p-STAT1 and p-STAT4 dissociate from IL12RB2:IL6ST 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. ↗

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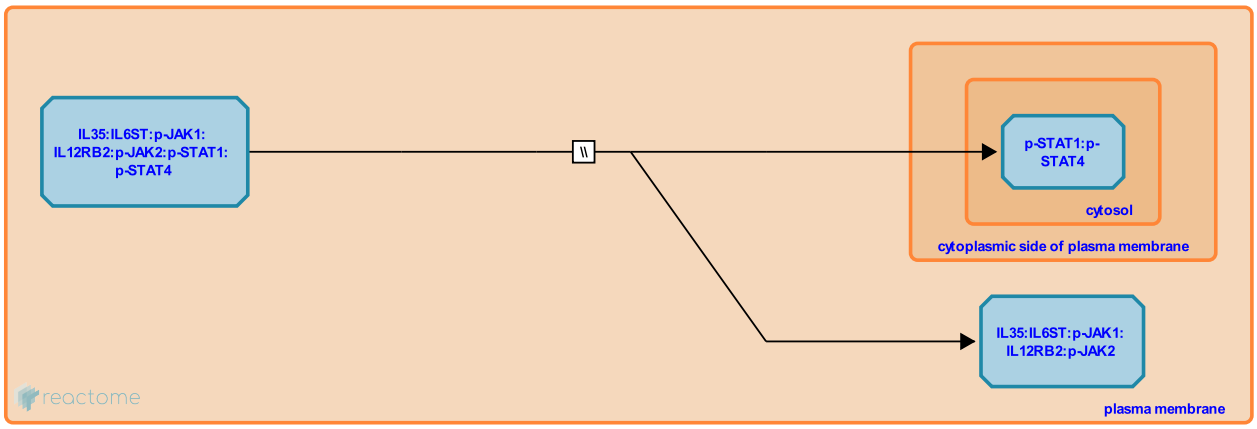
Stable identifier: R-HSA-8983983

Type: omitted

Compartments: plasma membrane, cytosol, extracellular region



Signal transducer and activator of transcription 1-alpha/beta(STAT1) and Signal transducer and activator of transcription 4 (STAT4) after phosphorylation dissociates from the complex of ligand receptor and will dimerize (Delgoffe & Vignali 2013). This is a Black Box event because the mechanism of the release of STAT1 and STAT4 from the receptor complex is unclear. However, it is reported that simultaneous activation of IL12RB2 or IL6ST homodimer receptors do not promote the formation of pSTAT1:pSTAT4 and only the activation of the IL12RB2:IL6ST heteromeric receptor favours pSTAT1:pSTAT4 formation. For this reason, STAT1 and STAT4 are simultaneously considered in the binding, activation and release events.

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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