNS and PNS development both as GPI-anchored and soluble forms. CNTN1 is a physiological ligand of NOTCH, shown to bind and activate NOTCH1 and NOTCH2 in trans. The activation of NOTCH signaling by CNTN1 is Deltex (DTX)-dependent and promotes oligodendrocyte maturation and myelination.

Literature references

Hu, QD., Ang, BT., Karsak, M., Hu, WP., Cui, XY., Duka, T. et al. (2003). F3/contactin acts as a functional ligand for Notch during oligodendrocyte maturation. *Cell*, 115, 163-75. [↗](#)

Editions

2011-11-14	Authored	Egan, SE., Orlic-Milacic, M.
2012-02-06	Edited	D'Eustachio, P.
2012-02-06	Reviewed	Haw, R.
2012-02-10	Edited	Orlic-Milacic, M.