Anti-AKT1 Antibody [D9-9-C9]

EM40507

Product Type:	Mouse monoclonal IgG2b, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IF-Cell, IHC-P, FC
Molecular Wt:	Predicted band size: 56 kDa
Clone number:	D9-9-C9

Description: The serine-threonine protein kinase AKT1 is catalytically inactive in serum-starved primary and immortalized fibroblasts. AKT1 and the related AKT2 are activated by platelet-derived growth factor. The activation is rapid and specific, and it is abrogated by mutations in the pleckstrin homology domain of AKT1. It was shown that the activation occurs through phosphatidylinositol 3-kinase. In the developing nervous system AKT is a critical mediator of growth factor-induced neuronal survival. Survival factors can suppress apoptosis in a transcription-independent manner by activating the serine/threonine kinase AKT1, which then phosphorylates and inactivates components of the apoptotic machinery. Mice lacking Akt1 display a 25% reduction in body mass, indicating that Akt1 is critical for transmitting growth-promoting signals, most likely via the igf1 receptor. Mice lacking Akt1 are also resistant to cancer: They experience considerable delay in tumor growth initiated by the large T antigen or the Neuoncogene.

Immunogen: Synthetic peptide within human AKT1 aa 1-80.

Positive control: MCF7 cell lysate, A549 cell lysate, Jurkat cell lysate, C2C12 cell lysate, L-929 cell lysate, C6 cell lysate, Hela, HepG2, MCF-7, human breast carcinoma tissue.

Subcellular location: Cytoplasm, Nucleus, Cell membrane.

Database links: SwissProt: P31749 Human | P31750 Mouse | P47196 Rat

Recommended Dilutions:

WB	1:2,000
IHC-P	1:100-1:200
IF-Cell	1:100-1:200
FC	1:100-1:200

Storage Buffer: 1*PBS (pH7.4), 0.2% BSA, 40% Glycerol. Preservative: 0.05% SodiumAzide.

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃ or -80℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

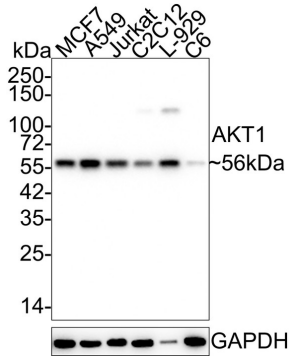

Fig1: Western blot analysis of AKT1 on different lysates with Mouse anti-AKT1 antibody (EM40507) at 1/2,000 dilution.

Lane 1: MCF7 cell lysate
Lane 2: A549 cell lysate
Lane 3: Jurkat cell lysate
Lane 4: C2C12 cell lysate
Lane 5: L-929 cell lysate
Lane 6: C6 cell lysate

Lysates/proteins at 15 µg/Lane.

Predicted band size: 56 kDa
Observed band size: 56 kDa

Exposure time: 30 seconds;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (EM40507) at 1/2,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Mouse IgG - HRP Secondary Antibody (HA1006) at 1/50,000 dilution was used for 1 hour at room temperature.

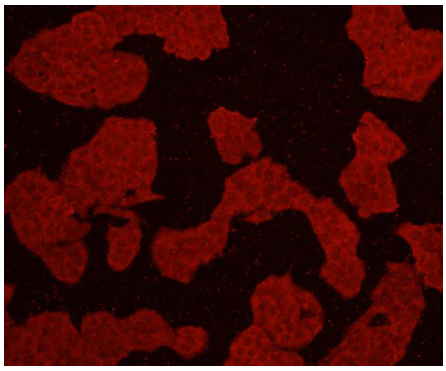

Fig2: ICC staining Akt1 in Hela cells (red). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.

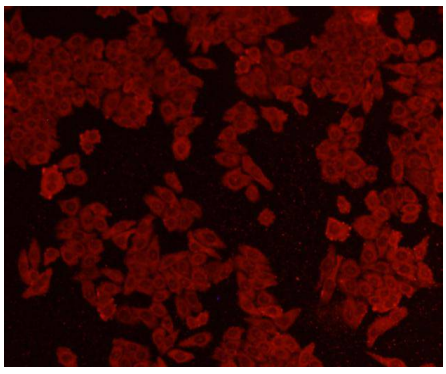

Fig3: ICC staining Akt1 in HepG2 cells (red). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.

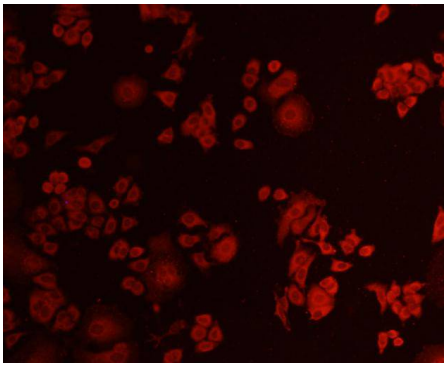

Fig4: ICC staining Akt1 in MCF-7 cells (red). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.

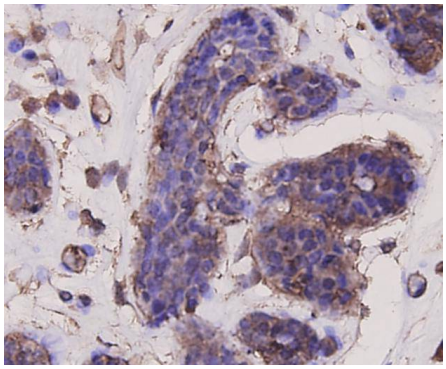

Fig5: Immunohistochemical analysis of paraffin-embedded human breast carcinoma tissue using anti-Akt1 antibody. Counter stained with hematoxylin.

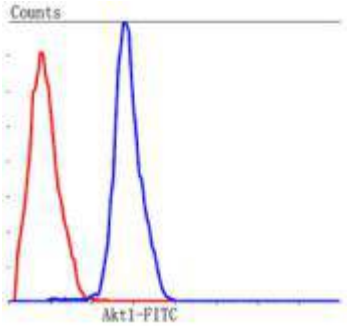

Fig6: Flow cytometric analysis of Hela cells with Akt1 antibody at 1/100 dilution (blue) compared with an unlabelled control (cells without incubation with primary antibody; red). Goat anti mouse IgG (FITC) was used as the secondary antibody.

Background References

1. "PIKE-A is amplified in human cancers and prevents apoptosis by up-regulating Akt." Ahn J.-Y., Hu Y., Kroll T.G., Allard P., Ye K. Proc. Natl. Acad. Sci. U.S.A. 101:6993-6998(2004)
2. "Akt/PKB regulates actin organization and cell motility via Girdin/APE." Enomoto A., Murakami H., Asai N., Morone N., Watanabe T., Kawai K., Murakumo Y., Usukura J., Kaibuchi K., Takahashi M. Dev. Cell 9:389-402(2005)
3. "The pro-apoptotic kinase Mst1 and its caspase cleavage products are direct inhibitors of Akt1." Cinar B., Fang P.K., Lutchman M., Di Vizio D., Adam R.M., Pavlova N., Rubin M.A., Yelick P.C., Freeman M.R. EMBO J. 26:4523-4534(2007)
4. "The actin-bundling protein palladin is an Akt1-specific substrate that regulates breast cancer cell migration." Chin Y.R., Toker A. Mol. Cell 38:333-344(2010)