

ITPA hydrolyses dITP to dIMP

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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

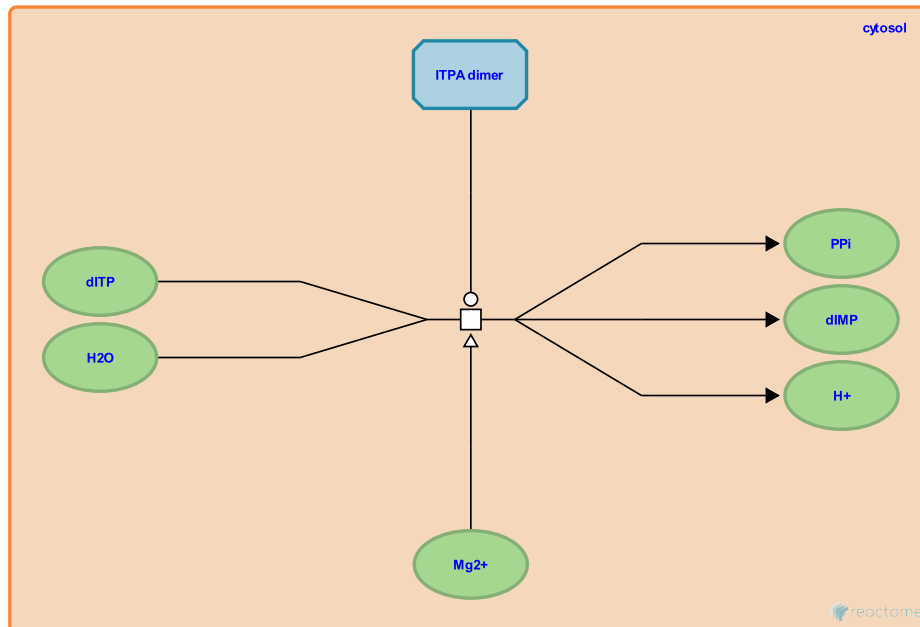
This document contains 1 reaction ([see Table of Contents](#))

ITPA hydrolyses dITP to dIMP [↗](#)

Stable identifier: R-HSA-2509838

Type: transition

Compartments: cytosol



Cytosolic ITPA dimer catalyzes the reaction of dITP and water to form dIMP and PPi (pyrophosphate). Mg⁺⁺ is required for enzymatic activity. The hydrolysis of dITP is thought to prevent its incorporation into DNA, which would be mutagenic (Lin et al. 2001; Abolhassani et al. 2010).

Literature references

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Gu, S., Jin, H., Ying, K., Tang, R., Liu, W., Xie, Y. et al. (2001). Cloning, expression, and characterization of a human inosine triphosphate pyrophosphatase encoded by the itpa gene. *J. Biol. Chem.*, 276, 18695-701. [↗](#)

Editions

2012-10-05	Authored, Edited	D'Eustachio, P.
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