NCAM1:pFAK:Grb2:Sos-mediated nucleotide exchange of Ras

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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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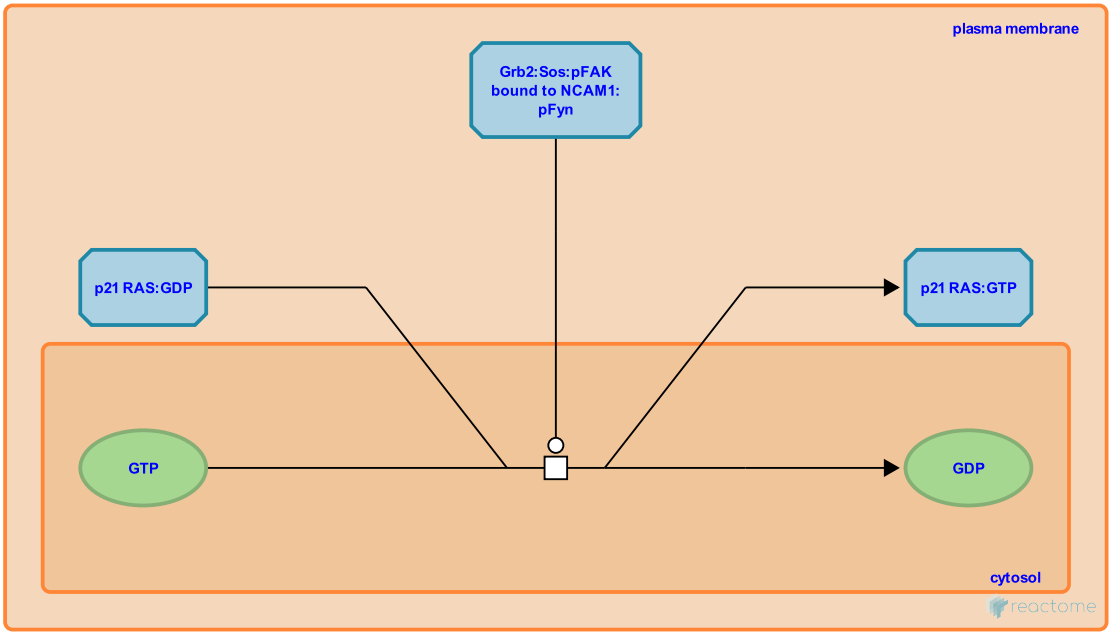
Stable identifier: R-HSA-392054

Type: transition

Compartments: cytosol, plasma membrane



The guanine nucleotide exchange factor SOS interacts with GRB2 bound to phosphorylated FAK bound to NCAM. Upon formation of this complex, SOS activates Ras by promoting GDP release and GTP binding.

Literature references

Chardin, P., Camonis, JH., Gale, NW., Van Aelst, L., Schlessinger, J., Wigler, MH. et al. (1993). Human Sos1: a guanine nucleotide exchange factor for Ras that binds to GRB2. *Science, 260*, 1338-43. ↗

Editions

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