Recruitment of SHC1 is mediated by Y593 of the common beta chain

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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. ↗

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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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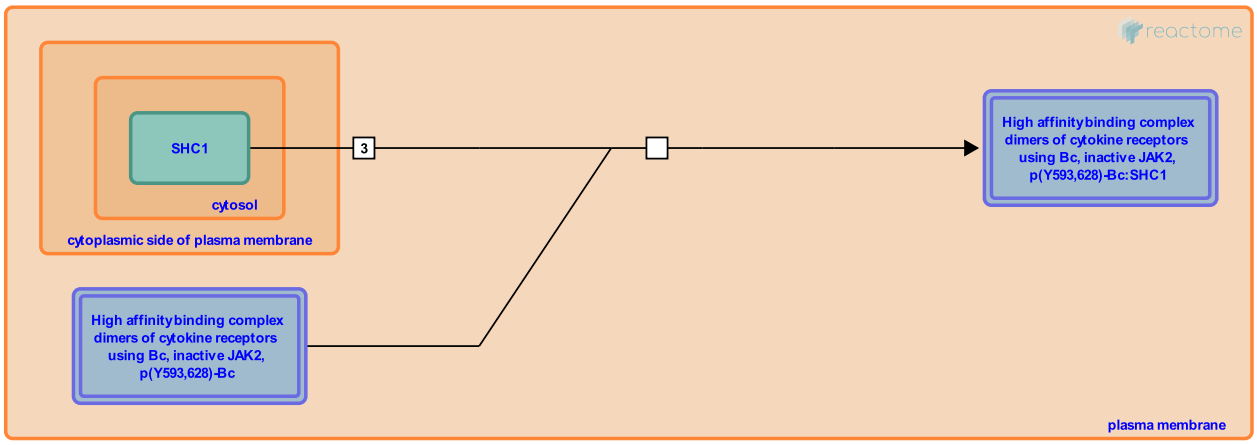
Stable identifier: R-HSA-879934

Type: transition

Compartments: cytosol, plasma membrane



Upon receptor activation, Shc is recruited to the receptor complex, where it becomes tyrosine phosphorylated. The recruitment of Shc is mediated by Y593 (Y577 in the mature peptide) of the common beta chain (Bc), which binds the PTB domain of Shc (Pratt et al. 1996). Phosphorylated Shc interacts with Grb2 within a Grb2:Gab2 complex, promoting tyrosine phosphorylation of Gab2. The p85 subunit of PI3Kinases associates with phosphorylated Gab, and this induces activation of the catalytic p110 PI3K subunit leading to activation of Akt kinase, thereby regulating cell survival and/or proliferation.

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Editions

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