

Akt (Ser-473), phospho-specific

Cat. # AM1141

Host Mouse Monoclonal IgG1

Size 200 µl

Background:

Akt (PKB, Rac kinase) is a 60kDa ser/thr kinase critical for controlling diverse cellular functions, including glucose metabolism, gene transcription, cell proliferation, and apoptosis. Akt phosphorylates a number of substrates including MBP, glycogen synthetase, PKA RII subunit, and histone H1. Akt is activated in response to insulin and growth factors in a PI3-kinase dependent manner. Activation of PI3-Kinase generates phosphatidylinositol 3,4-bisphosphate, which induces membrane translocation of Akt coincident with its phosphorylation at Thr-308 and Ser-473. Upon activation, Akt associates with members of the PKC family of kinases, such as PKC δ and PKC ζ . Ceramide-activated PKC ζ leads to phosphorylation of Thr-34 within the pleckstrin homology domain of Akt. This phosphorylation inhibits PIP3 binding to Akt preventing activation of the kinase and may lead to ceramide-induced cell death.

References

- Jones, P.F. et al. (1991) Proc. Natl. Acad. Sci. USA 88:4171-4175.
Marte, B. & Downward. J. (1997) TIBS. 22:355-358.
Powell, D.J. et al. (2003) Mol. Cell Biol. 23:7794-7808.

Immunogen:

This antibody was generated from a peptide containing amino acid residues surrounding Serine 473 in human Akt1. This sequence is highly conserved in human and mouse Akt, and may recognize Akt2 and Akt3.

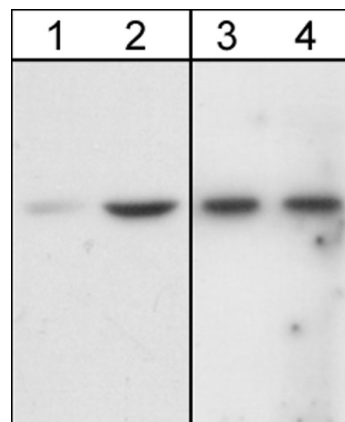
Applications:

WB 1:250
ELISA 1:2000
IP 1:100

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:

AM1011 Akt (N-terminal Region) Mouse Monoclonal
AP1001 Akt (Thr-34), phospho-specific Rabbit Polyclonal



Western blot analysis of A431 cells untreated (lanes 1 & 3) or treated with 100 ng/ml EGF for 60 min. (lanes 2 & 4). The blots were probed with monoclonal anti-phospho-Akt (Ser-473) (lanes 1 & 2) and monoclonal anti-Akt1 (N-terminal region) (lanes 3 & 4).

Buffer and Storage:

Mouse monoclonal purified with protein G chromatography is supplied in 200µl phosphate-buffered saline with 0.02% sodium azide. Store at 4°C, stable for 6 months. For long term storage, aliquot and store at -20°C.

Specificity:

This antibody detects a 60 kDa* protein corresponding to the apparent molecular mass of Akt on SDS-PAGE immunoblots of mouse NIH3T3 cells treated with PDGF and human A431 cells treated with EGF.

*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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