

**bs-10134R****[ Primary Antibody ]****phospho-AKT1 (Ser473 + Tyr474) Rabbit pAb****BioSS**  
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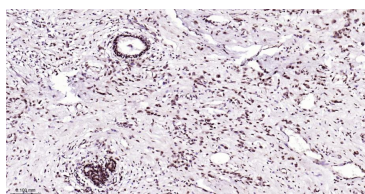
techsupport@bioss.com.cn

400-901-9800

**— DATASHEET —****Host:** Rabbit**Isotype:** IgG**Clonality:** Polyclonal**GeneID:** 207**SWISS:** P31749**Target:** AKT1 (Ser473 + Tyr474)**Immunogen:** KLH conjugated synthesised phosphopeptide derived from human AKT1 around the phosphorylation site of Ser473/Tyr474: QF(p-S)(p-Y)SA.**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:** IHC-P (1:100-500)**IHC-F** (1:100-500)**IF** (1:100-500)**Reactivity:** Human, Mouse, Rat**Predicted**  
**MW.:** 56 kDa**Subcellular** Cell membrane ,Cytoplasm  
**Location:** ,Nucleus**— VALIDATION IMAGES —**

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

Paraformaldehyde-fixed, paraffin embedded Human Breast Cancer; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; Antibody incubation with phospho-AKT1 (Ser473 + Tyr474) Polyclonal Antibody, Unconjugated (bs-10134R) at 1:200 overnight at 4°C, followed by conjugation to the bs-0295G-HRP and DAB (C-0010) staining.

Paraformaldehyde-fixed, paraffin embedded Human Colon Cancer; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; Antibody incubation with phospho-AKT1 (Ser473 + Tyr474) Polyclonal Antibody, Unconjugated (bs-10134R) at 1:200 overnight at 4°C, followed by conjugation to the bs-0295G-HRP and DAB (C-0010) staining.

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## — SELECTED CITATIONS —

- **[IF=2.895]** Wang K et al. Neat1-miRNA204-5p-PI3K-AKT axis as a potential mechanism for Photodynamic Therapy treated Colitis in Mice. (2018) Photodiagnosis Photodyn Ther. Oct 29. WB ;Mouse. 30385297