

bs-0115R**[Primary Antibody]****BioSS**
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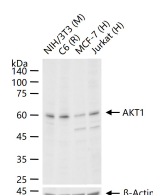
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400-901-9800

AKT1 Rabbit pAb**— DATASHEET —****Host:** Rabbit**Isotype:** IgG**Clonality:** Polyclonal**GeneID:** 207**SWISS:** P31749**Target:** AKT1**Immunogen:** KLH conjugated synthetic peptide derived from human PKB: 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 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]

Applications: WB (1:500-2000)**Reactivity:** Human, Mouse, Rat
(predicted: Rabbit, Pig, Sheep, Cow, Chicken, Dog)**Predicted MW.:** 56 kDa**Subcellular Location:** Cell membrane, Cytoplasm, Nucleus**— VALIDATION IMAGES —**

25 ug total protein per lane of various lysates

Important Note: This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

(see on figure) probed with AKT1 polyclonal antibody, unconjugated (bs-0115R) at 1:1000 dilution and 4°C overnight incubation. Followed by conjugated secondary antibody incubation at r.t. for 60 min.

— SELECTED CITATIONS —

- **[IF=17.521]** Han Liu. et al. Geometric Constraints Regulate Energy Metabolism and Cellular Contractility in Vascular Smooth Muscle Cells by Coordinating Mitochondrial DNA Methylation. *Advanced Science*. 2022 Sep;;2203995 IF ;Human. 36106364
- **[IF=9.995]** Yuqiu Xu. et al. Tumor-infiltrated activated B cells suppress liver metastasis of colorectal cancers. *CELL REP*. 2022 Aug;40:111295 FCM ;Mouse. 36044847
- **[IF=8.7]** Xue Sun. et al. An injectable shape-adaptive hydrogel system for subconjunctival injuries: In situ and permanently releases rapamycin to prevent fibrosis via promoting autophagy. *MATER TODAY BIO*. 2025 Feb;30:101380 IF, WB ;Human. 39790484
- **[IF=8.7]** Yu Han. et al. High-precision bioactive scaffold with dECM and extracellular vesicles targeting 4E-BP inhibition for cartilage injury repair. *MATER TODAY BIO*. 2024 Aug;27:101114 WB ;Rat. 10.1016/j.mtbio.2024.101114
- **[IF=7.675]** Zhiqi Lei. et al. Non-Esterified Fatty Acid-Induced Apoptosis in Bovine Granulosa Cells via ROS-Activated PI3K/AKT/FoxO1 Pathway. *ANTIOXIDANTS-BASEL*. 2023 Feb;12(2):434 WB ;Bovine. 36829992