SUMOylation of intracellular receptors

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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


Reactome database release: 79

This document contains 1 pathway and 25 reactions (see Table of Contents)
At least 17 nuclear receptors have been discovered to be SUMOylated (reviewed in Treuter and Venteclef 2011, Wadosky et al. 2012, Knutson and Lange 2013). In all but a few cases (notably AR and RORA) SUMOylation causes transcriptional repression. Repression by SUMOylation is believed to occur through several mechanisms: interference with DNA binding, recruitment of corepressors, retention of corepressors at non-target promoters (transrepression), re-localization of nuclear receptors within the nucleus, interference with dimerization of receptors, and interference (crosstalk) with other post-translational modifications. SUMOylation of receptors affects inflammation and disease processes (Anbalagan et al. 2012).

**Literature references**


## Editions

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PIAS1,2-1 SUMOylates AR with SUMO1

Location: SUMOylation of intracellular receptors

Stable identifier: R-HSA-4090390