

Anti-Phospho-AKT1 (Thr34) Polyclonal Antibody

Product Details

Ig Type:	IgG
Reactivity:	Human, Mouse (predicted: Rat)
Molecular Weight:	Theoretical: 56 kDa. Actual: 50 kDa.
Purification:	Protein A purified

Applications

1. Blank control (blue): EC9706 (fixed with 2% paraformaldehyde for 10 min at 37°C). Primary Antibody: Rabbit Anti-phospho-AKT1 (Thr34) antibody (TMAB-01382, Green); Dilution: 3 µg in 100 µL 1X PBS containing 0.5% BSA; Isotype Control Antibody: Rabbit IgG (orange), used under the same conditions; Secondary Antibody: Goat anti-rabbit IgG-FITC (white blue), Dilution: 1:200 in 1 X PBS containing 0.5% BSA.

2. Blank control: A549. Primary Antibody (green line): Rabbit Anti-phospho-AKT1 (Thr34) antibody (TMAB-01382)

Dilution: 2 µg/10⁶ cells;

Isotype Control Antibody (orange line): Rabbit IgG.

Secondary Antibody: Goat anti-rabbit IgG-FITC

Dilution: 1 µg/test.

Protocol

The cells were incubated in 5% BSA to block non-specific protein-protein interactions for 30 min at room temperature. Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature.

Verified Activity:

3. Sample:

Lane 1: SiHa (Human) Cell Lysate at 30 µg

Lane 2: NIH/3T3 (Mouse) Cell Lysate at 30 µg

Lane 3: Adrenal glands (Mouse) Lysate at 40 µg

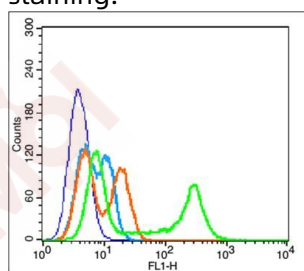
Lane 4: Skeletal muscle (Mouse) Lysate at 40 µg

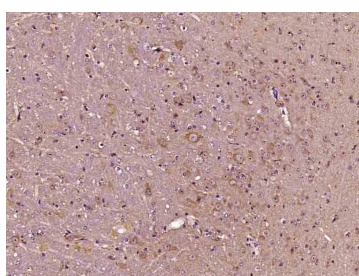
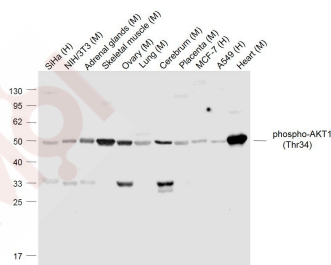
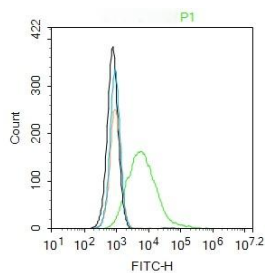
Lane 5: Ovary (Mouse) Lysate at 40 µg

Lane 6: Lung (Mouse) Lysate at 40 µg

Lane 7: Cerebrum (Mouse) Lysate at 40 µg

4. Paraformaldehyde-fixed, paraffin embedded (Mouse brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 min; Blocking buffer (normal goat serum) at 37°C for 30 min; Antibody incubation with (phospho-AKT1 (Thr34)) Polyclonal Antibody, Unconjugated (TMAB-01382) at 1:400 overnight at 4°C, followed by operating according to SP Kit (Rabbit) instructions and DAB staining.





Application: FCM,IF,IHC-Fr,IHC-P,WB

Recommended WB: 1:500-2000; IHC-P: 1:100-500; IHC-Fr: 1:100-500; IF: 1:100-500; FCM: 2µg/Test

Properties

Stability & Storage: Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles.

Shipping: Shipping with blue ice.

Antigen Details

Immunogen: KLH conjugated Synthesised phosphopeptide: human AKT1 around the phosphorylation site of Thr34

Antigen Species: Human

Gene ID: 207

Uniprot ID: P31749

Synonyms: p-AKT1 (T34);RAC;AKT1 (p-Thr34);AKT1 (p-T34);PKB-ALPHA;PRKBA;RAC-α;RAC-ALPHA;PKB-α;v-akt murine thymoma viral oncogene homolog 1;AKT;PKB;CWS6;p-AKT1 (Thr34)

Biology Area: Metabolism,AKT,Nuclear,Apoptosis,PKB / AKT

Research Background

This gene encodes one of the three members of the human AKT serine-threonine protein kinase family which are often referred to as protein kinase B alpha, beta, and gamma. These highly similar AKT proteins all have an N-terminal pleckstrin homology domain, a serine/threonine-specific kinase domain and a C-terminal regulatory domain. These proteins are phosphorylated by phosphoinositide 3-kinase (PI3K). AKT/PI3K forms a key component of many signalling pathways that involve the binding of membrane-bound ligands such as receptor tyrosine kinases, G-protein coupled receptors, and integrin-linked kinase. These AKT proteins therefore regulate a wide variety of cellular functions including cell proliferation, survival, metabolism, and angiogenesis in both normal and

malignant cells. AKT proteins are recruited to the cell membrane by phosphatidylinositol 3,4,5-trisphosphate (PIP3) after phosphorylation of phosphatidylinositol 4,5-bisphosphate (PIP2) by PI3K. Subsequent phosphorylation of both threonine residue 308 and serine residue 473 is required for full activation of the AKT1 protein encoded by this gene. Phosphorylation of additional residues also occurs, for example, in response to insulin growth factor-1 and epidermal growth factor. Protein phosphatases act as negative regulators of AKT proteins by dephosphorylating AKT or PIP3. The PI3K/AKT signalling pathway is crucial for tumor cell survival. Survival factors can suppress apoptosis in a transcription-independent manner by activating AKT1 which then phosphorylates and inactivates components of the apoptotic machinery. AKT proteins also participate in the mammalian target of rapamycin (mTOR) signalling pathway which controls the assembly of the eukaryotic translation initiation factor 4F (eIF4E) complex and this pathway, in addition to responding to extracellular signals from growth factors and cytokines, is dysregulated in many cancers. Mutations in this gene are associated with multiple types of cancer and excessive tissue growth including Proteus syndrome and Cowden syndrome 6, and breast, colorectal, and ovarian cancers. Multiple alternatively spliced transcript variants have been found for this gene. [provided by RefSeq, Jul 2020]

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