

SOS1-mediated nucleotide exchange of RAS (EGF:EGFR:GRB2:SOS1)

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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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- Sidiropoulos, K., Viteri, G., Sevilla, C., Jupe, S., Webber, M., Orlic-Milacic, M. et al. (2017). Reactome enhanced pathway visualization. *Bioinformatics*, 33, 3461-3467. [↗](#)
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Reactome database release: 75

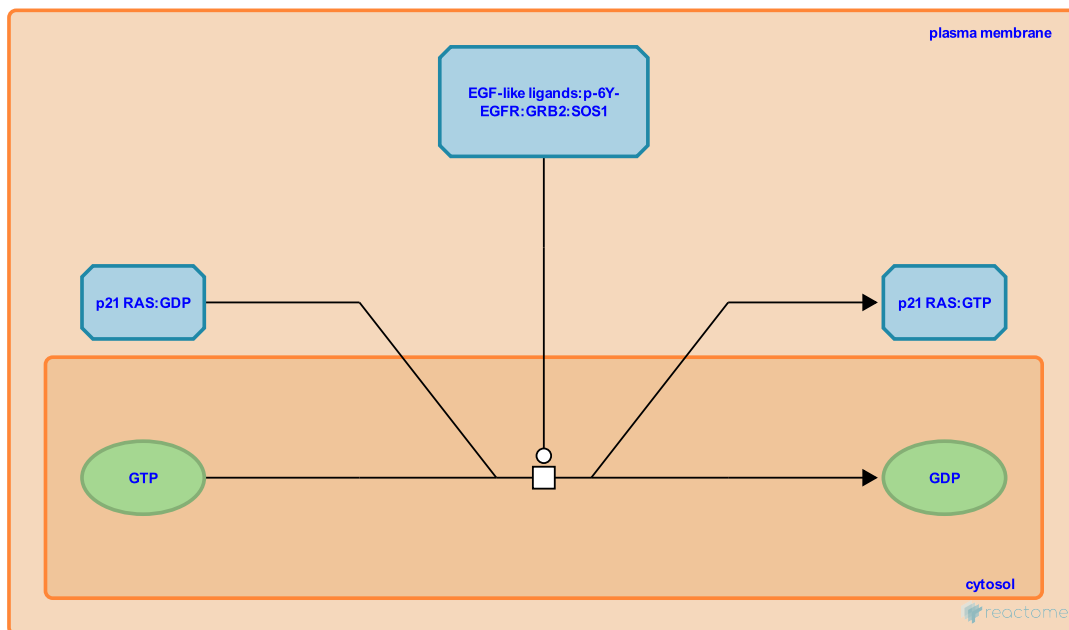
This document contains 1 reaction ([see Table of Contents](#))

SOS1-mediated nucleotide exchange of RAS (EGF:EGFR:GRB2:SOS1) ↗

Stable identifier: R-HSA-177938

Type: transition

Compartments: cytosol, plasma membrane



The guanine nucleotide exchange factor SOS1 interacts with EGFR through the adaptor protein, GRB2. 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

2006-10-10	Authored	Castagnoli, L.
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