

# OTUD5 deubiquitinates TRAF3

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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: 76

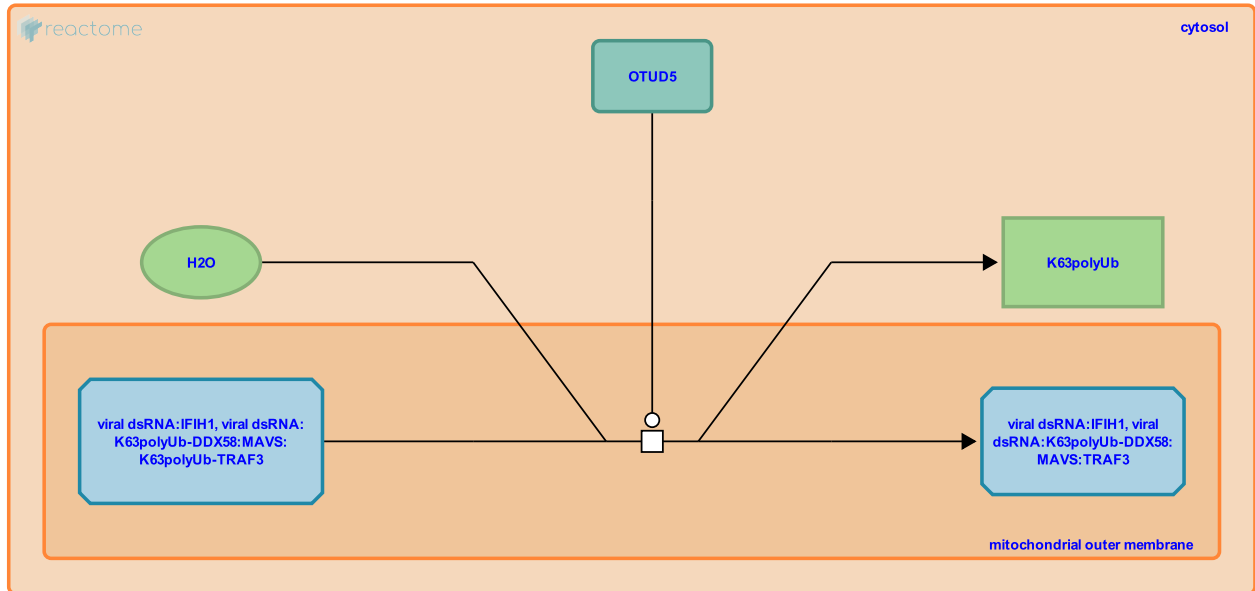
This document contains 1 reaction ([see Table of Contents](#))

## OTUD5 deubiquitinates TRAF3 [↗](#)

**Stable identifier:** R-HSA-936381

**Type:** transition

**Compartments:** mitochondrial outer membrane, cytosol



OTUD5 (Deubiquitinating enzyme A (DUBA)) is a negative regulator of type I interferon (IFN-) production. TRAF3, an E3 ubiquitin ligase that preferentially assembles lysine-63-linked polyubiquitin chains, is one of the targets of OTUD5. Expression of DUBA increases the cleavage of K63-linked ubiquitin chains from TRAF3, resulting in its dissociation from the downstream signaling complex that contains TANK-binding kinase 1 (TBK1) (Kayagaki et al. 2007), which leads to blockade of IRF3 and IRF7 phosphorylation.

### Literature references

Kayagaki, N., Phung, Q., Chan, S., Chaudhari, R., Quan, C., O'Rourke, KM. et al. (2007). DUBA: a deubiquitinase that regulates type I interferon production. *Science*, 318, 1628-32. [↗](#)

### Editions

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