

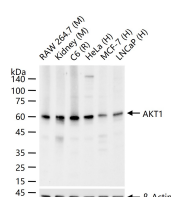
bsm-63324R**[Primary Antibody]****Bioss**
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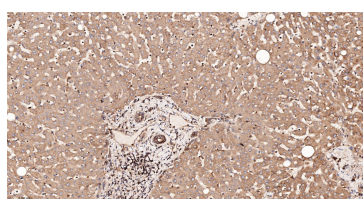
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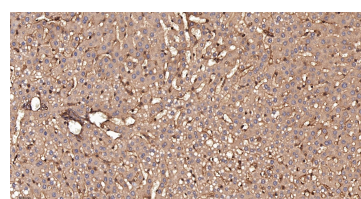
400-901-9800

AKT1 Recombinant Rabbit mAb**— DATASHEET —****Host:** Rabbit**Isotype:** IgG**Clonality:** Recombinant**CloneNo.:** 4C4**GeneID:** 207**SWISS:** P31749**Target:** AKT1**Immunogen:** A synthesized peptide derived from human AKT1: 260-480.**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 (1:1000-5000)**IHC-P** (1:100-500)**IHC-F** (1:100-500)**IF** (1:100-500)**Flow-Cyt** (1:50-100)**Reactivity:** Human, Mouse, Rat**Predicted MW.:** 56 kDa**Observed MW.:** 60 kDa**Subcellular Location:** Cell membrane, Cytoplasm, Nucleus**— VALIDATION IMAGES —**

25 ug total protein per lane of various lysates (see on figure) probed with AKT1 monoclonal



Paraformaldehyde-fixed, paraffin embedded Human Liver; Antigen retrieval by boiling in



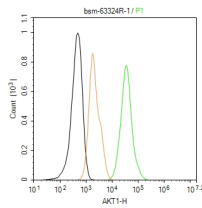
Paraformaldehyde-fixed, paraffin embedded Rat Liver; Antigen retrieval by boiling in sodium

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antibody, unconjugated (bsm-63324R) at 1:1000 dilution and 4°C overnight incubation. Followed by conjugated secondary antibody incubation at r.t. for 60 min.

sodium citrate buffer (pH6.0) for 15 min; The section was incubated with AKT1 Monoclonal Antibody, Unconjugated (bsm-63324R) at 1:200 overnight at 4°C, followed by conjugation to the bs-0295G-HRP and DAB (C-0010) staining.

citrate buffer (pH6.0) for 15 min; The section was incubated with AKT1 Monoclonal Antibody, Unconjugated (bsm-63324R) at 1:200 overnight at 4°C, followed by conjugation to the bs-0295G-HRP and DAB (C-0010) staining.



The HeLa (H) cells were fixed with 4% PFA (10 min at r.t.) and then permeabilized with 90% ice-cold methanol for 20 min at -20°C, the cells then were incubated in 5%BSA to block non-specific protein-protein interactions (30 min at r.t.). Primary Antibody (green): Rabbit Anti-AKT antibody (bsm-63324R, 1:100); Isotype Control (orange): Rabbit IgG (bs-0295P). Blank control (black): PBS. Acquisition of 20,000 events was performed.

— SELECTED CITATIONS —

- **[IF=26.8]** Ruijie Cao. et al. 4D Printed Hydrogel Expanders for Personalized and Accelerated Soft Tissue Regeneration. ADV MATER. 2025 Nov;;e12662 WB ;Rat. 41236852
- **[IF=7.2]** Li Zhen. et al. Hypoglycemic effects of Goji tea in streptozotocin-induced diabetic mice via IRS1/PI3K/AKT/AMPK pathway. Journal of Future Foods. 2025 Jun;; WB ;Mouse. 10.1016/j.jfutfo.2025.01.005
- **[IF=5.2]** Shiyin Li. et al. Integrated Analysis of DNA Methylome and Transcriptome Reveals Regulatory Mechanism in the Longissimus Dorsi of Duroc Pigs. CELLS-BASEL. 2025 Jan;14(11):786 WB ;MOUSE. 40497962
- **[IF=4.8]** Ze-Hua Tong. et al. Agrimonia Pilosa Extract suppresses NSCLC growth through regulating PI3K/AKT/Bcl-2 pathway. J ETHNOPHARMACOL. 2025 Apr;;119892 WB ;Mouse. 40311718
- **[IF=4.6]** Guojian Xiang. et al. Inhibition of the Sp1/PI3K/AKT signaling pathway exacerbates doxorubicin-induced cardiomyopathy. BBA-MOL CELL RES. 2025 Jun;1872:119960 WB ;Rat. 40246177