p-STAT4 dissociates from IL12RB2:IL12RB2 receptor

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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. ↗

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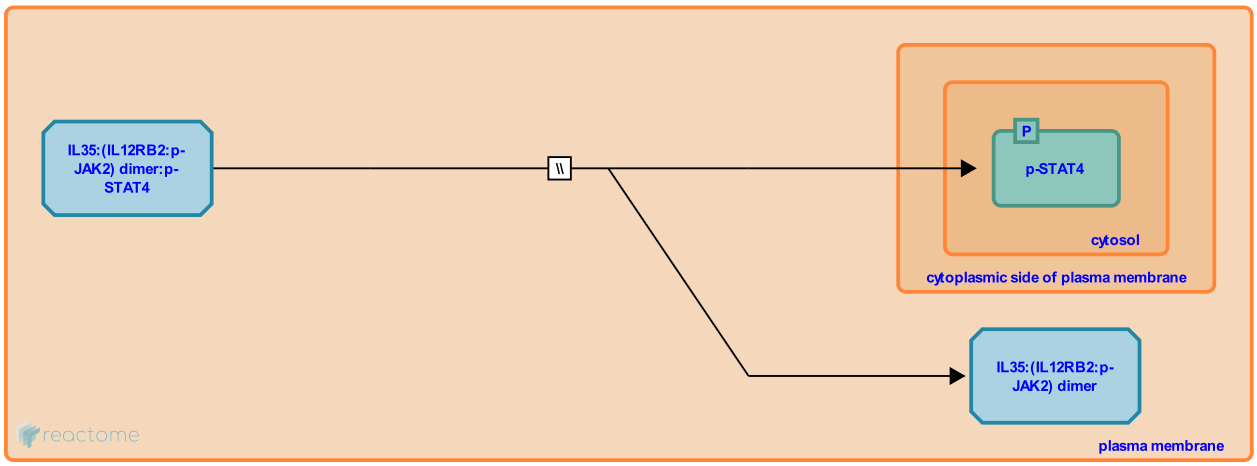
Stable identifier: R-HSA-8983878

Type: omitted

Compartments: plasma membrane, cytosol, extracellular region



Interleukin-35 (IL35) can signal via IL35 receptors triggering the JAK/STAT pathway downstream. Signal transducer and activator of transcription 4-alpha/beta (STAT4) binds to the JAK associated-IL35 receptor complex and are activated via phosphorylations. Subsequently, phosphorylated p-STAT4 dissociates from the receptor complex (Collison et al. 2012). This is a black box event because there is no literature evidence about the exact mechanism of the release of STAT4 from the receptor complex.

Literature references

Delgoffe, GM., Murray, PJ., Drake, CG., Satoskar, AR., Fairweather, D., Guy, CS. et al. (2012). The composition and signaling of the IL-35 receptor are unconventional. *Nat. Immunol., 13*, 290-9. ↗

Editions

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