

RRAGC,D exchanges GTP for GDP

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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

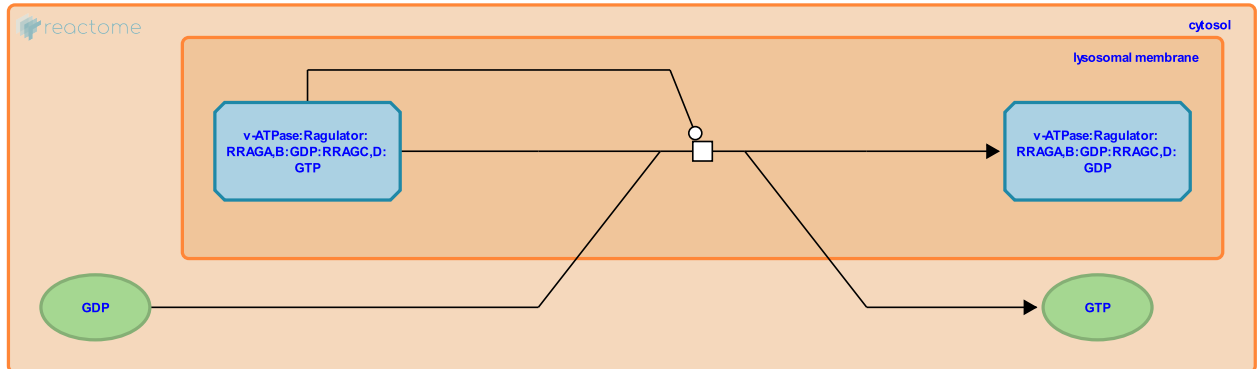
This document contains 1 reaction ([see Table of Contents](#))

RRAGC,D exchanges GTP for GDP [↗](#)

Stable identifier: R-HSA-9639286

Type: transition

Compartments: lysosomal membrane



The Ragulator complex acts as an unconventional guanyl nucleotide exchange factor (GEF) that ejects GTP from RRAGC and, by inference, RRAGD (Shen and Sabatini 2018). (Other known GEFs cause ejection of GDP rather than GTP from their targets.) The GDP-bound form of RRAGC,D is the active form that recruits mTORC1 to the lysosomal membrane.

Literature references

Sabatini, DM., Shen, K. (2018). Ragulator and SLC38A9 activate the Rag GTPases through noncanonical GEF mechanisms. *Proc. Natl. Acad. Sci. U.S.A.*, 115, 9545-9550. [↗](#)

Editions

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