

Phospho-Akt1(Ser473) Rabbit mAb

Catalog No: #13357



Package Size: #13357-1 50ul #13357-2 100ul

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Description

Product Name	Phospho-Akt1(Ser473) Rabbit mAb
Host Species	Rabbit
Clonality	Monoclonal
Clone No.	SY28-05
Purification	ProA affinity purified
Applications	WB, ICC/IF, IHC
Species Reactivity	Hu, Ms
Immunogen Description	Synthetic phospho-peptide corresponding to residues surrounding Ser473 of human Akt1.
Other Names	AKT 1 antibody AKT antibody AKT1 antibody AKT1_HUMAN antibody MGC99656 antibody PKB antibody PKB-ALPHA antibody PRKBA antibody Protein Kinase B Alpha antibody Protein kinase B antibody Proto-oncogene c-Akt antibody RAC Alpha antibody RAC antibody RAC-alpha serine/threonine-protein kinase antibody RAC-PK-alpha antibody
Accession No.	Swiss-Prot#:P31749
Calculated MW	56 kDa
Formulation	1*TBS (pH7.4), 1%BSA, 40%Glycerol. Preservative: 0.05% Sodium Azide.
Storage	Store at -20°C

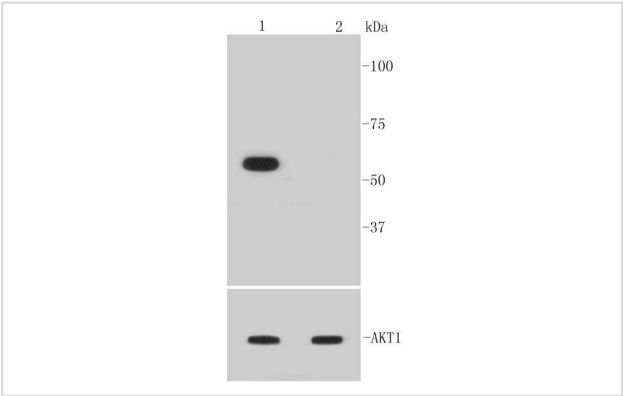
Application Details

WB: 1:1,000-1:2,000

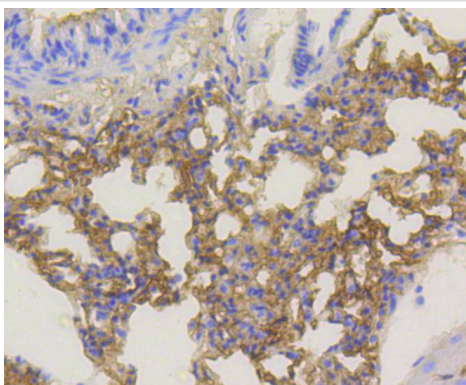
IHC: 1:50-1:200

ICC: 1:50-1:200

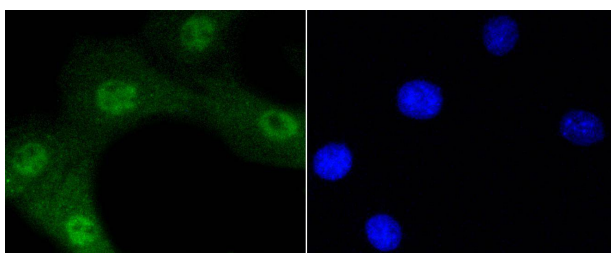
Images



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



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



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.

Background

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.

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).

Published Papers

et al., Downregulation of GLYT1 Facilitates Tumor Growth and Metastasis and Poor Clinical Outcomes Through the PI3K/AKT/Snail Pathway in Human Breast Cancer. In *Front Oncol* 2021 Apr 22 by Xin Tian, Lina Wu, et al.. PMID:33968740, (2021)

[PMID:33968740](#)

et al., 7-dehydrocholesterol suppresses melanoma cell proliferation and invasion via Akt1/NF- κ B signaling, In *Oncol Lett* 2020 Dec by Jia Liu, Feiliang Zhong, et al.. PMID: 33193858, (2020)

[PMID:33193858](#)

et al., NVD-BM-mediated genetic biosensor triggers accumulation of 7-dehydrocholesterol and inhibits melanoma via Akt1/NF- κ B signaling. In *Aging*

Note: This product is for in vitro research use only and is not intended for use in humans or animals.