

# IL13:IL13RA:TYK2 binds IL4R:JAK2

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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. [↗](#)

Reactome database release: 88

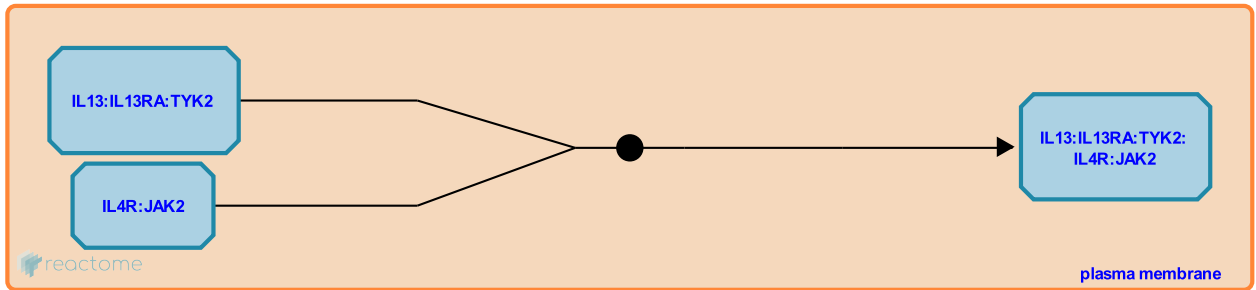
This document contains 1 reaction ([see Table of Contents](#))

**IL13:IL13RA:TYK2 binds IL4R:JAK2** ↗

**Stable identifier:** R-HSA-6786114

**Type:** binding

**Compartments:** cytosol, extracellular region, plasma membrane



Interleukin-13 receptor alpha subunit (IL13RA1) binds Interleukin-13 (IL13) with a relatively low affinity, but when paired with Interleukin-4 receptor subunit alpha (IL4R), binds with much higher affinity ( $K_d = 400$  pmol/L) and forms a functional IL13 receptor that is capable of signaling (Miloux et al. 1997). This type II IL13 receptor complex is also the alternative type II receptor for IL4.

**Literature references**

Lupker, J., Laurent, P., Vita, N., Miloux, B., Bonnin, O., Caput, D. et al. (1997). Cloning of the human IL-13R alpha1 chain and reconstitution with the IL4R alpha of a functional IL-4/IL-13 receptor complex. *FEBS Lett*, 401, 163-6. ↗

**Editions**

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