

NTPDase4 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

- Fabregat, A., Sidiropoulos, K., Viteri, G., Forner, O., Marin-Garcia, P., Arnau, V. et al. (2017). Reactome pathway analysis: a high-performance in-memory approach. *BMC bioinformatics*, 18, 142. [↗](#)
- 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: 88

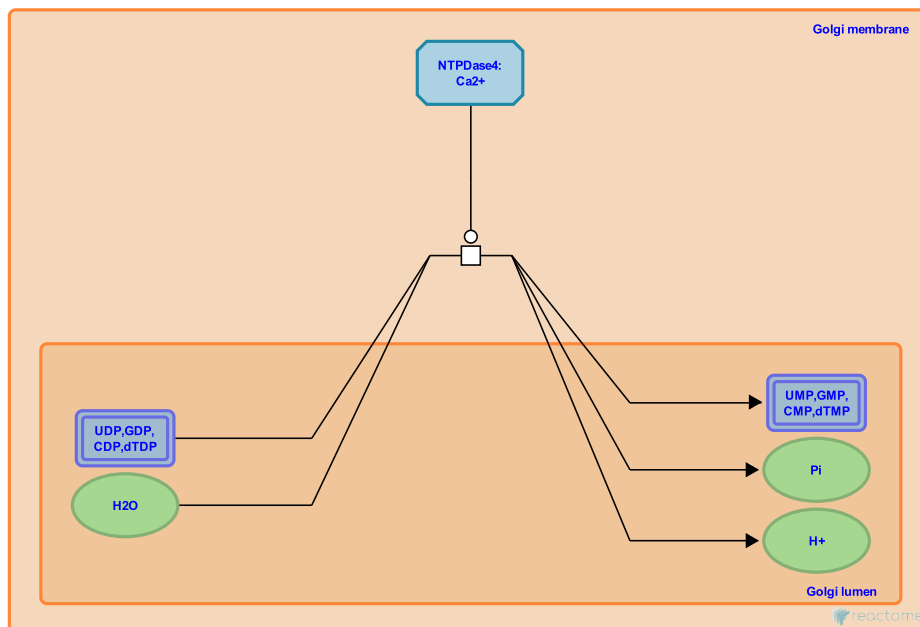
This document contains 1 reaction ([see Table of Contents](#))

NTPDase4 hydrolyzes nucleoside diphosphates [↗](#)

Stable identifier: R-HSA-8851225

Type: transition

Compartments: Golgi lumen, Golgi membrane



NTPDase4 (UDPase), encoded by the ENTPD4 gene, belongs to the E-NTPDase family of nucleotide phosphatases. NTPDase4 localizes to the Golgi membrane, with active site on the Golgi lumen side. In the presence of Ca^{2+} , NTPDase4 hydrolyzes nucleoside diphosphates UDP, GDP, CDP and dTDP to nucleoside monophosphates UMP, GMP, CMP and dTMP, respectively (Wang and Guidotti 1998).

Literature references

Guidotti, G., Wang, TF. (1998). Golgi localization and functional expression of human uridine diphosphate. *J. Biol. Chem.*, 273, 11392-9. [↗](#)

Editions

2015-12-30	Authored, Edited	Orlic-Milacic, M.
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