

Rabbit anti-Human AKT1 Monoclonal Antibody | anti-AKT1 antibody

[KO Validated] AKT1 Rabbit mAb

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA282990	Rabbit	Human	ELISA, Immunocytochemistry, Immunofluorescence, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

AKT1; Monoclonal Antibody; [KO Validated] AKT1 Rabbit mAb; AKT; PKB; RAC; PRKBA; PKB-ALPHA; RAC-ALPHA; T1; anti-AKT1 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human
Clonality	Monoclonal
Isotype	IgG
Purity/Purification	Affinity purification
Form/Format	PBS with 0.05% proclin300, 0.05% BSA, 50% glycerol, pH7.3.
Sequence	LSGLLKDPK QRLGGGSEDA KEIMQHRFFA GIVWQHVEK KLSPPFKPQV TSETDTRYFD EEFTAQMITI TPPDQDDSME CVDSERRPHF PQFSYSASGT A
Applicable Applications for anti-AKT1 antibody	ELISA, ICC (Immunocytochemistry), IF (Immunofluorescence), IHC (Immunohistochemistry), WB (Western Blot)
Cross Reactivity	Human, Mouse, Rat
Immunogen	A synthetic peptide corresponding to a sequence within amino acids 380-480 of human AKT1 (NP_005154.2).
Preparation and Storage	Store at -20 degree C. Avoid freeze/thaw cycles.

IMAGES



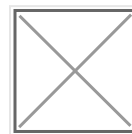
ICC (Immunocytochemistry)

Confocal imaging of MCF7 cells using [KO Validated] AKT1 Rabbit mAb (AAA282990, dilution 1:200) followed by a further incubation with Cy3 Goat Anti-Rabbit IgG (H+L) (AS007, dilution 1:500) (Red). The cells were counterstained with α -Tubulin Mouse mAb (AC012, dilution 1:400) followed by incubation with ABflo® 488-conjugated Goat Anti-Mouse IgG (H+L) Ab (AS076, dilution 1:500) (Green). DAPI was used for nuclear staining (Blue). Objective: 100x.



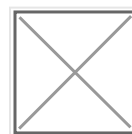
IHC (Immunohistochemistry)

Immunohistochemistry analysis of paraffin-embedded Human breast cancer using [KO Validated] AKT1 Rabbit mAb (AAA282990) at dilution of 1:100 (40x lens). High pressure antigen retrieval performed with 0.01M Citrate Buffer (pH 6.0) prior to IHC staining.



IHC (Immunohistochemistry)

Immunohistochemistry analysis of paraffin-embedded Rat ovary using [KO Validated] AKT1 Rabbit mAb (AAA282990) at dilution of 1:100 (40x lens). High pressure antigen retrieval performed with 0.01M Citrate Buffer (pH 6.0) prior to IHC staining.



WB (Western Blot)

Western blot analysis of lysates from wild type (WT) and AKT1 knockout (KO) HeLa cells, using [KO Validated] AKT1 Rabbit mAb (AAA282990) at 1:1000 dilution. Secondary antibody: HRP-conjugated Goat anti-Rabbit IgG (H+L) (AS014) at 1:10000 dilution. Lysates/proteins: 25ug per lane. Blocking buffer: 3% nonfat dry milk in TBST. Detection: ECL Basic Kit (RM00020). Exposure time: 30s.



WB (Western Blot)

Western blot analysis of various lysates using [KO Validated] AKT1 Rabbit mAb (AAA282990)
at1:1000 dilution.Secondary antibody: HRP-conjugated Goat anti-Rabbit IgG (H+L) (AS014)
at1:10000 dilution.Lysates/proteins: 25ug per lane.Blocking buffer: 3% nonfat dry milk in
TBST.Detection: ECL Basic Kit (RM00020).Exposure time: 30s.

ADDITIONAL INFORMATION

Related Product Information for anti-AKT1 antibody	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.
Product Categories/Family for anti-AKT1 antibody	Epigenetics Nuclear Signaling ; Translation Control ; Regulation of eIF4 and p70 S6 Kinase ; Protein phosphorylation ; Cancer ; Signal Transduction ; G protein signaling ; Kinase ; Serine threonine kinases ; PI3K-Akt Signaling Pathway ; mTOR Signaling Pathway ; ErbB

NCBI AND UNIPROT INFORMATION

NCBI GI #	62241013
NCBI GeneID	207
NCBI Accession #	NP_001014431.1
NCBI GenBank Nucleotide #	NM_001014431.1
UniProt Accession #	P31749 ; Q9BWB6 ; B2RAM5
Molecular Weight	Calculated MW: 56kDa Observed MW: 60kDa
UniProt Protein Name	RAC-alpha serine/threonine-protein kinase
UniProt Gene Name	AKT1
UniProt Synonym Gene Names	PKB; RAC; PKB; PKB alpha
UniProt Entry Name	AKT1_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.