CBX4 (Pc2) SUMOylates HNRNPK 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

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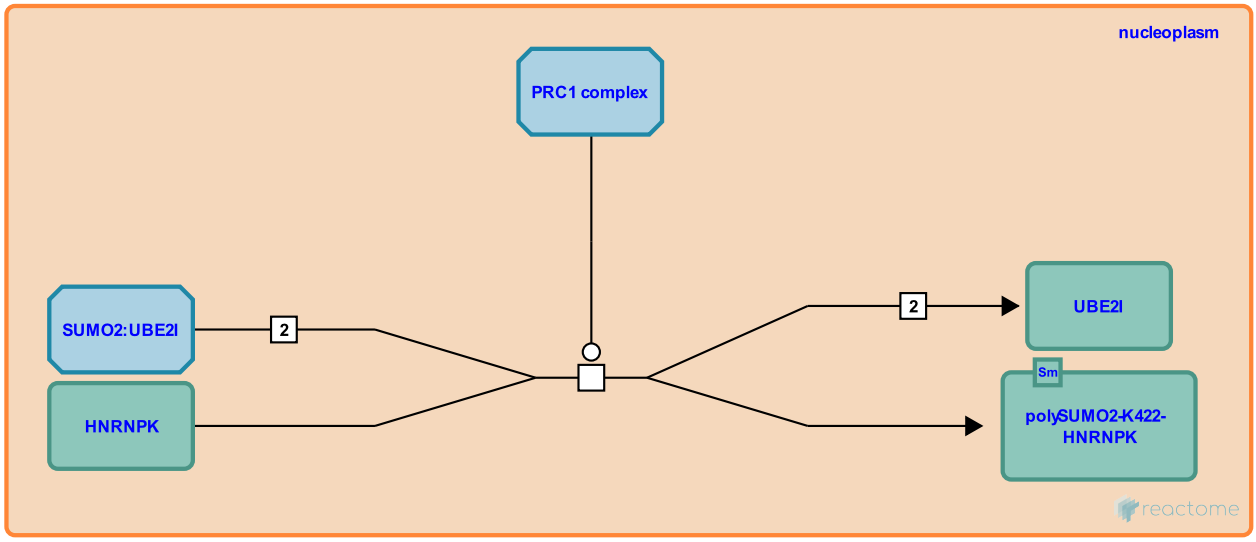
Stable identifier: R-HSA-4570499

Type: transition

Compartments: nucleoplasm



CBX4 (Pc2) SUMOylates HNRNPK at lysine-422 with SUMO2 (Li et al. 2004, Lee et al. 2012, Pelisch et al. 2012, Hendriks et al. 2014, Impens et al. 2014, Tammsalu et al. 2014). (Two molecules of SUMO2 are shown in the reaction in order to represent the oligomeric chains of SUMO2 that are attached to a target protein.) PIAS3 also SUMOylates HNRNPK predominantly with SUMO1 (Lee et al. 2012). HNRNPK is SUMOylated in response to DNA damage and SUMOylation is regulated by HIPK2 and CBX4. SUMOylation of HNRNPK is required for coactivation of TP53 (p53) activated transcription. SUMOylation increases the stability of HNRNPK, the nonSUMOylated form of which is normally ubiquinated by HDM2 (Lee et al. 2012).

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Editions

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