

PI(3,4)P₂ is dephosphorylated to PI3P by INPP4A/B at the early endosome mem- brane

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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.

The development of Reactome is supported by grants from the US National Institutes of Health (P41 HG003751), University of Toronto (CFREF Medicine by Design), European Union (EU STRP, EMI-CD), and the European Molecular Biology Laboratory (EBI Industry program).

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. [↗](#)
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- 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: 75

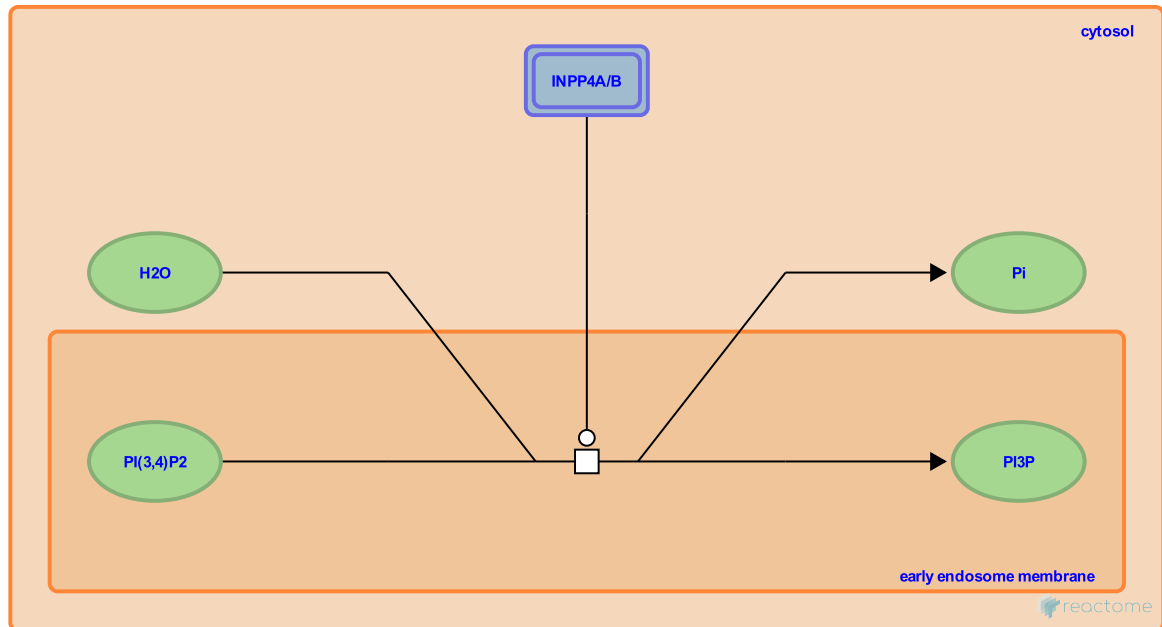
This document contains 1 reaction ([see Table of Contents](#))

PI(3,4)P2 is dephosphorylated to PI3P by INPP4A/B at the early endosome membrane ↗

Stable identifier: R-HSA-1676162

Type: transition

Compartments: early endosome membrane, cytosol



At the early endosome membrane, type I (INPP4A) (Norris et al. 1995, Ivetac et al. 2005) and type II inositol-3,4-bisphosphate 4-phosphatase (INPP4B) (Norris et al. 1997) colocalise with early and recycling endosomes through their C2 domains which bind to the phosphatidylinositol 3,4-bisphosphate (PI(3,4)P2) present in these membranes. It is here that phosphatidylinositol 3,4-bisphosphate (PI(3,4)P2) is dephosphorylated by INPP4A/B to phosphatidylinositol 3-phosphate (PI3P).

Literature references

Ivetac, I., Munday, AD., Kisseleva, MV., Zhang, XM., Luff, S., Tiganis, T. et al. (2005). The type Ialpha inositol polyphosphate 4-phosphatase generates and terminates phosphoinositide 3-kinase signals on endosomes and the plasma membrane. *Mol Biol Cell*, 16, 2218-33. ↗

Norris, FA., Atkins, RC., Majerus, PW. (1997). The cDNA cloning and characterization of inositol polyphosphate 4-phosphatase type II. Evidence for conserved alternative splicing in the 4-phosphatase family. *J Biol Chem*, 272, 23859-64. ↗

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Editions

2011-08-12	Edited	Williams, MG.
2011-10-18	Authored	Williams, MG.
2012-05-14	Reviewed	Wakelam, M.