

# PHLPP dephosphorylates S473 in AKT

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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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- 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: 88

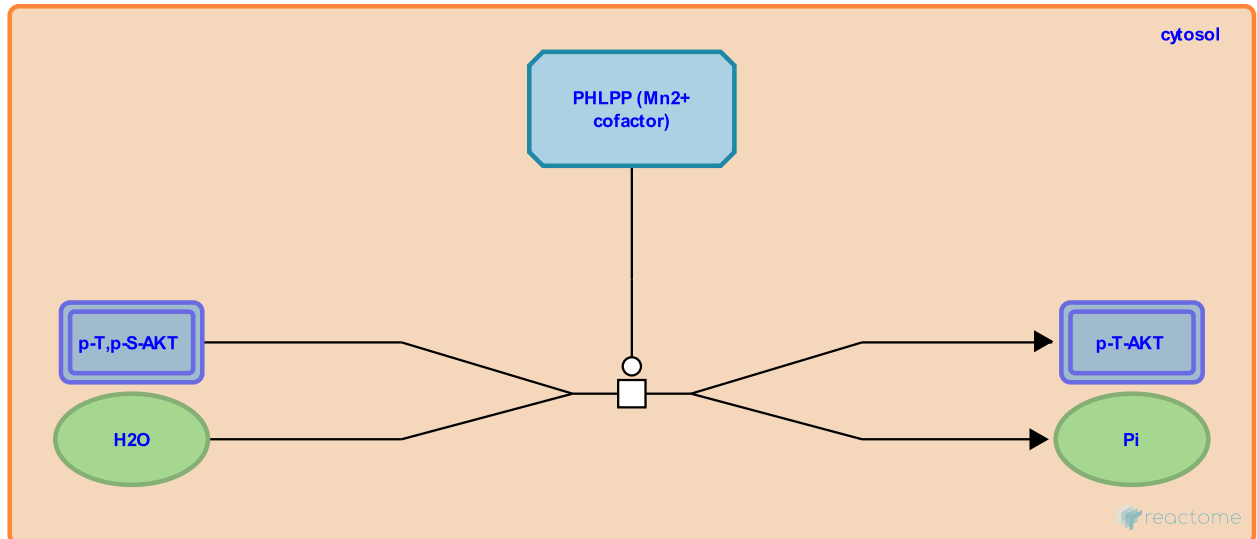
This document contains 1 reaction ([see Table of Contents](#))

## PHLPP dephosphorylates S473 in AKT [↗](#)

**Stable identifier:** R-HSA-199425

**Type:** transition

**Compartments:** cytosol



The PH domain leucine-rich repeat-containing protein phosphatases, PHLPP1 (Gao et al. 2005) and PHLPP2 (Brognard et al. 2007) can specifically dephosphorylate the serine residue and inactivate AKT.

### Literature references

Furnari, F., Gao, T., Newton, AC. (2005). PHLPP: a phosphatase that directly dephosphorylates Akt, promotes apoptosis, and suppresses tumor growth. *Mol Cell*, 18, 13-24. [↗](#)

Newton, AC., Gao, T., Sierceki, E., Brognard, J. (2007). PHLPP and a second isoform, PHLPP2, differentially attenuate the amplitude of Akt signaling by regulating distinct Akt isoforms. *Mol. Cell*, 25, 917-31. [↗](#)

### Editions

2006-10-10	Authored	Annibali, D., Nasi, S.
2007-11-08	Reviewed	Greene, LA.
2012-06-21	Revised	Orlic-Milacic, M.
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