

Anti-Akt (Ser-473), phospho-specific

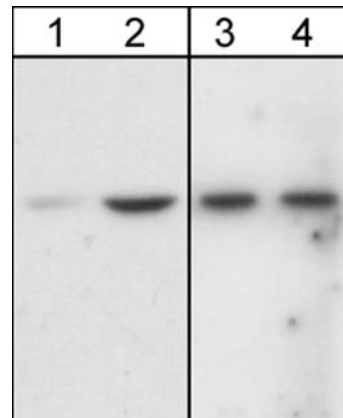
Cat. # **AM1141**
Host **Mouse Monoclonal IgG1**
Size **200µl**

Background:

Akt, also known as Protein Kinase B (PKB) and Rac (Related to the A and C kinases), is a 60kDa serine/threonine kinase critical for controlling diverse cellular functions, including glucose metabolism, gene transcription, cell proliferation, and apoptosis. Akt phosphorylates a number of physiological 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 may induce the 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 the Akt-Pleckstrin Homology (PH) domain on Thr-34. This phosphorylation inhibits PIP₃ binding to Akt, preventing activation of the kinase by insulin. Since Akt confers a prosurvival signal and regulates pathways in response to insulin, suppressing its activation may be one mechanism by which ceramide promotes cell death and induces insulin resistance.

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.



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.

Applications:

Western blotting 1:250 dilution[†] Immunoprecipitation 5-10 µl
ELISA 1:2000 dilution

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

[†]Membrane was incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1 hour at room temperature.

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.

Related Products:

AM1011 Akt1 (N-terminal region) Mouse Monoclonal

AP1001 Akt (Thr-34), phospho-specific Rabbit Polyclonal

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