IL15:IL15RA:IL2RB:JAK1:IL2RG:JAK3 translocates from the plasma membrane to the endosome

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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. ↗

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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. ↗

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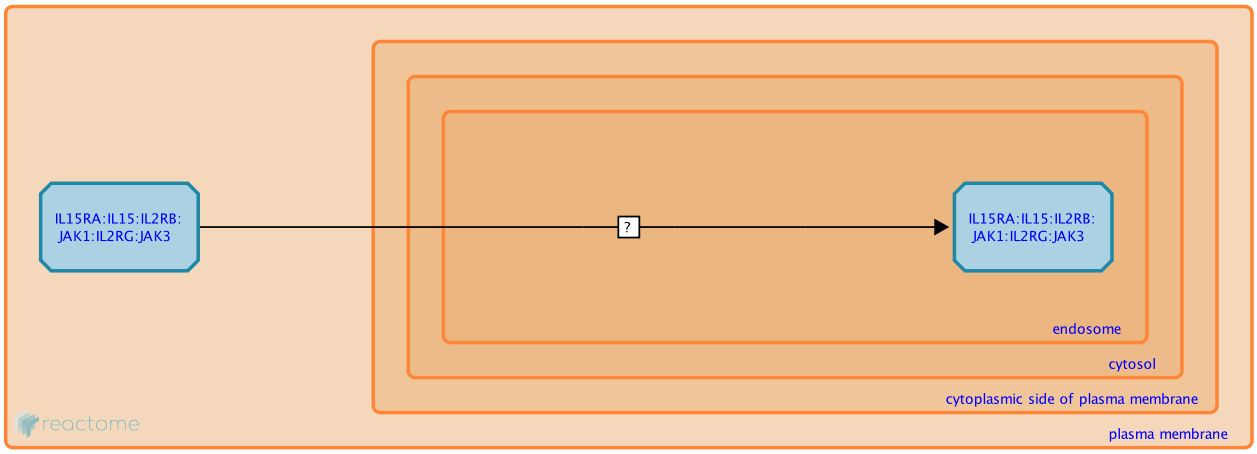
Stable identifier: R-HSA-8983335

Type: uncertain

Compartments: endosome, extracellular region, plasma membrane



The formation of Interleukin-15/Interleukin-15 receptor alpha complexes (IL15:IL15RA or IL15: IL15Rα) on cell surfaces induce a trans-endosomal recycling of IL15 leading to the persistence of surface-bound IL15 due to the constant reappearance of IL15 on plasma membranes. This complex contributes to the long survival of T cells expressing IL15RA after IL15 withdrawal (Dubois et al. 2000). This is a black box event since the details of other potential receptors and proteins participating in this event, remain unclear. It is shown similar patterns for other interleukins (i.e: Interleukin-12, Chiaruttini et al. 2016).

Literature references

Dubois, S., Mariner, J., Waldmann, TA., Tagaya, Y. (2002). IL-15Ralpha recycles and presents IL-15 In trans to neighboring cells. *Immunity, 17*, 537-47. ↗

Editions

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