bs-0115M **[Primary Antibody]**

AKT1 Mouse pAb

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DATASHEET

Host: Mouse **Isotype:** IgG

Clonality: Polyclonal

GeneID: 207 **SWISS:** P31749

Target: AKT1

Immunogen: KLH conjugated synthetic peptide derived from human AKT-1: 401-479/479.

Purification: affinity purified by Protein A

Concentration: 1mg/ml

Storage: 0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
Shipped at 4°C. Store at -20°C for one year. Avoid repeated freeze/thaw cycles.

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 disregulated 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]

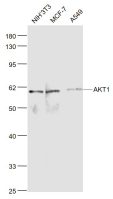
Applications: **WB** (1:500-2000)
IHC-P (1:100-500)
IHC-F (1:100-500)
IF (1:100-500)
ICC/IF (1:100)

Reactivity: Human, Mouse, Rat (predicted: Rabbit, Pig, Sheep, Cow, Chicken, Dog)

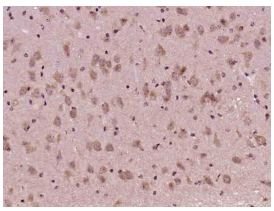
Predicted MW.: 56 kDa

Subcellular Location: Cell membrane ,Cytoplasm ,Nucleus

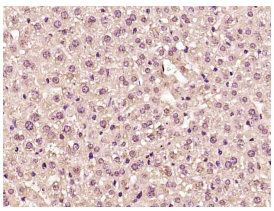
VALIDATION IMAGES



Sample: NIH/3T3(Mouse) Cell Lysate at 30 ug



Paraformaldehyde-fixed, paraffin embedded

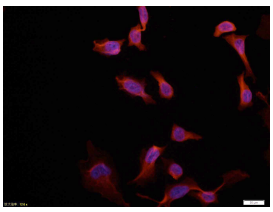


Paraformaldehyde-fixed, paraffin embedded

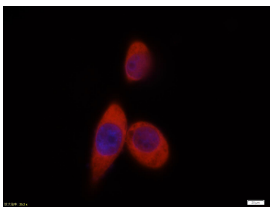
MCF-7(Human) Cell Lysate at 30 ug A549(Human) Cell Lysate at 30 ug Primary: Anti-AKT1 (bs-0115M) at 1/1000 dilution Secondary: IRDye800CW Goat Anti-Mouse IgG at 1/20000 dilution Predicted band size: 56 kD Observed band size: 60 kD

(Mouse brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (AKT1) Monoclonal Antibody, Unconjugated (bs-0115M) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Mouse) (sp-0024) instructionsand DAB staining.

(mouse liver); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (AKT1) Polyclonal Antibody, Unconjugated (bs-0115M) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0024) instructionsand DAB staining.



Tissue/cell: Hela cell; 4% Paraformaldehyde-fixed; Triton X-100 at room temperature for 20 min; Blocking buffer (normal goat serum, C-0005) at 37°C for 20 min; Antibody incubation with (MAKT1) polyclonal Antibody, Unconjugated (bs-0115M) 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, C02-04002) was used to stain the cell nuclei.



Tissue/cell:MCF7 cell; 4% Paraformaldehyde-fixed; Triton X-100 at room temperature for 20 min; Blocking buffer (normal goat serum, C-0005) at 37°C for 20 min; Antibody incubation with (AKT1) polyclonal Antibody, Unconjugated (bs-0115M) 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, C02-04002) was used to stain the cell nuclei.

SELECTED CITATIONS

- **[IF=11.508]** Qinyu Ma. et al. Osteoclast-derived apoptotic bodies couple bone resorption and formation in bone remodeling. Bone Res. 2021 Jan;9(1):1-12 WB ;Mouse. 33431863
- **[IF=8.4]** Hu Bowen. et al. Local GHR roles in regulation of mitochondrial function through mitochondrial biogenesis during myoblast differentiation. CELL COMMUN SIGNAL. 2023 Dec;21(1):1-18 WB ;Chicken. 37337300
- **[IF=6.7]** Jian Shi. et al. Mechanistic elucidation of QiJu-DiHuang Wan in management of age-related dry eye through metabolomics and network pharmacology. PHYTOMEDICINE. 2024 Sep;132:155884 WB ;Rat. 39053245
- **[IF=6.8]** Bingjie Ge. et al. Integrated network toxicology, molecular docking, and in vivo experiments to elucidate molecular mechanism of aflatoxin B1 hepatotoxicity. ECOTOX ENVIRON SAFE. 2024 Apr;275:116278 WB ;Mouse. 38564860
- **[IF=5.81]** Yuqiao Yang. et al. Oxytocin Protects Against Isoproterenol-Induced Cardiac Hypertrophy by Inhibiting PI3K/AKT Pathway via a lncRNA GAS5/miR-375-3p/KLF4-Dependent Mechanism. Front Pharmacol. 2021; 12: 766024 WB ;Rat. 34925023