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## phospho-AKT (Ser473) Rabbit pAb

Catalog Number: bs-0876R

Target Protein: phospho-AKT (Ser473)

Concentration: 1mg/ml

Form: Liquid

Host: Rabbit

Clonality: Polyclonal

Isotype: IgG

Applications: WB (1:500-2000), IHC-P (1:100-500), IHC-F (1:100-500), IF (1:100-500), Flow-Cyt (2ug/Test)

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

Predicted MW: 56 kDa

Entrez Gene: 207

Swiss Prot: P31749

Source: KLH conjugated Synthesised phosphopeptide derived from human AKT around the phosphorylation site of Ser473: QF(p-S)YS.

Purification: affinity purified by Protein A

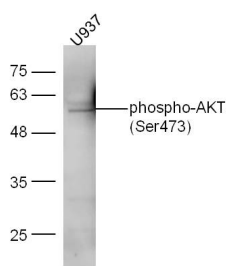
Storage: 0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.

Shipped at 4°C. Store at -20°C for one year. Avoid repeated freeze/thaw cycles.

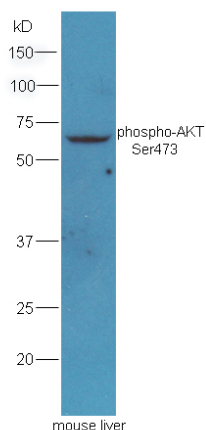
**Background:** This gene encodes one of the three members of the human AKT serine-threonine protein kinase family which are often referred to as protein kinase B alpha, beta, and gamma. These highly similar AKT proteins all have an N-terminal pleckstrin homology domain, a serine/threonine-specific kinase 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 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]

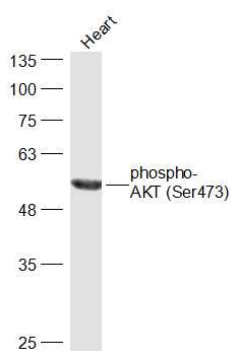
## VALIDATION IMAGES



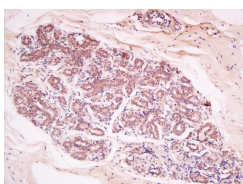
Sample: U937 Cell (Human) Lysate at 30 ug Primary: Anti-phospho-AKT (Ser473) (bs-0876R) at 1/300 dilution  
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution Predicted band size: 56 kD Observed band size: 56 kD



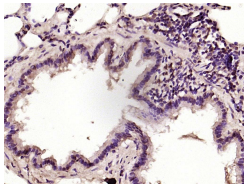
Sample: Liver (Mouse) Lysate at 30 ug Primary: Anti-phospho-AKT (Ser473) (bs-0876R) at 1:300 dilution;  
Secondary: HRP conjugated Goat Anti-Rabbit IgG (bs-0295G-HRP) at 1: 5000 dilution; Predicted band size : 56kD Observed band size : 56kD



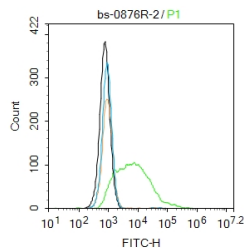
Sample: Heart (Mouse) Lysate at 40 ug Primary: Anti-phospho-AKT (Ser473) (bs-0876R) at 1/300 dilution  
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution Predicted band size: 56 kD Observed band size: 56 kD



Tissue/cell: Human breast; 4% Paraformaldehyde-fixed and paraffin-embedded; Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum, C-0005) at 37°C for 20 min; Incubation: Anti-phospho-AKT/PKB (Ser473) Polyclonal Antibody, Unconjugated (bs-0876R) 1:600, overnight at 4°C, followed by conjugation to the secondary antibody (SP-0023) and DAB (C-0010) staining



Paraformaldehyde-fixed, paraffin embedded (rat lung); 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 (phospho-AKT (Ser473)) Polyclonal Antibody, Unconjugated (bs-0876R) at 1:2000 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.



Blank control:A549. Primary Antibody (green line): Rabbit Anti-phospho-AKT (Ser473) antibody (bs-0876R) Dilution: 2µg /10<sup>6</sup> cells; Isotype Control Antibody (orange line): Rabbit IgG . Secondary Antibody : Goat anti-rabbit IgG-FITC Dilution: 1µg /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. Acquisition of 20,000 events was performed.

## PRODUCT SPECIFIC PUBLICATIONS

[IF=7.561] Sun J. et al. Plasma Exosomes Transfer miR-885-3p Targeting the AKT/NFκB Signaling Pathway to Improve the Sensitivity of Intravenous Glucocorticoid Therapy Against Graves Ophthalmopathy.. Front Immunol. 2022 Feb;13:819680-819680 WB ; Mouse . 35265076

[IF=8.469] Que, Tianshi. et al. HMGA1 stimulates MYH9-dependent ubiquitination of GSK-3β via PI3K/Akt/c-Jun signaling to promote malignant progression and chemoresistance in gliomas. Cell Death Dis. 2021 Dec;12(12):1-12 WB ; Human . 34887392

[IF=8.2] Xiaobin Wen. et al. The PI3K/Akt-Nrf2 Signaling Pathway and Mitophagy Synergistically Mediate Hydroxytyrosol to Alleviate Intestinal Oxidative Damage. INT J BIOL SCI. 2024; 20(11): 4258–4276 WB ; Pig . 39247828

[IF=6.551] Wei J et al. Endosulfan induces cardiotoxicity through apoptosis via unbalance of pro-survival and mitochondrial-mediated apoptotic pathways. Sci Total Environ . 2020 Jul 20;727:138790. WB ; human . 32344260

[IF=6.74] Li et al. The dual PI3K/mTOR inhibitor NVP-BEZ235 inhibits proliferation and induces apoptosis of burkitt lymphoma cells. (2015) Cancer.Cell.Int. 15:65 WB ; Human . 26130968