JAK2 Phosphorylates SHP2 (PTPN11) in Response to Leptin

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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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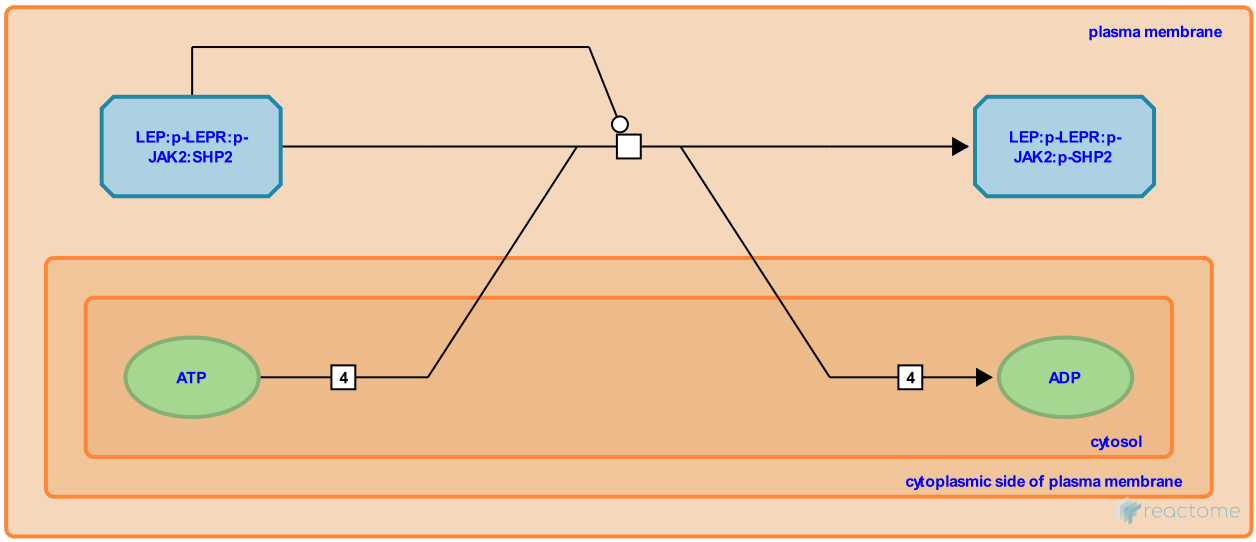
Stable identifier: R-HSA-2671742

Type: transition

Compartments: plasma membrane, cytosol

Inferred from: Jak2 Phosphorylates Shp2 in Response to Leptin (Mus musculus)



Phosphorylated JAK2 in the LEP:LEPR:JAK2:SHP2 complex phosphorylates SHP2 (Carpenter et al. 1998). Phosphorylated SHP2, in turn, activates the RAS-MAPK signaling pathway, possibly via GRB2:SOS.

Literature references

Symes, A., Stahl, N., Farruggella, TJ., Yancopoulos, GD., Carpenter, LR., Karow, ML. (1998). Enhancing leptin response by preventing SH2-containing phosphatase 2 interaction with Ob receptor. *Proc. Natl. Acad. Sci. U.S.A., 95* , 6061-6. ↗

Editions

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