

JAK1 binds IL4R in IL13-bound IL13R type

II

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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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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. [↗](#)

Reactome database release: 88

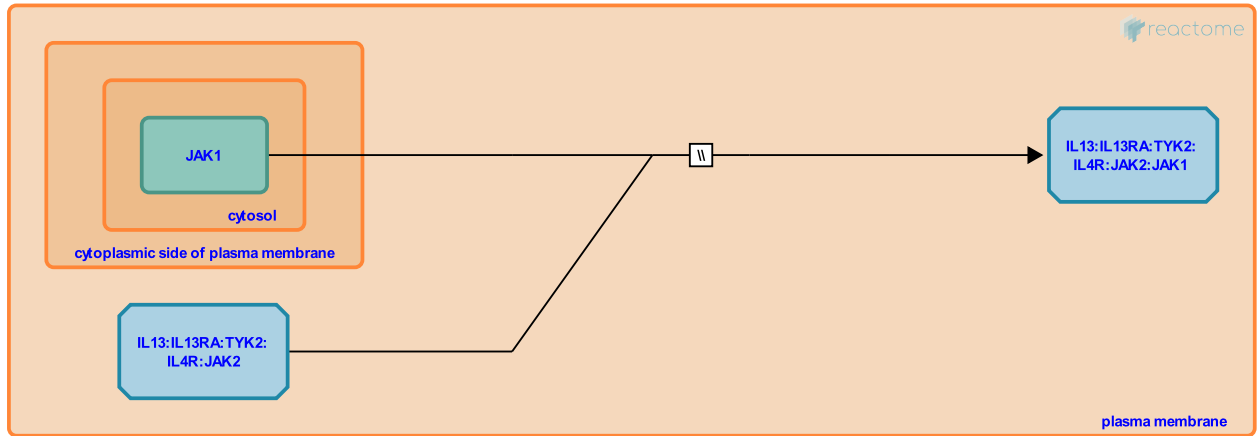
This document contains 1 reaction ([see Table of Contents](#))

JAK1 binds IL4R in IL13-bound IL13R type II ↗

Stable identifier: R-HSA-6786110

Type: omitted

Compartments: cytosol, extracellular region, plasma membrane



In response to Interleukin-13 (IL13) binding, Janus kinase 1 (JAK1) binds to Interleukin-4 receptor alpha subunit (IL4R) (Roy et al. 2002). IL4R has 2 JAK binding motifs so it is believed that IL4R can bind JAK2 constitutively and additionally bind JAK1 upon ligand binding. The molecular trigger for JAK1 binding is not clear.

Literature references

Roy, B., Ford, D., Maizel, AL., Cathcart, MK., Bhattacharjee, A., Xu, B. (2002). IL-13 signal transduction in human monocytes: phosphorylation of receptor components, association with Jaks, and phosphorylation/activation of Stats. *J. Leukoc. Biol.*, 72, 580-9. ↗

Editions

2015-07-01	Authored	Jupe, S.
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