SOCS-1 and SOCS-3 binds to p-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

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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. ↗

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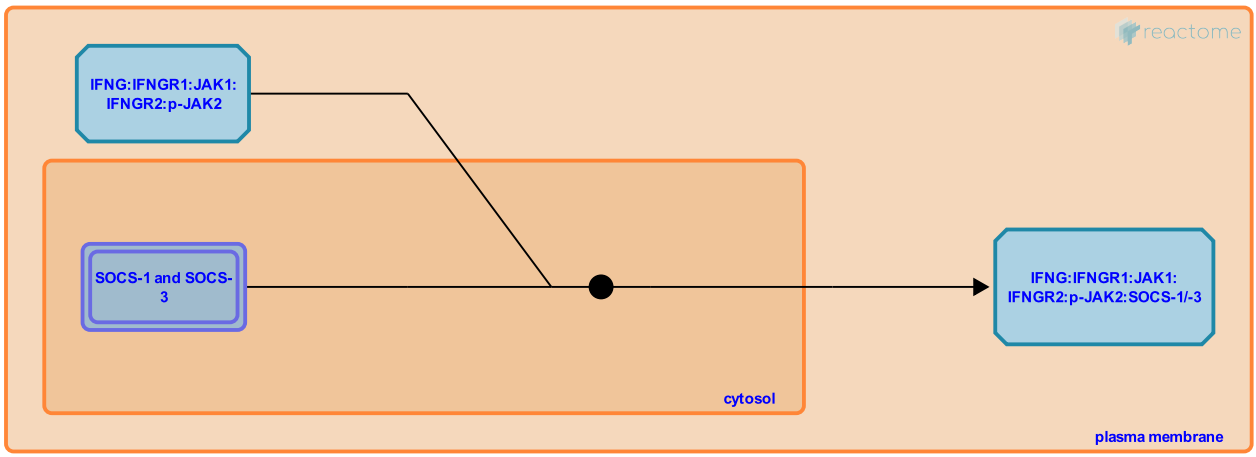
Stable identifier: R-HSA-877269

Type: binding

Compartments: cytosol, plasma membrane



SOCS-1 and SOCS-3 coprecipitates with JAK kinases upon IFNG stimulation and are able to inhibit the JAK-STAT pathway, although with different affinity and kinetics. SOCS1 and SOCS3 binds to phosphorylated JAK1/2 and prevent the tyrosine kinase activity of JAKs through their kinase inhibitory region (KIR), thereby inhibiting downstream IFNG signaling. SOCS1 may also prevent IFNG signaling by targeting the signaling machinery to ubiquitin-proteasomal degradation pathway.

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Editions

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