XIAP binds TLE

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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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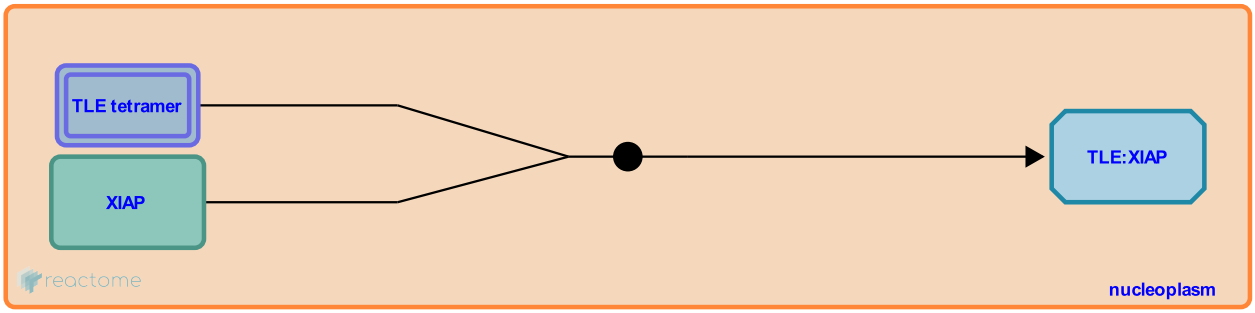
XIAP binds TLE

Stable identifier: R-HSA-3322431

Type: binding

Compartments: nucleoplasm



XIAP (X-linked inhibitor of apoptosis) has three BIR domains with known roles in the degradation of caspases and a C-terminal E3 ligase domain with both anti-apoptotic and non-apoptotic roles (Galban and Duckett, 2010; Burstein et al, 2004). The Drosophila homologue DAIP1 was recently identified in a screen in S2 cells for regulators of Wg signalling (Hanson et al, 2012). Knockdown of XIAP in HEK293 cells reduces WNT3a-induced reporter activity and expression of endogenous WNT target genes without affecting beta-catenin levels or localization. In vitro studies show that XIAP can ubiquitinate all human TLE isoforms, including the truncated isoform Amino-terminal enhancer of split (AES). TLE3 co-immunoprecipitates with XIAP from HEK293 cells in both the presence and absence of WNT signalling, consistent with a constitutive role for XIAP in TLE regulation. XIAP may act either by ubiquitinating free nuclear TLE to reduce the amount available to interact with TCF/LEFs or by ubiquitinating TLE in the context of TCF/LEF transcriptional complexes to promote its dissociation, or both. In support of the latter model, XIAP is pulled down with TCF7L2 (TCF4) in a WNT-dependent manner, and knockdown of XIAP reduces the amount of beta-catenin that co-immunoprecipitates with TCF7L2 (TCF4) upon WNT pathway activation (Hanson et al, 2012).

Literature references

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