PDPK1 phosphorylates PKN1,2,3

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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


Reactome database release: 73

This document contains 1 reaction (see Table of Contents)
PDPK1 phosphorylates PKN1,2,3

Stable identifier: R-HSA-5623667

Type: transition

Compartments: cytosol, plasma membrane

PDPK1 (PDK1) phosphorylates PKN1, PKN2 and likely PKN3 on a highly conserved threonine residue (T774 of PKN1, T816 of PKN2, T718 of PKN3) in the kinase activation loop. Although phosphorylation of PKN1, PKN2 and PKN3 at other sites may be needed for them to achieve the full catalytic activity, PDPK1-mediated phosphorylation of the activation loop is a necessary step in PKN1, PKN2 and likely PKN3 activation. This reaction happens while the PKN protein is complexed with a RHO GTPase and PIP3-bound PDPK1 (Flynn et al. 2000, Torbett et al. 2003, Dettori et al. 2009).

Literature references


Editions

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