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orders@phosphosolutions.com
888-442-7100

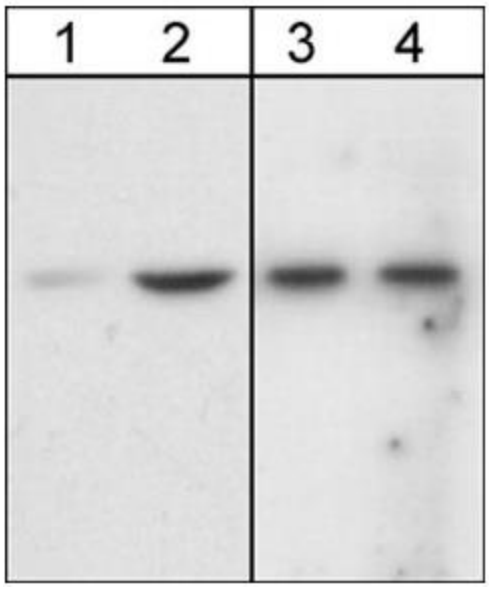
## Product Datasheet

# Anti-Akt (Ser-473), Phosphospecific Antibody

### Overview

| | |
|---|---|
| **Catalog #** | AM1141 |
| **Size** | 200 µL |
| **Host Species** | Mouse Monoclonal |
| **Format** | Protein G Purified |
| **Applications** | WB 1:250 IP 1:100 |
| **Species Tested** | Human, Mouse, and Rat |
| **Immunogen** | Clone M114 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. |
| **Molecular Weight** | 60 kDa |
| **Cite this Antibody** | PhosphoSolutions Cat# AM1141, RRID:AB_2224594 |

### Images




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).

## Details

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| **Target Description** | 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 PKCδ and PKCζ. Ceramide-activated PKCζ 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 cermide-induced cell death. |
| **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. |
| **Quality Control** | Western blots performed on each lot. |
| **Buffer** | PBS + 0.02% NaN3 |
| **Storage** | Recommended that the undiluted antibody be aliquoted into smaller working volumes (10-30 µL/vial depending on usage) upon arrival and stored long term at -20° C or -80° C, while keeping a working aliquot stored at 4° C for short term. Avoid freeze/thaw cycles. Stable for at least 1 year. |
| **Stability** | After date of receipt, stable for at least 1 year at -20°C. |

## Significant Citations


Rodrigues, C., Gilson Masahiro Murata, Frederico Gerlinger-Romero, Renato Tadeu Nachbar, Gabriel Nasri Marzuca-Nassr, Gorjão, R., Kaio Fernando Vitzel, Sandro Massao Hirabara, Tânia Cristina Pithon-Curi and Curi, R. (2023). Changes in Skeletal Muscle Protein Metabolism Signaling Induced by Glutamine Supplementation and Exercise. *Nutrients*, 15(22), pp.4711–4711.

Hu, C., Liu, Y., Teng, M., Jiao, K., Zhen, J., Wu, M. and Li, Z. (2019). Resveratrol inhibits the proliferation of estrogen receptor-positive breast cancer cells by suppressing EZH2 through the modulation of ERK1/2 signaling. *Cell Biology and Toxicology*, 35(5), pp.445–456.

Paterniti, I., Esposito, E., Mazzon, E., Bramanti, P. and Cuzzocrea, S. (2011). Evidence for the role of PI3-kinase-AKT-eNOS signalling pathway in secondary inflammatory process after spinal cord compression injury in mice. *European Journal of Neuroscience*, 33(8), pp.1411–1420.


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