

# phospho-PDK1 (Tyr-9) Peptide

Cat. # PX1435

Size 50 µg

## **Background:**

3-Phosphoinositide-dependent kinase 1 (PDK1), also known as PKB kinase, was identified as the activator of the survival kinase Akt/PKB. Several important substrates of PDK1 include p70S6 kinase, PKAs, PKCs, SGKs, RSKs, and PAKs. PDK1 is a member of the AGC superfamily of serine/threonine kinases. Through the phosphorylation of downstream kinases, like Akt, PDK1 has been shown to be involved in several different cell functions, such as protein synthesis, cell survival, glucose metabolism, and cell adhesion and migration. The regulation of PDK1 occurs through lipid second messengers and phosphorylation. Multiple serine sites are phosphorylated on PDK1. Serine 241 phosphorylation is required for PDK1 activity, while serine 396 has been implicated in PDK1 nuclear translocation. Tyrosine phosphorylation may also regulate PDK1 activity. Tyrosines 9 and 373/376 are phosphorylated by c-Src in vitro. Tyr-373/Tyr-376 are important for PDK1 activity, while Tyr-9 phosphorylation permits Tyr-373/Tyr-376 phosphorylation by c-Src. In addition, Tyr-9 may be important during angiotensin-II-induced focal adhesion formation.

## **References**

- Park, J. et al. (2001) J Biol. Chem. 276(40):37459.  
Taniyama, Y. et al. (2003) Mol Cell. Biol. 23(22):8019.  
Scheid, M.P. et al. (2005) Mol. Cell. Biol. 25(6):2347.

## **Peptide Sequence:**

Phospho-PDK1 (Tyr-9) synthetic peptide corresponds to amino acids surrounding tyrosine 9 of human PDK1. This sequence is highly conserved in rat and mouse PDK1.

## **Applications:**

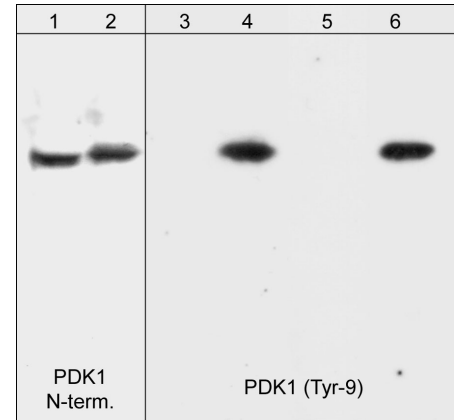
Blocking 1:1,000

ELISA 50 ng/well

End user should determine optimal concentration dependent on the concentration of the antibody. Recommended for blocking antibody reactivity in Western blot and immunocytochemistry. ELISA established in 96-well Nunc immunoplates where peptide was bound to plates for 2 hrs in 0.1 M sodium carbonate buffer, pH 8.5.

## **Related Products:**

- PP1431 PDK1 (Tyr-9), phospho-specific Rabbit Polyclonal  
PX1415 PDK1 (N-terminus) Peptide  
PP1411 PDK1 (N-terminus) Rabbit Polyclonal  
PM1461 PDK1 (C-terminal Region) Mouse Monoclonal



Western blot image of A431 cells untreated (lanes 1 and 3) or treated with pervanadate (lanes 2, 4, 5 & 6). Blots were probed with anti-PDK1 (PP1411) or anti-PDK1 (Tyr-9) (PP1431). The latter was used in the presence of no peptide (lane 4), phospho-PDK1 (Tyr-9) peptide (lane 5), or an unrelated phosphotyrosine peptide (lane 6).

## **Buffer and Storage:**

Blocking Peptide is supplied in 50µl phosphate-buffered saline and 0.05% sodium azide. Store at -20°C. Stable for 1 year.

## **Specificity:**

The peptide is specifically recognized by anti-PDK1 (Tyr-9) phospho-specific antibody (PP1431) in ELISA, and has been shown to block the reactivity of PP1431 during Western blot. In addition, the peptide is recommended for use in blocking PP1431 reactivity in immunocytochemistry.

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www.ecmbiosciences.com  
telephone: 859-879-2075  
toll-free: 1-800-859-8202  
tech: info@ecmbiosciences.com

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