

Phospho-AKT1 (S124)

Cat#: ET1701-36

Product Type: Recombinant rabbit monoclonal IgG, primary antibodies

Species reactivity: Human, Mouse, Rat

Applications: WB, ICC/IF, IHC, IP

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 b) and Akt3 (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. Activation is dependent on PDGFR- β Tyr 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. 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 Ser124 of human AKT1.

Positive control:

PC-3M, MCF-7, NIH/3T3, rat heart tissue, human breast carcinoma tissue.

Subcellular location:

Cytoplasm, Nucleus, Cell membrane.

Database links:

SwissProt: P31749 (Human) P31750 (Mouse) P47196 (Rat)

Recommended Dilutions:

WB: 1:1,000 **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.

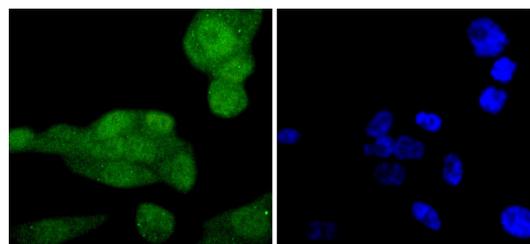


Fig1: ICC staining Phospho-AKT1(S124) in PC-3M cells (green). The nuclear counter stain is DAPI (blue). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.

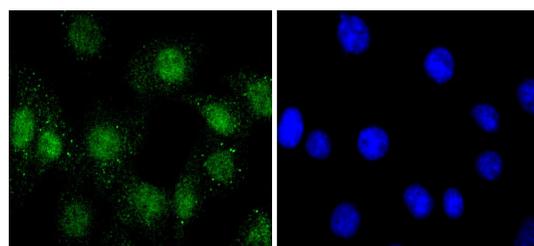


Fig2: ICC staining Phospho-AKT1(S124) in NIH/3T3 cells (green). The nuclear counter stain is DAPI (blue). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.

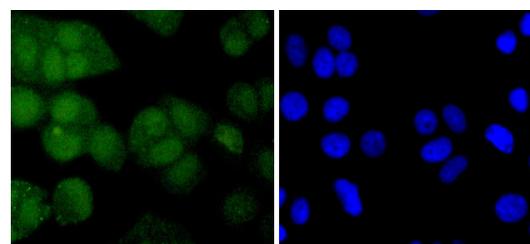


Fig3: ICC staining Phospho-AKT1(S124) in MCF-7 cells (green). The nuclear counter stain is DAPI (blue). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.

Hangzhou HuaAn Biotechnology Co.,Ltd.

Orders: 0086-571-88062880

Support: 0086-571-89986345

Service mail: tech@huabio.com

www.huabio.com



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.

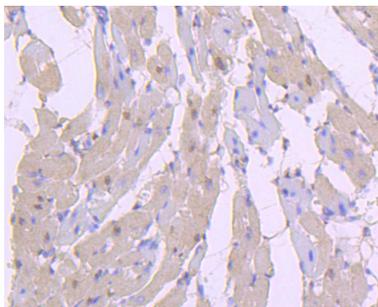


Fig4: Immunohistochemical analysis of paraffin-embedded rat heart tissue using anti-Phospho-AKT1(S124) antibody. Counter stained with hematoxylin.

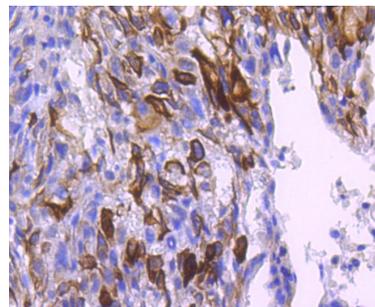


Fig5: Immunohistochemical analysis of paraffin-embedded human breast carcinoma tissue using anti-Phospho-AKT1(S124) antibody. Counter stained with hematoxylin.

Background References

1. Lv P et al. Treatment with the herbal medicine, naoxintong improves the protective effect of high-density lipoproteins on endothelial function in patients with type 2 diabetes. *Mol Med Rep* 13:2007-16 (2016).
2. Xu L et al. MicroRNA-7-regulated TLR9 signaling-enhanced growth and metastatic potential of human lung cancer cells by altering the phosphoinositide-3-kinase, regulatory subunit 3/Akt pathway. *Mol Biol Cell* 24:42-55 (2013).

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B=bovine Dg=dog Pg=pig Sc=S.