

# RNF152 polyubiquitinates RRAGA

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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

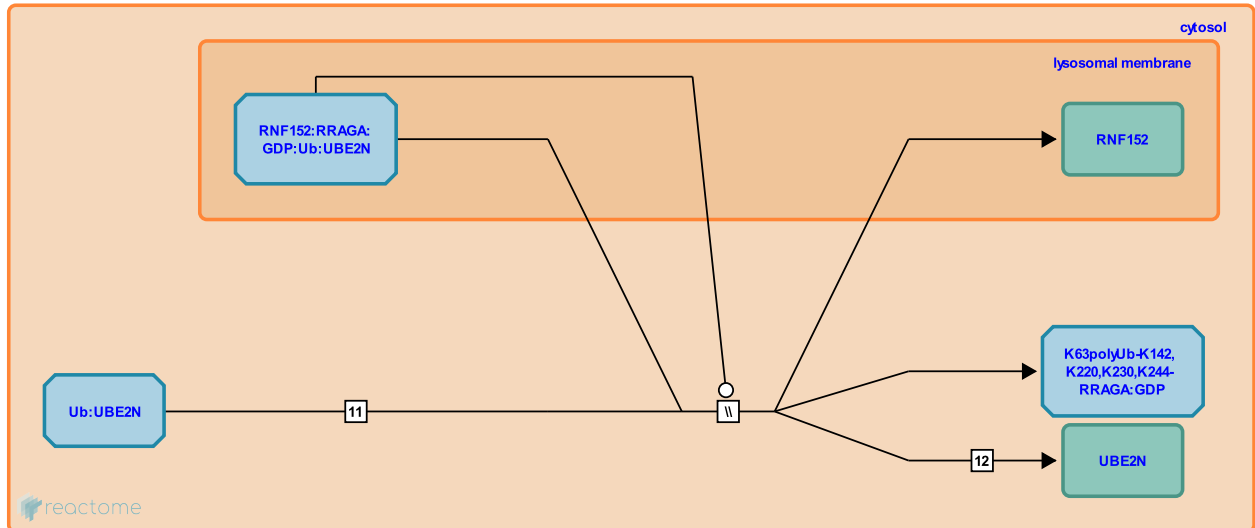
This document contains 1 reaction ([see Table of Contents](#))

## RNF152 polyubiquitinates RRAGA ↗

**Stable identifier:** R-HSA-8938815

**Type:** omitted

**Compartments:** cytosol, lysosomal membrane



When the cellular concentration of amino acids is low, the ubiquitin E3 ligase RNF152 (Zhang et al. 2010) transfers ubiquitin from the E2-ubiquitin conjugate UBE2N:Ubiquitin to RRAGA (RagA GTPase) (Deng et al. 2015). RNF152 polyubiquitinates RRAGA with lysine-63 linked ubiquitin, which recruits GATOR1, an inhibitor of RRAGA. The inhibition of RRAGA, in turn, inhibits mTORC1 thereby regulating activity of mTORC1 in response to amino acids (Deng et al. 2015). RNF152 is located in the lysosomal membrane and can autoubiquitinate (Zhang et al. 2010).

### Literature references

Wu, W., Zheng, J., Tang, H., Wu, Y., Suo, T., Zhang, S. et al. (2010). RNF152, a novel lysosome localized E3 ligase with pro-apoptotic activities. *Protein Cell*, 1, 656-63. ↗

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### Editions

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