

## Anti-AKT1 Polyclonal Antibody

## Product Details

Ig Type:	IgG
Reactivity:	Human,Mouse,Rat (predicted:Chicken,Dog,Pig,Cow,Rabbit,Sheep)
Molecular Weight:	Theoretical: 56 kDa. Actual: 60 kDa.
Purification:	Protein A purified

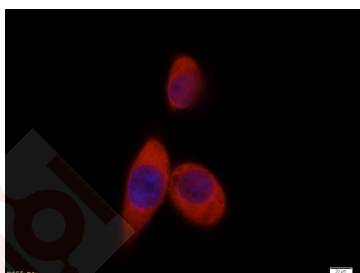
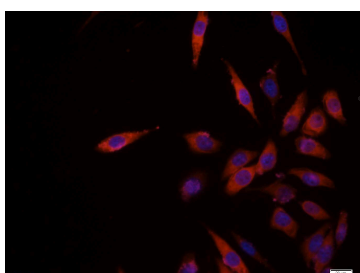
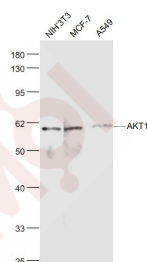
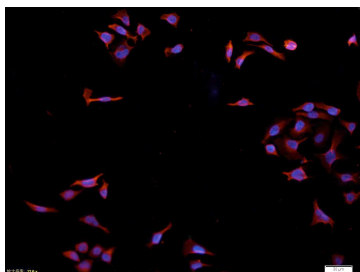
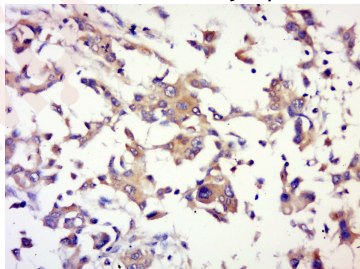
## Applications

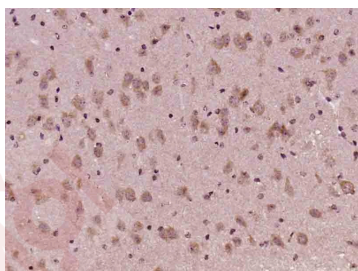
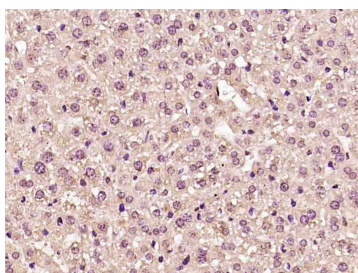
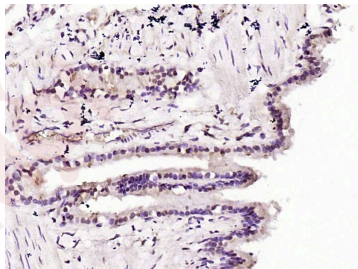
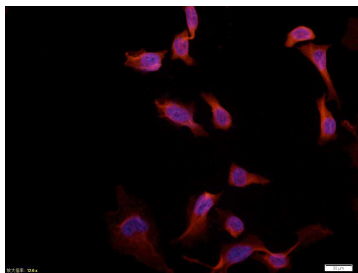
1. Paraformaldehyde-fixed, paraffin embedded (human memmery cancer); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 min; Blocking buffer (normal goat serum) at 37°C for 30 min; Antibody incubation with (AKT1) Polyclonal Antibody, Unconjugated at 1:500 overnight at 4°C, followed by a conjugated secondary for 20 min and DAB staining.
2. Tissue/cell: Hela cell; 4% Paraformaldehyde-fixed; Triton X-100 at room temperature for 20 min; Blocking buffer (normal goat serum) at 37°C for 20 min; Antibody incubation with (MAKT1) polyclonal Antibody, Unconjugated (TMAB-00087) 1:100, 90 minutes at 37°C; followed by a conjugated Goat Anti-Mouse IgG-CY3 antibody at 37°C for 90 minutes, DAPI (blue) was used to stain the cell nucleus.
3. Sample:  
NIH/3T3 (Mouse) Cell Lysate at 30 µg  
MCF-7 (Human) Cell Lysate at 30 µg  
A549 (Human) Cell Lysate at 30 µg  
Primary: Anti-AKT1 (TMAB-00087) at 1/1000 dilution  
Secondary: IRDye800CW Goat Anti-Mouse IgG at 1/20000 dilution  
Predicted band size: 56 kDa  
Observed band size: 60 kDa
4. Tissue/cell: MCF7 cell; 4% Paraformaldehyde-fixed; Triton X-100 at room temperature for 20 min; Blocking buffer (normal goat serum) at 37°C for 20 min; Antibody incubation with (AKT1) polyclonal Antibody, Unconjugated (TMAB-00087) 1:100, 90 minutes at 37°C; followed by a CY3 conjugated Goat Anti-Mouse IgG antibody at 37°C for 90 minutes, DAPI (blue) was used to stain the cell nucleus.
5. Tissue/cell: MCF7 cell; 4% Paraformaldehyde-fixed; Triton X-100 at room temperature for 20 min; Blocking buffer (normal goat serum) at 37°C for 20 min; Antibody incubation with (AKT1) polyclonal Antibody, Unconjugated (TMAB-00087) 1:100, 90 minutes at 37°C; followed by a CY3 conjugated Goat Anti-Mouse IgG antibody at 37°C for 90 minutes, DAPI (blue) was used to stain the cell nucleus.
6. Tissue/cell: Hela cell; 4% Paraformaldehyde-fixed; Triton X-100 at room temperature for 20 min; Blocking buffer (normal goat serum) at 37°C for 20 min; Antibody incubation with (MAKT1) polyclonal Antibody, Unconjugated (TMAB-00087) 1:100, 90 minutes at 37°C; followed by a conjugated Goat Anti-Mouse IgG-CY3 antibody at 37°C for 90 minutes, DAPI (blue) was used to stain the cell nucleus.
7. Paraformaldehyde-fixed, paraffin embedded (rat lung); 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 (AKT1) Monoclonal Antibody, Unconjugated (TMAB-00087) at 1:200 overnight at 4°C, followed by operating according to SP Kit (Mouse) instructions and DAB staining.

Verified Activity:

8. Paraformaldehyde-fixed, paraffin embedded (mouse liver); 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 (AKT1) Polyclonal Antibody, Unconjugated (TMAB-00087) at 1:200 overnight at 4°C, followed by operating according to SP Kit (Rabbit) instructions and DAB staining.

9. 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 (AKT1) Monoclonal Antibody, Unconjugated (TMAB-00087) at 1:400 overnight at 4°C, followed by operating according to SP Kit (Mouse) instructions and DAB staining.





Application: ICC/IF,IF,IHC-Fr,IHC-P,WB

Recommended ICC/IF=1:100-500; IF=1:100-500; IHC-Fr=1:100-500; IHC-P=1:100-500; WB=1:500-2000

### 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 synthetic peptide: human AKT-1

Antigen Species: Human

Gene ID: 207

Uniprot ID: P31749

Synonyms: RAC- $\alpha$ ;CWS6;PKB-ALPHA;PKB- $\alpha$ ;PKB;RAC;PRKBA;v-akt murine thymoma viral oncogene homolog 1;RAC-ALPHA;AKT

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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Tel: 781-999-4286    E\_mail: info@targetmol.com    Address: 34 Washington Street, Wellesley Hills, MA 02481