

# NTPDase6 hydrolyzes nucleoside diphosphates

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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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Sidiropoulos, K., Viteri, G., Sevilla, C., Jupe, S., Webber, M., Orlic-Milacic, M. et al. (2017). Reactome enhanced pathway visualization. *Bioinformatics*, 33, 3461-3467. [↗](#)

Fabregat, A., Jupe, S., Matthews, L., Sidiropoulos, K., Gillespie, M., Garapati, P. et al. (2018). The Reactome Pathway Knowledgebase. *Nucleic Acids Res*, 46, D649-D655. [↗](#)

Fabregat, A., Korninger, F., Viteri, G., Sidiropoulos, K., Marin-Garcia, P., Ping, P. et al. (2018). Reactome graph database: Efficient access to complex pathway data. *PLoS computational biology*, 14, e1005968. [↗](#)

Reactome database release: 89

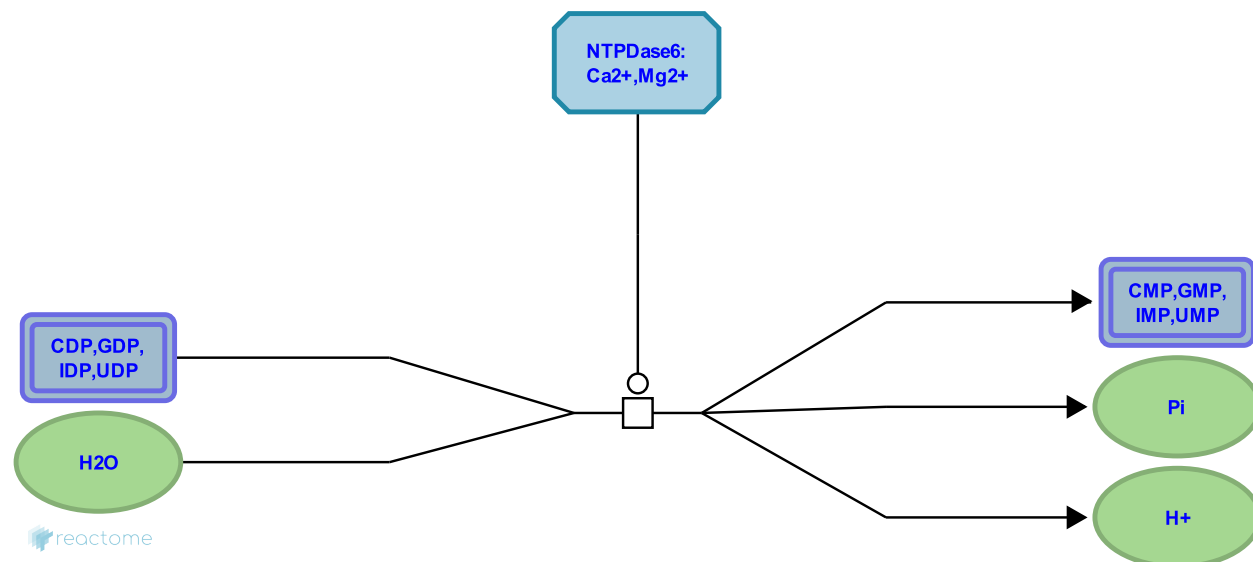
This document contains 1 reaction ([see Table of Contents](#))

## NTPDase6 hydrolyzes nucleoside diphosphates ↗

**Stable identifier:** R-HSA-8851396

**Type:** transition

**Compartments:** extracellular region



NTPDase6 (CD39L2), encoded by the ENTPD6 gene, is an ectonucleotide phosphatase of the E-NTPDase family that can be secreted (Yeung et al. 2000). Secretion involves the removal of the first 77 amino acids at the N-terminus by an unknown peptidase. Secreted NTPDase6 hydrolyzes nucleoside diphosphates GDP, IDP and, less efficiently, UDP and CDP to nucleoside monophosphates GMP, IMP, UMP and CMP, respectively. Secreted NTPDase6 hydrolyzes ADP to AMP and nucleoside triphosphates GTP, ITP, UTP and CTP to corresponding nucleoside diphosphates with very low efficacy (Hicks-Berger et al. 2000, Yeung et al. 2000, Ivanenkov et al. 2003). NTPDase6 requires  $\text{Ca}^{2+}$  or  $\text{Mg}^{2+}$  for catalytic activity (Hicks-Berger et al. 2000, Ivanenkov et al. 2003).

NTPDase6 may also be able to function as a membrane-bound enzyme, but its catalytic rate is very low and accounts for up to 10% of NTPDase6 activity (Hicks-Berger et al. 2000).

### Literature references

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### Editions

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