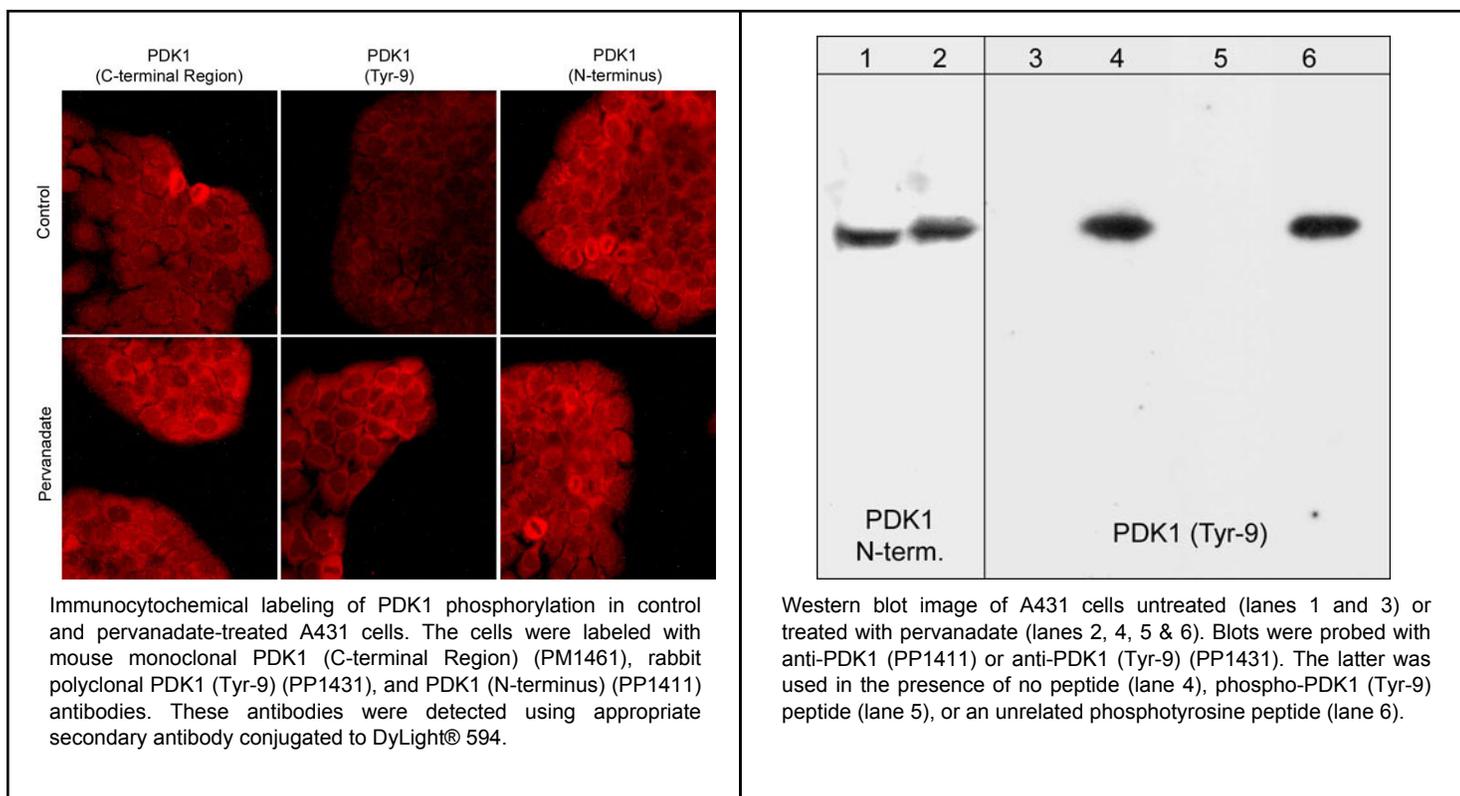


Background

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.

Background 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.



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Immunogen**Uniprot ID: O15530**

PDK1 synthetic peptide (coupled to carrier protein) corresponding to amino acids in the N-terminus of human PDK1. This sequence is highly conserved in rat and mouse PDK1.

Buffer and Storage

Rabbit polyclonal, affinity-purified antibody is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at -20°C. Stable for 1 year.

Applications

WB	1:1000
ELISA	1:2000
ICC	1:400

Species Reactivity

Hu, Rt, Ms

End user should determine optimal dilution for their particular applications and experiments.

Western blot membranes were incubated with diluted antibody in 5% non-fat milk, Tris buffer, 0.04% Tween20 for 1 hour at room temperature.

Abbreviations: E = ELISA, ICC = immunocytochemistry, IHC = immunohistochemistry, IP = immunoprecipitation, MS = mass spectrometry, WB = western blot
Hu = Human, Ms = Mouse, Rt = Rat, Ck = Chicken, F = Frog, B = Bovine

Specificity

This antibody was affinity purified using PDK1 peptide. The purified antibody detects a 65 kDa* protein corresponding to the apparent molecular mass of PDK1 on SDS-PAGE immunoblots of human A431 cells and mouse brain.

*All molecular weights (MW) are confirmed by comparison to MW standards and to western blot mobilities of known proteins with similar MW.

"Native" western blot utilizes non-reducing sample buffer (no mercaptoethanol or SDS), normal SDS-PAGE gel electrophoresis, and no methanol in transfer buffers.

Related Products

PP1431 PDK1 (Tyr-9), phospho-specific Rabbit Polyclonal

PM1461 PDK1 (C-terminal region) Mouse Monoclonal

PX1415 PDK1 (N-terminus) Blocking Peptide

PX1435 phospho-PDK1 (Tyr-9) Blocking Peptide

PK6400 PDK1 Phospho-Regulation Antibody Sampler Kit

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