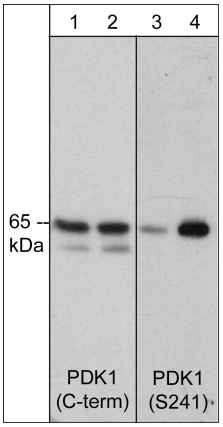
PDK1 (Ser-241), phospho-specific

Cat. # PP3891
Host Rabbit Polyclonal
Size 100 µl

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 is 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.



Western blot of MDA-MB-435 cells untreated (lanes 1 and 3) or treated with EGF (100 ng/ml) for 1 hr (lanes 2 & 4). Blots were probed with mouse monoclonal anti-PDK1 (C-terminal region) or rabbit polyclonal anti-PDK1 (Ser-241).

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.

Immunogen:

Phospho-PDK1 (Ser-241) synthetic peptide (coupled to carrier protein) corresponds to amino acids surrounding serine 241 in 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. Do not aliquot. Stable for 1 year.

Applications:

WB	1:500
ELISA	1:2000
IHC	1:50

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, PBS, 0.04% Tween20 for 1hour at room temperature.

Related Products:

PM1461 PDK1 (C-terminal Region) Mouse Monoclonal
PP1431 PDK1 (Tyr-9), phospho-specific Rabbit Polyclonal
PK6400 PDK1 Phospho-Regulation Antibody Sampler Kit
AK6340 Akt Phospho-Regulation Antibody Sampler Kit

Specificity:

This antibody was affinity purified using phospho-PDK1 (Ser-241) peptide. The purified antibody detects a 65 kDa* protein corresponding to the apparent molecular mass of PDK1 on SDS-PAGE immunoblots of human MDA-MB-435 cells treated with EGF, but not in untreated cells. PDK1 (Ser-241) reactivity was also observed by immunohistochemistry in human breast carcinoma tissue.

*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

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