

Phospho-Akt1 (Ser473)

Cat#: ET1607-73

Product Type: Recombinant rabbit monoclonal IgG, primary antibodies

Species reactivity: Human, Mouse

Applications: WB, ICC/IF, IHC

Molecular Wt.: 56 kDa

Description: The serine/threonine kinase Akt family contains several members, including Akt1 (also designated PKB or RacPK), Akt2 (also designated PKB β or RacPK- β) and Akt 3 (also designated PKB γ or thymoma viral proto-oncogene 3), which exhibit sequence homology with the protein kinase A and C families and are encoded by the c-Akt proto-oncogene. All members of the Akt family have a pleckstrin homology domain. Akt1 and Akt2 are activated by PDGF stimulation. This activation is dependent on PDGFR- β tyrosine residues 740 and 751, which bind the subunit of the phosphatidylinositol 3-kinase (PI 3-kinase) complex. Activation of Akt1 by insulin or insulin-growth factor-1(IGF-1) results in phosphorylation of both Thr 308 and Ser 473. Phosphorylation of both residues is important to generate a high level of Akt1 activity, and the phosphorylation of Thr 308 is not dependent on phosphorylation of Ser 473 in vivo. Thus, Akt proteins become phosphorylated and activated in insulin/IGF-1-stimulated cells by an upstream kinase(s). The activation of Akt1 and Akt2 is inhibited by the PI kinase inhibitor wortmannin, suggesting that the protein signals downstream of the PI kinases.

Immunogen:

Synthetic phospho-peptide corresponding to residues surrounding Ser473 of human Akt1.

Positive control:

NIH/3T3, mouse lung tissue.

Subcellular location:

Cytoplasm, Nucleus, Cell membrane.

Database links:

SwissProt: P31749 (Human) P31750 (Mouse)

Recommended Dilutions:

WB: 1:1,000-1:2,000 **ICC:** 1:50-1:200

IHC: 1:50-1:200

Storage Buffer:

1*TBS (pH7.4), 1%BSA, 40%Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction:

Store at +4° C after thawing. Aliquot store at -20° C. Avoid repeated freeze / thaw cycles.

Purity:

ProA affinity purified.

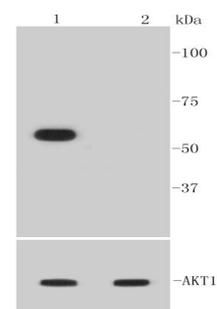


Fig1: Western blot analysis of Phospho-Akt1(Ser473) on different lysates using anti-Phospho-Akt1(Ser473) antibody at 1/1,000 dilution.

Positive control:

Lane 1: NIH/3T3 treated with PDGF

Lane 2: NIH/3T3 untreated

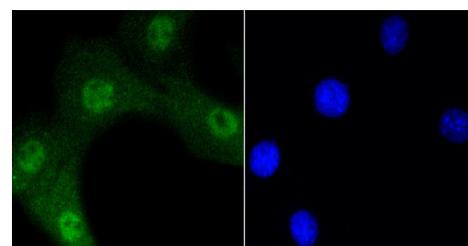


Fig2: ICC staining Phospho-Akt1(Ser473) in NIH/3T3 cells (green). The nuclear counter stain is DAPI (blue). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.

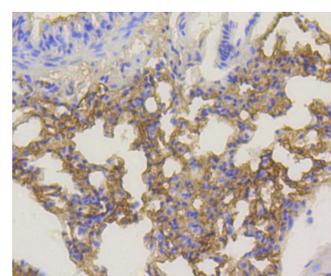


Fig3: Immunohistochemical analysis of paraffin-embedded mouse lung tissue using anti-Phospho-Akt1(Ser473) antibody. Counter stained with hematoxylin.

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Applications: WB=Western blot IP=Immunoprecipitation IHC=Immunohistochemistry IF=Immunofluorescence FC=Flow cytometry
Species Cross-Reactivity: H=human M=mouse R=rat Hm=hamster Mk=monkey Mi=mink C=chicken Dm=D.melanogaster X=Xenopus Z=zebrafish
B=bovine Dg=dog Pg=pig Sc=S.

Background References

1. Chen J et al. Low expression of phosphatase and tensin homolog in clear-cell renal cell carcinoma contributes to chemoresistance through activating the Akt/HDM2 signaling pathway. *Mol Med Rep* 12:2622-8 (2015).
2. Burdine LJ et al. Proteomic Identification of DNA-PK Involvement within the RET Signaling Pathway. *PLoS One* 10:e0127943 (2015).

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