NTPDase2 hydrolyzes nucleoside triphosphates

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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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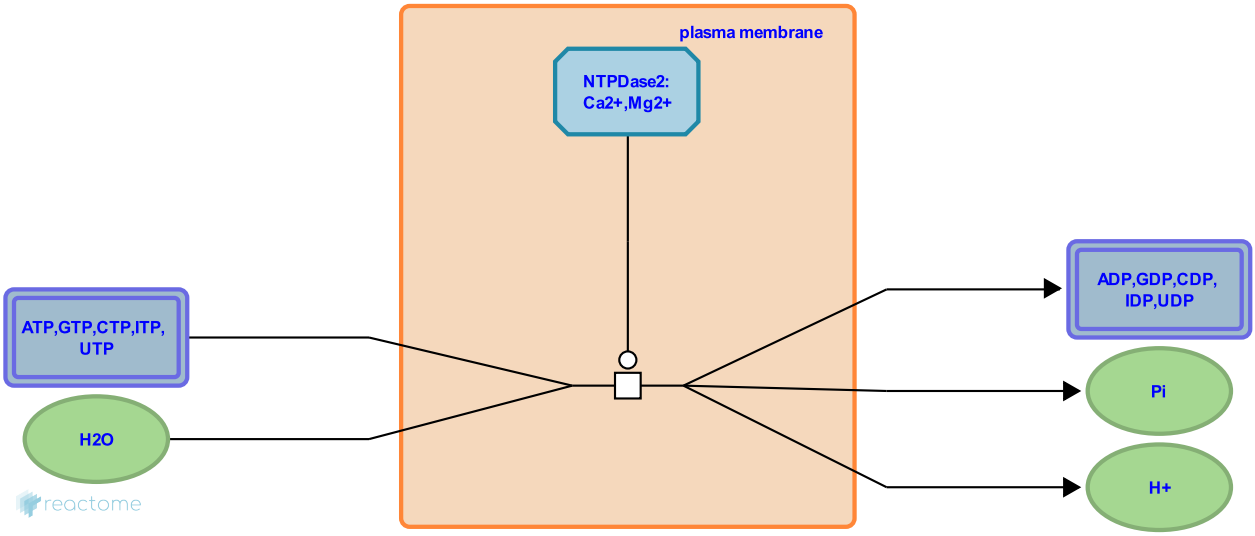
Stable identifier: R-HSA-8851089

Type: transition

Compartments: extracellular region, plasma membrane



NTPDase2 (CD39L1), encoded by the ENTPD2 gene, is an ectonucleoside triphosphate diphosphohydrolase that is expressed at the plasma membrane where it hydrolyzes extracellular nucleoside triphosphates (ATP, GTP, CTP, ITP, UTP) to the respective nucleoside diphosphate (ADP, GDP, CDP, IDP, UDP) in the presence of Ca2+ of Mg2+ ions. NTPDase2 is only marginally active in hydrolyzing nucleoside diphosphates, such as ADP and UDP (Kegel et al. 1997, Kirley et al. 1997, Mateo et al. 1999). The alpha splicing isoform of NTPDase2 is expressed at the plasma membrane, while beta and gamma isoforms are expressed in the endoplasmic reticulum (Mateo et al. 2003). NTPDase2 may oligomerize and the oligomerization state may affect substrate specificity (Failer et al. 2003).

NTPDase2 may contribute to vascular hemostasis by exerting an opposing role to NTPDase1 (Sévigny et al. 2002).

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Editions

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