

# PI4P is phosphorylated to PI(3,4)P2 by PI3K3C[2] at the plasma membrane

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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: 70

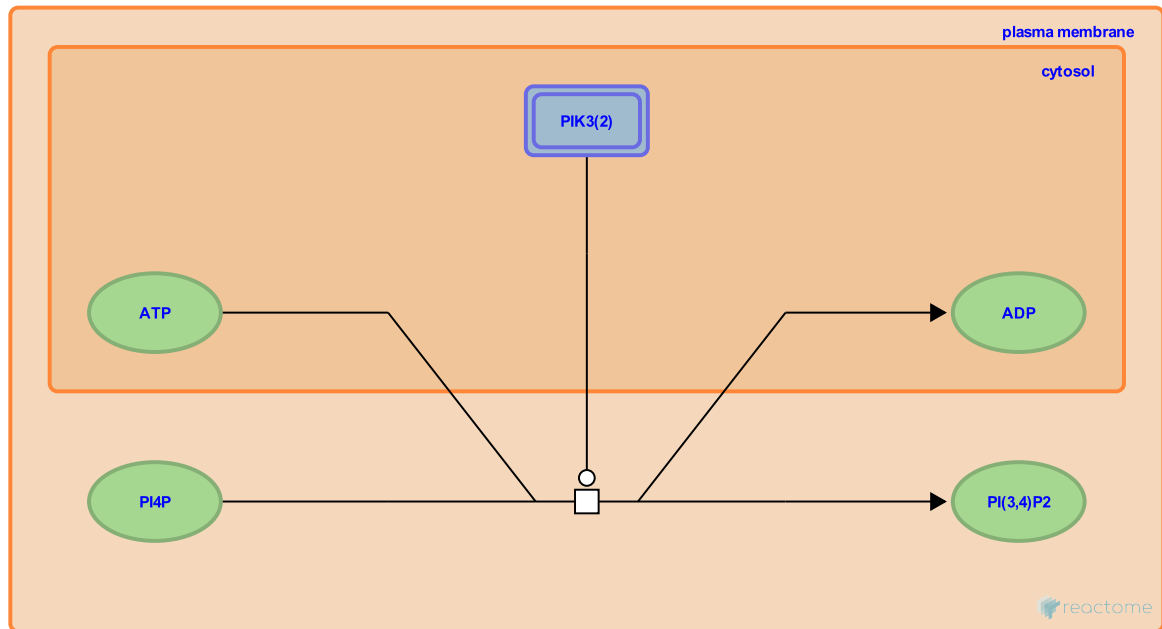
This document contains 1 reaction ([see Table of Contents](#))

## PI4P is phosphorylated to PI(3,4)P2 by PI3K3C[2] at the plasma membrane [↗](#)

**Stable identifier:** R-HSA-1676109

**Type:** transition

**Compartments:** plasma membrane, cytosol



At the plasma membrane, phosphatidylinositol-4,5-bisphosphate (PI(4,5)P<sub>2</sub>) 3-kinase catalytic subunits form complexes with regulatory subunits. These complexes along with phosphatidylinositol-4-phosphate 3-kinase C2 domain-containing subunits alpha (PIK3C2A), beta (PIK3C2B), and gamma (PIK3C2G) phosphorylate phosphatidylinositol 4-phosphate (PI4P) to phosphatidylinositol 3,4-bisphosphate (PI(3,4)P<sub>2</sub>). The PI(4,5)P<sub>2</sub> 3-kinase complexes involved are: PI(4,5)P<sub>2</sub> 3-kinase catalytic subunit alpha isoform (PIK3CA) bound to PI 3-kinase regulatory subunit alpha/beta/gamma (PIK3R1/2/3); beta (PIK3CB) bound to PIK3R1/2/3; delta (PIK3CD) bound to PIK3R1/2/3; and gamma (PIK3CG) bound to PI 3-kinase regulatory subunit 5 (PIK3R5) or 6 (PIK3R6).

The following lists the above proteins with their corresponding literature references: PIK3C2A (Arcaro et al. 2000); PIK3C2B (Arcaro et al. 2000, Arcaro et al. 1998); PIK3C2G (Misawa et al. 1998, Ono et al. 1998); PIK3CA:PIK3R1, PIK3CA:PIK3R2, PIK3CA:PIK3R3 (Vanhaesebroeck et al. 1997); PIK3CB:PIK3R1, PIK3CB:PIK3R2, PIK3CB:PIK3R3 (Meier et al. 2004, Guo et al. 1997); PIK3CD:PIK3R1, PIK3CD:PIK3R2, PIK3CD:PIK3R3 (Vanhaesebroeck et al. 1997); and PIK3CG:PIK3R5, PIK3CG:PIK3R6 (Suire et al. 2005, Stoyanov et al. 1995).

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## **Editions**

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