EBI3:CANX binds IL12A

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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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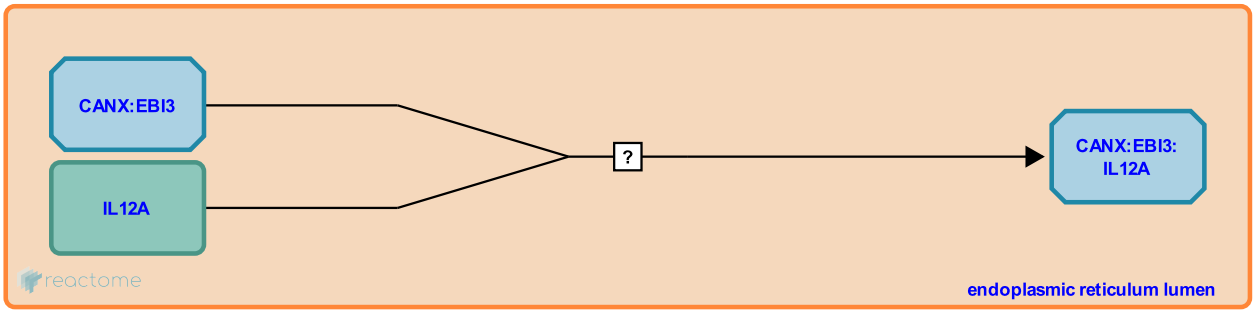
Stable identifier: R-HSA-8950362

Type: uncertain

Compartments: endoplasmic reticulum lumen



Interleukin-35 is a heterodimer of Interleukin-27 subunit beta (EBI3) and Interleukin-12 subunit alpha (IL12A or IL12-p35) (Devergne et al. 1997). It is required for maximal T regulatory cell activity (Collison et al. 2007).
Site directed mutagenesis of IL12A identified mutations that disrupt formation of Interleukin 12 and Interleukin 27 heterodimeric complexes but not Interleukin 35. IL12A appears to pair with EBI3 entirely differently from IL27. (Jones et al. 2012). In the absence of IL12A, EBI3 is retained in the endoplasmic reticulum, associated with the chaperone Calnexin (CANX) (Devergne et al. 1997).
This is a Black Box event because we know that EBI3 is retained as a complex with CANX and the co expression of EBI3 and IL12A enables their secretion, but we don't have evidence about the mechanism of dissociation of CANX from EBI3 (Devergne et al. 1997).

Literature references

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Editions

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