

# Activated NOD1 oligomerizes

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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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- 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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Reactome database release: 88

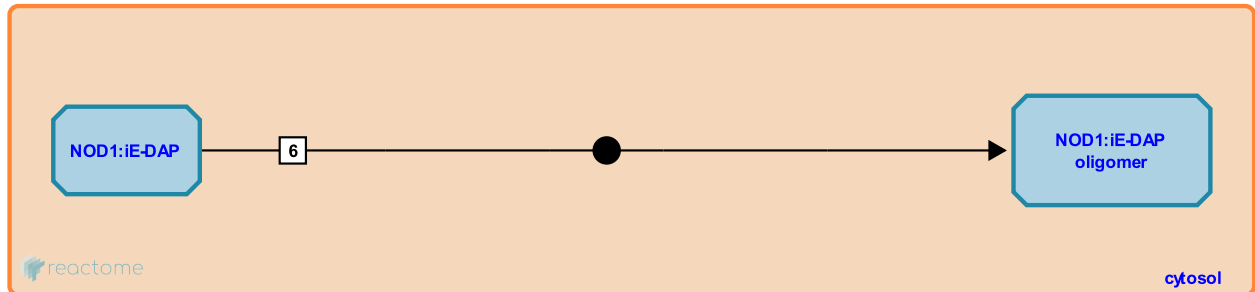
This document contains 1 reaction ([see Table of Contents](#))

## Activated NOD1 oligomerizes [↗](#)

**Stable identifier:** R-HSA-622310

**Type:** binding

**Compartments:** cytosol



NOD1 is activated by iE-DAP in a LRR domain dependent manner. The LRR domain has a negative influence on NOD1 self-association (Inohara et al. 2000); binding of iE-DAP likely causes conformational changes that free the NACHT domain, allowing oligomerization and subsequent association of other proteins. Coimmunoprecipitation experiments demonstrate that NOD1 can interact with itself (Inohara et al. 1999) via the NACHT domain (Inohara et al. 2000). NACHT domains are part of the AAA+ domain family. Members of this family form hexamers or heptamers. Based on this observation, NOD1 and NOD2 are believed to form oligomers of this size (Martinon & Tschopp, 2005).

### Literature references

Ni, J., Carrio, R., Yee, C., Hu, Y., Nunez, G., Koseki, T. et al. (1999). Nod1, an Apaf-1-like activator of caspase-9 and nuclear factor-kappaB. *J Biol Chem*, 274, 14560-7. [↗](#)

### Editions

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