

PIAS4 SUMOylates VDR with SUMO2

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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. [↗](#)

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: 88

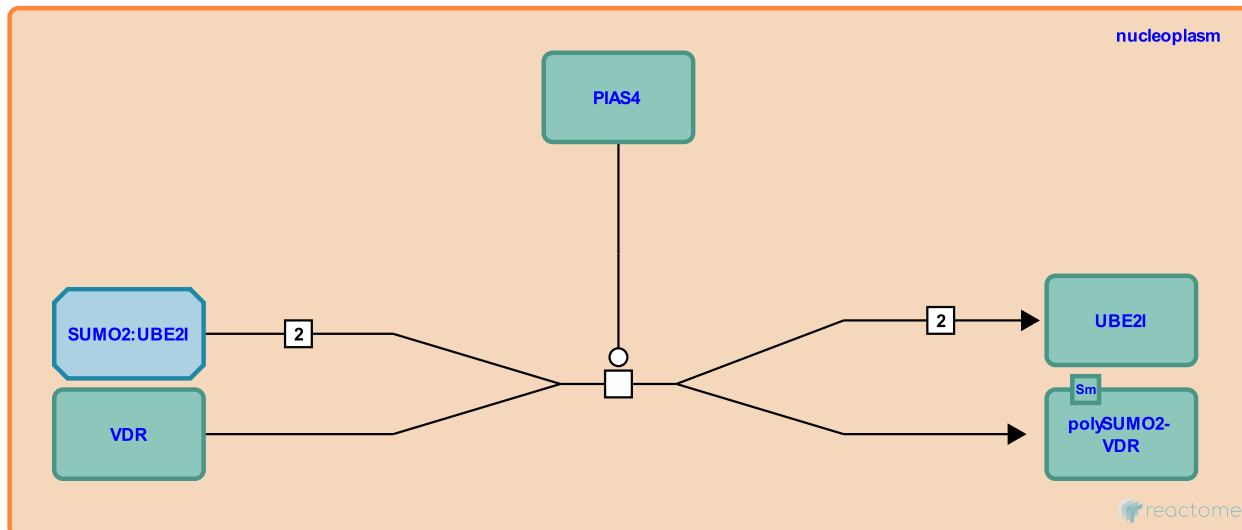
This document contains 1 reaction ([see Table of Contents](#))

PIAS4 SUMOylates VDR with SUMO2 [↗](#)

Stable identifier: R-HSA-4546387

Type: transition

Compartments: nucleoplasm



E3 SUMO-protein ligase (PIAS4) SUMOylates Vitamin D3 receptor (VDR) with SUMO2 (Jena et al. 2012). SUMOylation inhibits transcriptional activation by VDR in response to vitamin D.

Literature references

Lee, WP., Thompson, PD., Doherty, D., Jena, S. (2012). PIAS4 represses vitamin D receptor-mediated signaling and acts as an E3-SUMO ligase towards vitamin D receptor. *J. Steroid Biochem. Mol. Biol.*, 132, 24-31. [↗](#)

Editions

2013-08-19	Authored, Edited	May, B.
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