

Binding of GRB2:SOS1 complex to phosphorylated ligand-responsive EGFR mutants

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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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Reactome database release: 88

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

Binding of GRB2:SOS1 complex to phosphorylated ligand-responsive EGFR mutants

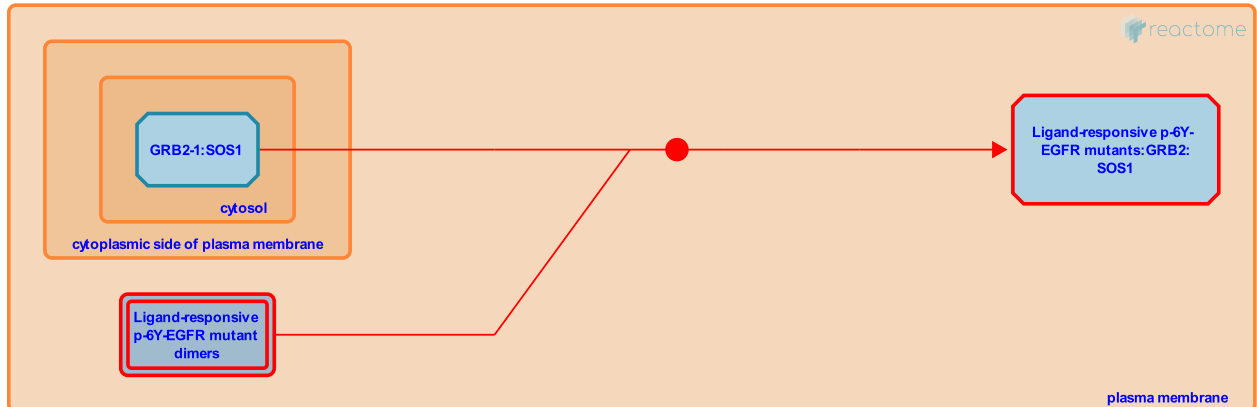


Stable identifier: R-HSA-1225950

Type: binding

Compartments: plasma membrane, extracellular region, cytosol

Diseases: cancer



Direct binding of GRB2:SOS1 complex to phosphorylated homodimers of EGFR cancer mutants has not been tested. GRB2 binds to phosphorylated tyrosine residues Y1068 and Y1086 (corresponding to Y1092 and Y1110, respectively, when counting from the first amino acid of the EGFR precursor, prior to cleavage of the 24-amino acid signal peptide at the N-terminus). Phosphorylation of Y1068 (i.e. Y1092) has been directly demonstrated in the following EGFR cancer mutants: EGFR L858R mutant (Sordella et al. 2004, Lynch et al. 2004, Greulich et al. 2005, Yang et al. 2006, Choi et al. 2007); EGFR G719S mutant (Greulich et al. 2005, Choi et al. 2007); EGFR L747_P753insS mutant (Sordella et al. 2004, Lynch et al. 2004, Choi et al. 2007); EGFR L747_A750delinsP (Greulich et al. 2005); EGFR L747_S752del mutant (Pao et al. 2004); EGFR L861Q mutant (Lee et al. 2006, Yang et al. 2006); EGFRvIII mutant (Huang et al. 2007); EGFR A289V mutant (Lee et al. 2006); EGFR G598V mutant (Lee et al. 2006); EGFR R108K mutant (Lee et al. 2006); EGFR T263P mutant (Lee et al. 2006); EGFR D770_N771insNPG mutant (Greulich et al. 2005, Xu et al. 2007); EGFR N771_H773dup mutant (Xu et al. 2007); EGFR K739_I744dup mutant (Xu et al. 2007); EGFR A767_V769dup mutant (Xu et al. 2007).

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Editions

2011-11-04	Authored	Orlic-Milacic, M.
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