

# RANBP2 SUMOylates HDAC4 with SUMO1

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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

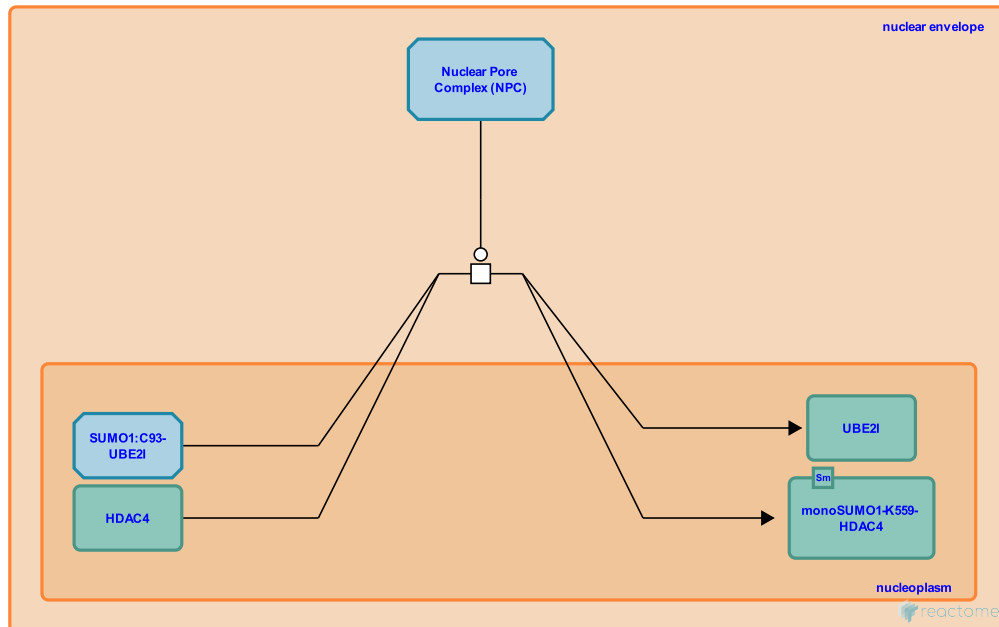
This document contains 1 reaction ([see Table of Contents](#))

## RANBP2 SUMOylates HDAC4 with SUMO1 [↗](#)

**Stable identifier:** R-HSA-4615872

**Type:** transition

**Compartments:** nucleoplasm, nuclear envelope



RANBP2 SUMOylates HDAC4 at lysine-559 with SUMO1 (Kirsh et al. 2002, Knipscheer et al. 2008). SUMOylation increases transcription repression by HDAC4.

### Literature references

Sixma, TK., Fish, A., Olsen, JV., Klug, H., Pichler, A., Flotho, A. et al. (2008). Ubc9 sumoylation regulates SUMO target discrimination. *Mol. Cell*, 31, 371-82. [↗](#)

Dejean, A., Mathieu, M., Müller, S., Seeler, JS., Gast, A., Kirsh, O. et al. (2002). The SUMO E3 ligase RanBP2 promotes modification of the HDAC4 deacetylase. *EMBO J.*, 21, 2682-91. [↗](#)

### Editions

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