

GCN2 phosphorylates SUI2

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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

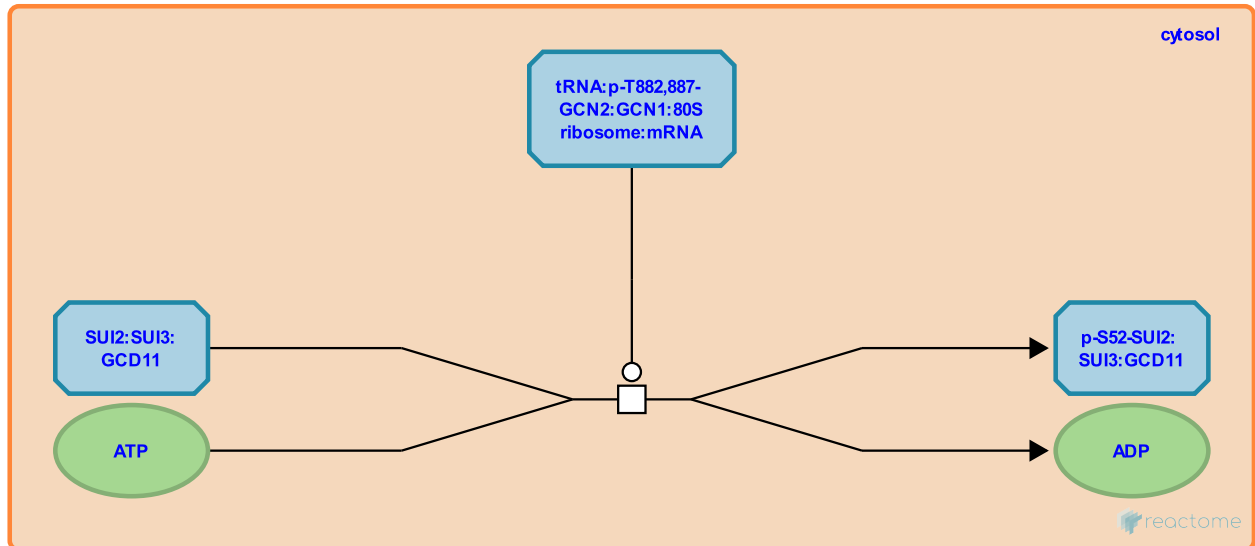
This document contains 1 reaction ([see Table of Contents](#))

GCN2 phosphorylates SUI2 [↗](#)

Stable identifier: R-SCE-9633480

Type: transition

Compartments: cytosol



GCN2 phosphorylates SUI2 (eIF-2 alpha subunit) on serine-52 in response to amino acid starvation (serine-51 in the rabbit homolog, Dever et al. 1992, Ramirez et al. 1992, Marton et al. 1993, Wek et al. 1995, Yang et al. 2000, Garriz et al. 2009, Zaborske et al. 2009). GCN1 is required for phosphorylation of SUI2 by GCN2 (Marton et al. 1993). The phosphorylation affects reinitiation of translation and causes downregulation of translation of most mRNAs, however translation of certain mRNAs possessing upstream ORFs, such as GCN4, is upregulated (Dever et al. 1992).

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Editions

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