Anti-AKT1/2/3 Rabbit mAb

Purified Recombinant Rabbit Monoclonal Antibody

Catalog # R013732

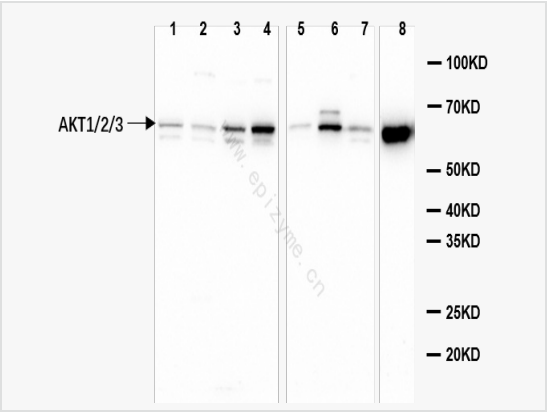
Product Information

Application	WB, IHC-P/IF (Tissue-P), ELISA
Reactivity	Human, Mouse
Dilution	WB 1:1,000~1:2,000; IHC-P 1:200; IF 1:100~1:200
Host	Rabbit
Clonality	Monoclonal
Clone No.	14G32D21
Isotype	IgG
Label	Unconjugated
Immunogen	A synthesized peptide derived from human AKT1/2/3
Format	Affinity purified monoclonal antibody supplied in PBS with 0.01% sodium azide and 50% glycerol, pH 7.3.
Storage	Shipped on wet ice. Store at -20°C. Stable for 24 months from date of receipt. Aliquoting is unnecessary for -20°C storage.
Precautions	Anti-AKT1/2/3 Rabbit mAb [14G32D21] is for research use only and not for use in diagnostic or therapeutic procedures.

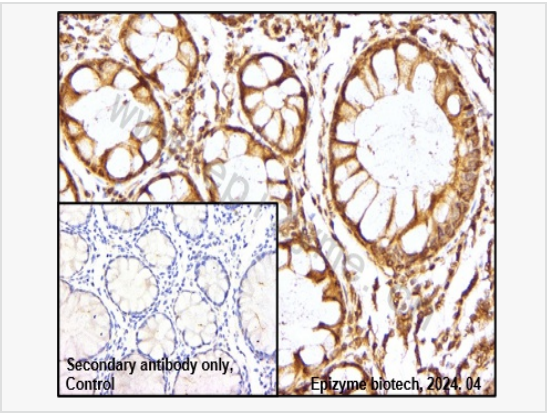
Protein Information

Synonyms	RAC-alpha serine/threonine-protein kinase, Protein kinase B, PKB, Protein kinase B alpha, PKB alpha, Proto-oncogene c-Akt, RAC-PK-alpha, AKT1, PKB, RAC.
Calculated MW	Calculated MW: 56 kDa; Observed MW: 56 kDa
Uniprot ID	P31749
Gene ID	207
Background	AKT1 is one of 3 closely related serine/threonine- protein kinases (AKT1, AKT2 and AKT3) called the AKT kinase, and which regulate many processes including metabolism, proliferation, cell survival, growth and angiogenesis. This is mediated through serine and/or threonine phosphorylation of a range of downstream substrates. Over 100 substrate candidates have been reported so far, but for most of them, no isoform specificity has been reported. AKT is responsible of the regulation of glucose uptake by mediating insulin-induced translocation of the SLC2A4/GLUT4 glucose transporter to the cell surface. Phosphorylation of PTPN1 at 'Ser-50' negatively modulates its phosphatase activity preventing dephosphorylation of the insulin receptor and the attenuation of insulin signaling. Phosphorylation of TBC1D4 triggers the binding of this effector to inhibitory 14-3-3 proteins, which is required for insulin-stimulated glucose transport. AKT regulates also the storage of glucose in the form of glycogen by phosphorylating GSK3A at 'Ser-21' and GSK3B at 'Ser-9', resulting in inhibition of its kinase activity. Phosphorylation of GSK3 isoforms by AKT is also thought to be one mechanism by which cell proliferation is driven. AKT regulates also cell survival via the phosphorylation of MAP3K5 (apoptosis signal-related kinase). Phosphorylation of 'Ser-83' decreases MAP3K5 kinase activity stimulated by oxidative stress and thereby prevents apoptosis. AKT mediates insulin-stimulated protein synthesis by phosphorylating TSC2 at 'Ser-939' and 'Thr-1462', thereby activating mTORC1 signaling and leading to both phosphorylation of

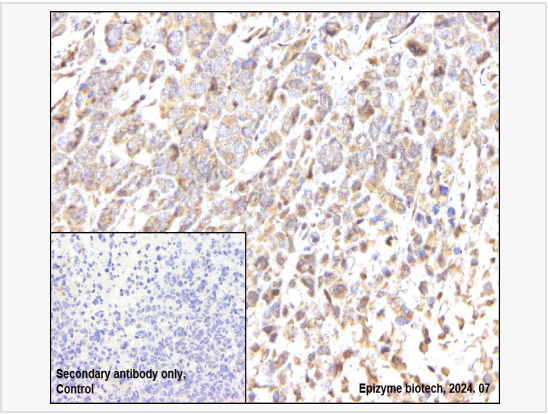
Validation Images



Western Blot - Anti-AKT1/2/3 Rabbit mAb [14G32D21]
All lanes: R013732 at 1:1,000 dilution
Lane 1: MCF7 (human breast adenocarcinoma epithelial cell) whole cell lysates
Lane 2: A549 (human non-small cell lung cancer epithelial cell) whole cell lysates
Lane 3: HCT116 (human colorectal carcinoma epithelial cell) whole cell lysates
Lane 4: T24 (human bladder cancer epithelial cell) whole cell lysates
Lane 5: SCC-9 (human tongue squamous carcinoma epithelial cell) whole cell lysates
Lane 6: C2C12 (mouse myoblasts epithelial cell) whole cell lysates
Lane 7: U2OS (human osteosarcoma epithelial cell) whole cell lysates
Lane 8: Balb/c mouse brain whole tissue lysates
Lysates/proteins at 10 µg per lane.
Secondary antibody: Goat Anti-Rabbit IgG(H+L), HRP Conjugated (Cat. No. LF102) at 1:5,000 dilution
Predicted band size: 56 kDa
Observed band size: 56 kDa
Developed using the ECL technique (Cat. No. SQ201).



Immunohistochemistry - Anti-AKT1/2/3 Rabbit mAb [14G32D21]
Sample: Paraformaldehyde-fixed, paraffin embedded human colorectal carcinoma tissue
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 30 mins.
Primary antibody: R013732 at 1:200 dilution
Secondary antibody: Goat Anti-Rabbit IgG (H+L), HRP conjugated at 1:1,000 dilution
DAB was used as the chromogen.
Counter stained with hematoxylin.
Positive/negative staining were presented.
Only the secondary antibody was used as the negative control.



Immunohistochemistry - Anti-AKT1/2/3 Rabbit mAb [14G32D21]
Sample: Paraformaldehyde-fixed, paraffin embedded mouse subcutaneous tumor tissue
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 30 mins.
Primary antibody: R013732 at 1:200 dilution
Secondary antibody: Goat Anti-Rabbit IgG (H+L), HRP conjugated at 1:1,000 dilution
DAB was used as the chromogen.
Counter stained with hematoxylin.
Positive/negative staining were presented.
Only the secondary antibody was used as the negative control.