

Polyglutamylase complex (TTL1) polyglutamylates alpha subunits of tubulin

D'Eustachio, P., Jassal, B., Jupe, S.

European Bioinformatics Institute, New York University Langone Medical Center, Ontario Institute for Cancer Research, Oregon Health and Science University.

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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](#))

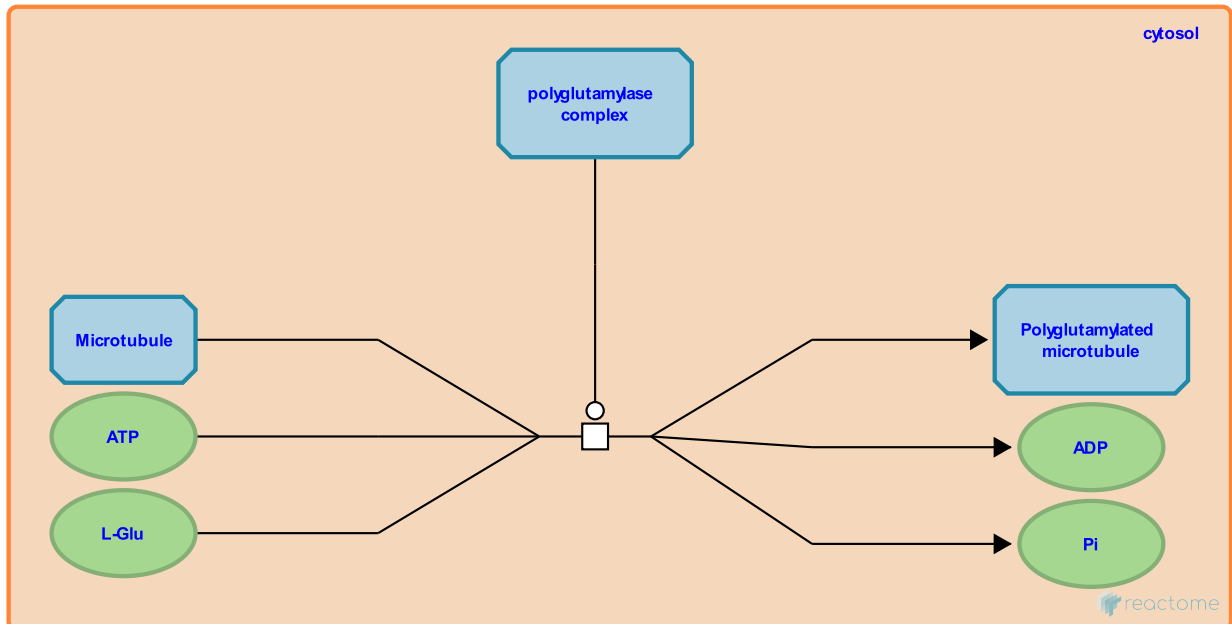
Polyglutamylase complex (TTLL1) polyglutamylates alpha subunits of tubulin ↗

Stable identifier: R-HSA-8955869

Type: transition

Compartments: cytosol

Inferred from: [Polyglutamylase complex \(Ttll1\) polyglutamylates alpha subunits of tubulin \(Homo sapiens\)](#)



Polyglutamylase complex polyglutamylates alpha subunits of tubulin in the brain. The complex contains TTLL1 (Tubulin tyrosine ligase-like 1) protein. The human complex has not been characterized experimentally. Its organization and function have been inferred from biochemical and genetic studies of its mouse counterpart. The mouse complex has been isolated and four additional protein components have been identified (Janke et al. 2005). A mouse mutation that disrupts one of these, *Tpgs1*, is associated with failure of polyglutamylation of alpha-chains in microtubules (Ikegami et al. 2007). In this event polyglutamylation is arbitrarily shown on only one tubulin protofilament within the microtubule.

Literature references

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Editions

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