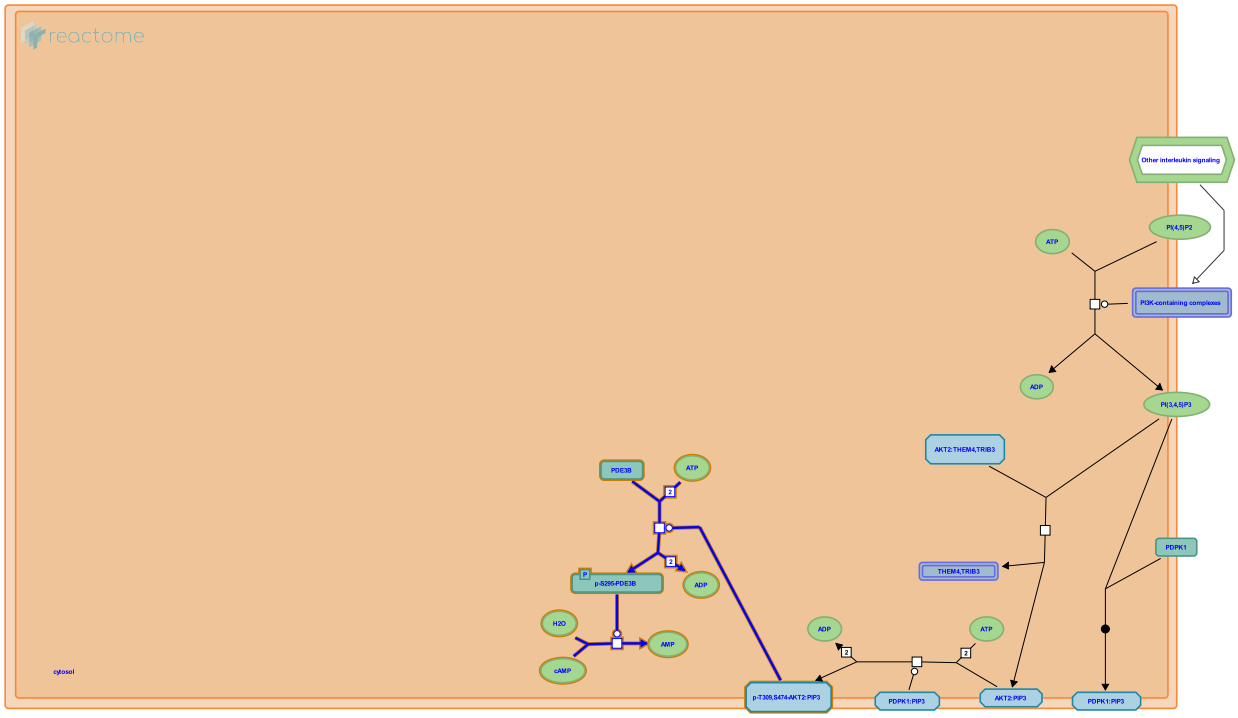
PKB-mediated events



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18/05/2024

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. ↗

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. ↗

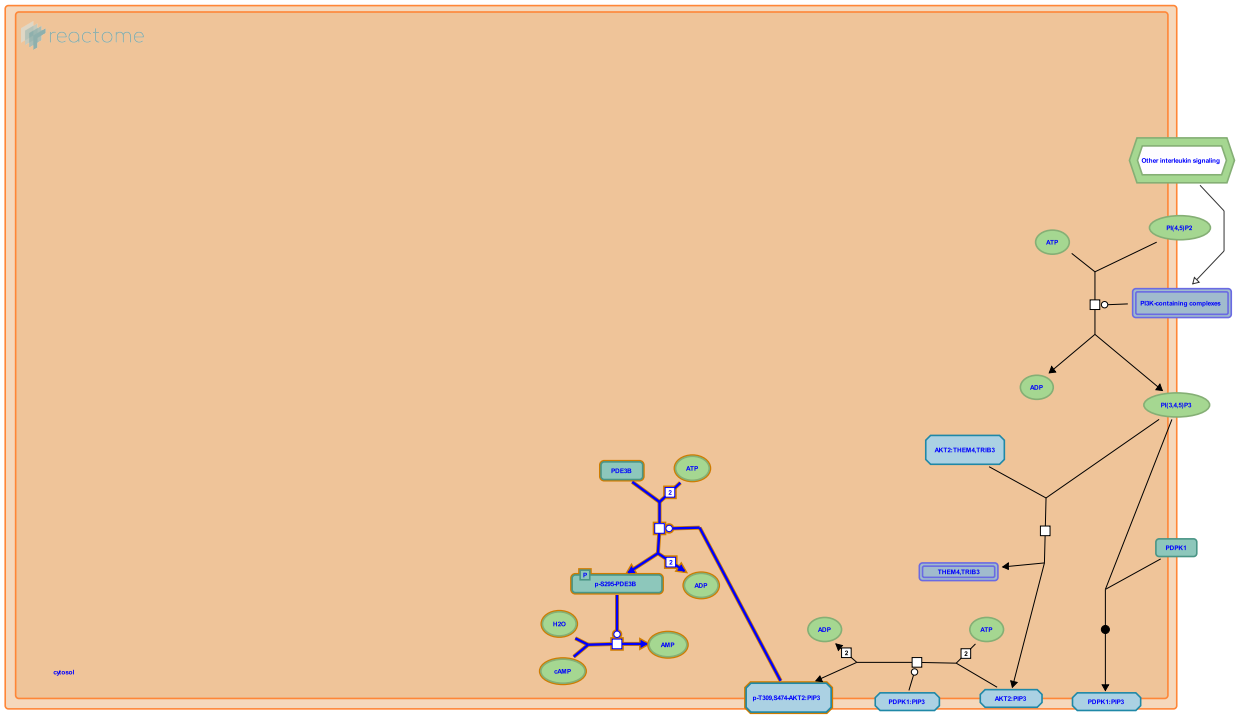
Fabregat, A., Korninger, F., Viteri, G., Sidiropoulos, K., Marin-Garcia, P., Ping, P. et al. (2018). Reactome graph database: Efficient access to complex pathway data. *PLoS computational biology, 14*, e1005968. ↗

Reactome database release: 88

This document contains 2 pathways (see Table of Contents)

PKB-mediated events ↗

Stable identifier: R-HSA-109703



PKB and PDK1 are activated via membrane-bound PIP3. Activated PDK1 phosphorylates PKB, which in turn phosphorylates PDE3B. The latter hydrolyses cAMP to 5'AMP, depleting cAMP pools.

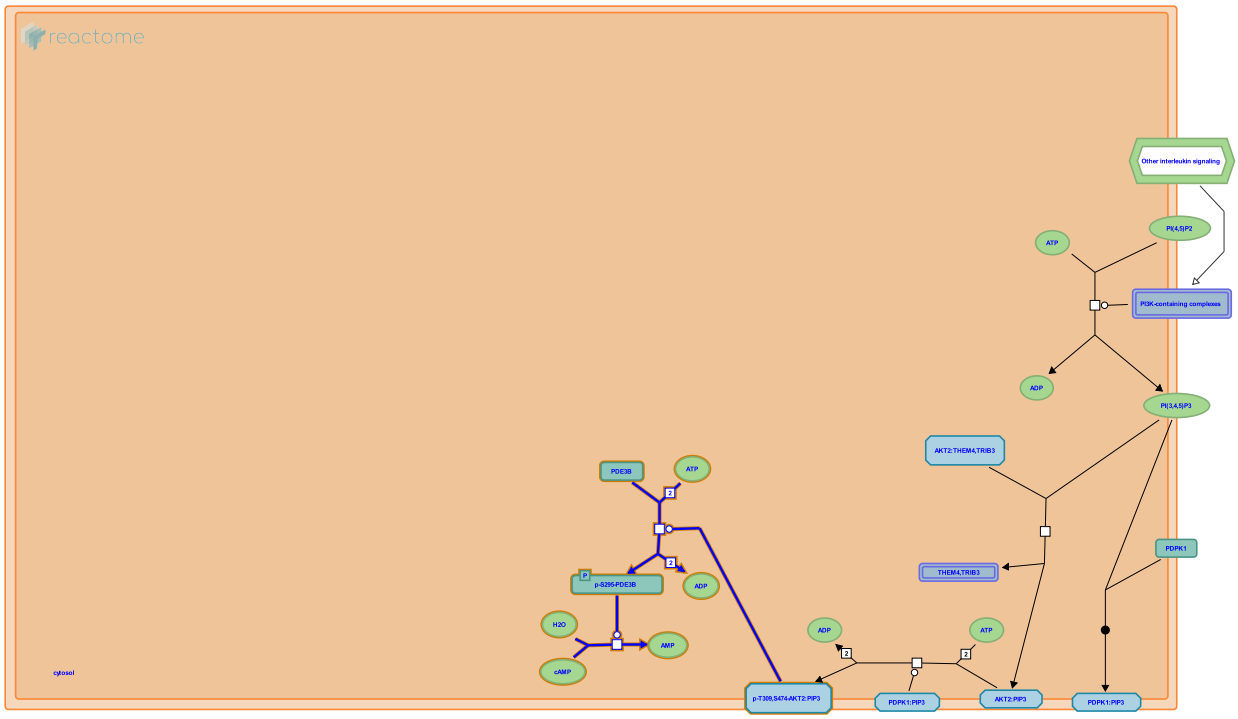
Editions

2005-05-09	Authored	Scott, J., Tatoud, R.

PDE3B signalling ↗

Location: PKB-mediated events

Stable identifier: R-HSA-165160



AKT (PKB) is recruited to the plasma membrane by binding phosphatidylinositol (3,4,5)-trisphosphate (PIP3). AKT is then activated by phosphorylation. Activated AKT in turn phosphorylates Phosphodiesterase 3B (PDE3B) which hydrolyzes 3',5'-cyclic AMP (cAMP) (reviewed in Manning and Toker 2017).

Literature references

Manning, BD., Toker, A. (2017). AKT/PKB Signaling: Navigating the Network. *Cell, 169*, 381-405. ↗

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