IL26:IL20RA:JAK1:IL10RB:TYK2 phosphorylates JAK1, TYK2

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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

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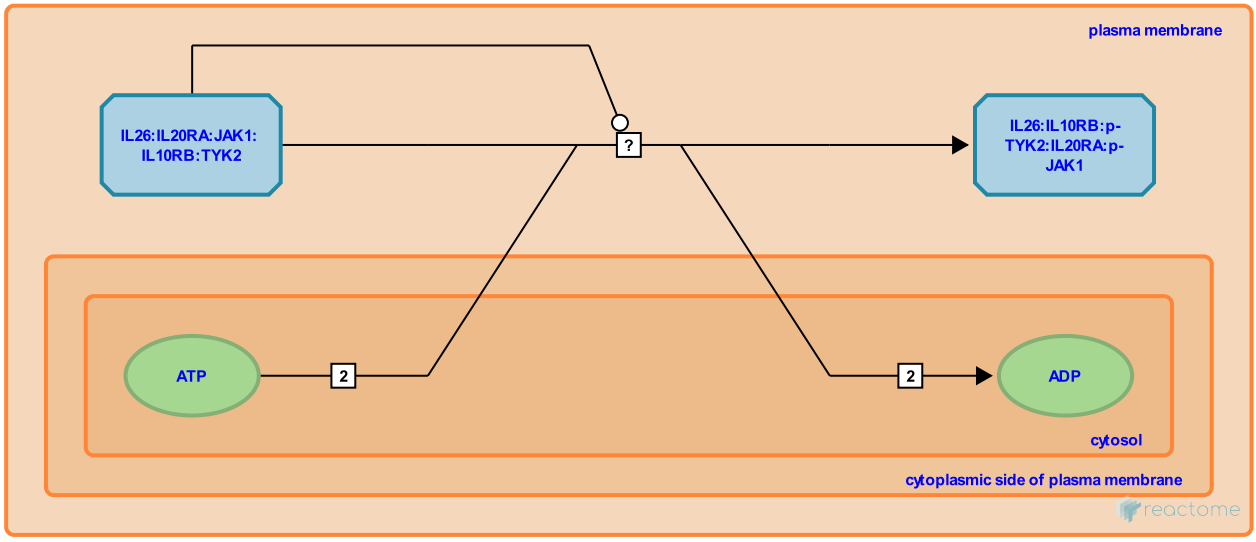
Stable identifier: R-HSA-8986994

Type: uncertain

Compartments: cytosol, extracellular region, plasma membrane



Tyrosine-protein kinase JAK1 (JAK1) and Non-receptor tyrosine-protein kinase TYK2 (TYK2) are believed to be phosphorylated after Interleukin-26 (IL26) ligand/receptor interaction. The Interleukin-10 receptor subunit beta (IL10RB) component of the IL26 receptor is also a component of the IL10 receptor, where it associates with TYK2 (Finbloom & Winestock 1995). The Interleukin-20 receptor subunit alpha (IL20RA) component of the IL26 receptor, like the Interleukin-10 receptor subunit alpha (IL10RA) subunit of the IL10 receptor, is a type II cytokine receptor, suggested by homology with IL10RA to be capable of binding JAK1 (Ferrao et al. 2016). Structural models of the IL10 receptor suggest that the space between the two receptor subunits is occupied by JAK1 and TYK2 (Yoon et al. 2006, 2010). Taken together, these observations suggest that IL26 receptor signaling involves JAK1 and TYK2 activation.

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Editions

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