Interleukin receptor SHC signaling

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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


Reactome database release: 72

This document contains 1 pathway and 6 reactions (see Table of Contents)
Phosphorylation of Shc at three tyrosine residues, 239, 240 (Gotoh et al. 1996) and 317 (Salcini et al. 1994) involves unidentified tyrosine kinases presumed to be part of the activated receptor complex. These phosphorylated tyrosines subsequently bind SH2 signaling proteins such as Grb2, Gab2 and SHIP that are involved in the regulation of different signaling pathways. Grb2 can associate with the guanosine diphosphate-guanosine triphosphate exchange factor Sos1, leading to Ras activation and regulation of cell proliferation. Downstream signals are mediated via the Raf-MEK-Erk pathway. Grb2 can also associate through Gab2 with PI3K and with SHIP.


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**Literature references**


**Editions**

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Phosphorylated SHC1 recruits GRB2:GAB2

**Location:** Interleukin receptor SHC signaling

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