# NOTCH1 binds DLL4

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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

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. ↗

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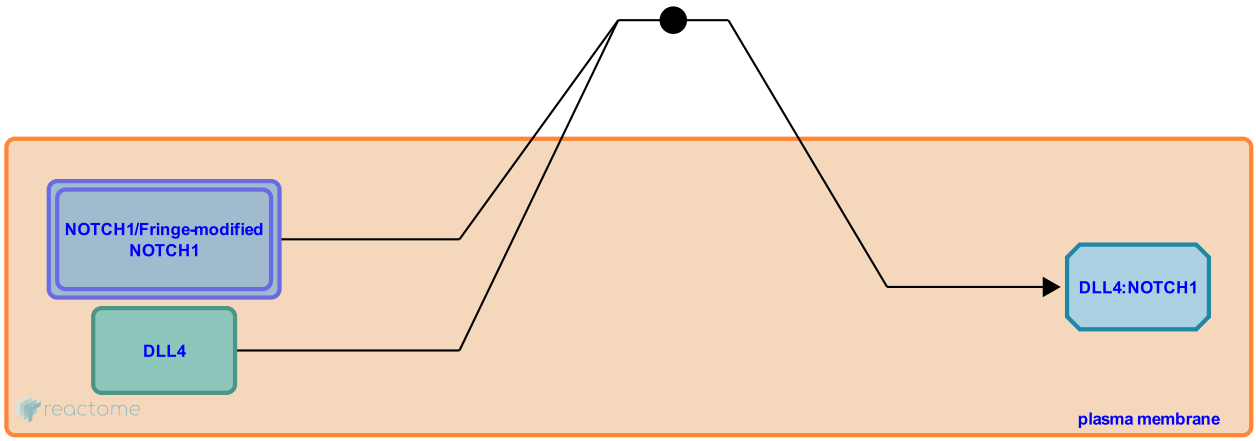
## NOTCH1 binds DLL4 ↗

**Stable identifier:** R-HSA-1980041

**Type:** binding

**Compartments:** extracellular region

**Inferred from:** Dll4 binds Notch1 (Mus musculus)




NOTCH1 is activated by DLL4 ligand expressed on a neighboring cell. The interaction of NOTCH1 and DLL4 is enhanced when NOTCH1 is glycosylated by fringe-enzymes. Based on mouse studies, activation of NOTCH1 by DLL4 may be important in angiogenesis (Benedito et al. 2009). DLL4 may also be involved in T-cell development. Mouse Dll4 is expressed on thymic epithelial cells and its interaction with Notch1 expressed on hematopoietic progenitors is necessary for T-cell lineage commitment (Koch et al. 2008, Hozumi et al. 2008).

## Literature references

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Benedito, R., Adams, S., Gossler, A., Adams, RH., Fruttiger, M., Roca, C. et al. (2009). The notch ligands Dll4 and Jagged1 have opposing effects on angiogenesis. *Cell, 137*, 1124-35. ↗

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## Editions

| | | |
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| 2004-12-15 | Authored | Jassal, B. |
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