AKT (Phospho Ser473) (ANT0070R) Rabbit mAb

CatalogNo: ANT8304 Recombinant

Formulation: PBS,50%glycerol,0.05%Proclin 300,0.05%BSA
Quantity : 100 ug/vial

Host Species	Reactivity	Applications
• Rabbit • Human,Mouse,Rat,	• WB,IHC,IF,IP,ELISA	

MW	Isotype
• 55kD (Calculated) 60kD (Observed)	• IgG,Kappa

Recommended Dilution Ratios

IHC 1:200-1:500
WB 1:1000-1:5000
IF 1:200-1:1000
ELISA 1:5000-1:20000
IP 1:50-1:200

Storage

Storage*	-15°C to -25°C/1 year(Do not lower than -25°C)

Basic Information

Clonality	Monoclonal
Clone Number	ANT0070R

Immunogen Information Specificity

Endogenous

Target Information

Gene name AKT1/AKT2/AKT3

Protein Name RAC-alpha serine/threonine-protein kinase/RAC-beta serine/threonine-protein kinase/RACgamma serine/threonine-protein kinase

Organism	Gene ID	UniProt ID
Human	207; 208; 10000;	P31749; P31751; Q9Y243;
Mouse	11651; 11652; 23797;	
Rat	24185; 25233; 29414;	P47196; P47197; Q63484;

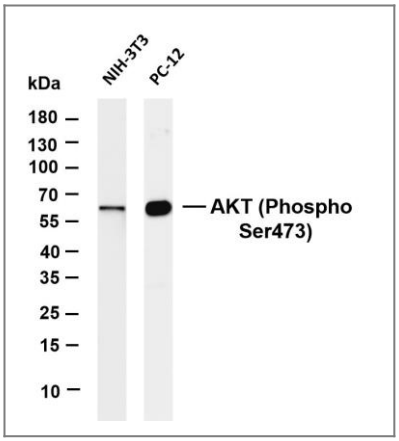
Cellular Localization Cytoplasm

Tissue specificity Expressed in prostate cancer and levels increase from the normal to the malignant state (at protein level). Expressed in all human cell types so far analyzed. The Tyr-176 phosphorylated form shows a significant increase in expression in breast cancers during the progressive stages i.e. normal to hyperplasia (ADH), ductal carcinoma in situ (DCIS), invasive ductal carcinoma (IDC) and lymph node metastatic (LNMM) stages.

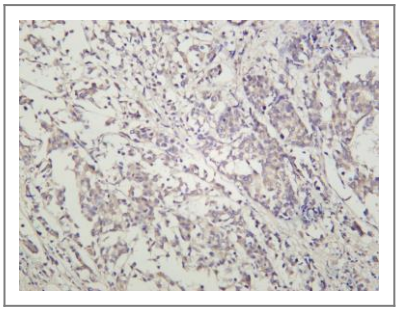
Function Catalytic activity:ATP + a protein = ADP + a phosphoprotein.,Disease:Defects in AKT1 are associated with breast cancer (BC) [MIM:114480]. BC is an extremely common malignancy, affecting one in eight women during their lifetime.,Disease:Defects in AKT1 are associated with colorectal cancer (CRC) [MIM:114500].,Disease:Defects in AKT1 are associated with susceptibility to ovarian cancer [MIM:604370]; also called susceptibility to familial breast-ovarian cancer type 1 (BROVCA1).,Domain:Binding of the PH domain to the phosphatidylinositol 3-kinase alpha (PI(3)K) results in its targeting to the plasma membrane.,Domain:The AGC-kinase C-terminal mediates interaction with THEM4.,enzyme regulation:Three specific sites, one in the kinase domain (Thr-308) and the two other ones in the C-terminal regulatory region (Ser-473 and Tyr-474), need to be phosphorylated for its full activation.,Function:General protein kinase capable of phosphorylating several known proteins. Phosphorylates TBC1D4. Signals downstream of phosphatidylinositol 3-kinase (PI(3)K) to mediate the effects of various growth factors such as platelet-derived growth factor (PDGF), epidermal growth factor (EGF), insulin and insulin-like growth factor I (IGF-I). Plays a role in glucose transport by mediating insulin-induced translocation of the GLUT4

glucose transporter to the cell surface. Mediates the antiapoptotic effects of IGF-I. Mediates insulin-stimulated protein synthesis, partly by playing a role in both insulin-induced phosphorylation of 4E-BP1 and in insulin-induced activation of p70 S6 kinase. Promotes glycogen synthesis by mediating the insulin-induced activation of glycogen synthase.,ANTM:Phosphorylation on Thr-308, Ser-473 and Tyr-474 is required for full activity. Ser-473 phosphorylation by the Rictor-mTor complex favors Thr-308 phosphorylation by PDPK1. Ser-473 phosphorylation is enhanced by interaction with AGAP2 isoform 2 (PIKE-A). Ser-473 phosphorylation is enhanced in focal cortical dysplasias with Taylor-type balloon cells.,similarity:Belongs to the protein kinase superfamily.,similarity:Belongs to the protein kinase superfamily. AGC Ser/Thr protein kinase family. RAC subfamily.,similarity:Contains 1 AGC-kinase C-terminal domain.,similarity:Contains 1 PH domain.,similarity:Contains 1 protein kinase domain.,subcellular location:Nucleus after activation by integrin-linked protein kinase 1 (ILK1). Nuclear translocation is enhanced by interaction with TCL1A.,subunit:Interacts with AGAP2 isoform 2 (PIKE-A) in the presence of guanine nucleotides. The C-terminus interacts with CCDC88A/GRDN and THEM4. Interacts with AKTIP. Interacts (via PH domain) with MTCP1, TCL1A AND TCL1B. Interacts with CDKN1B; the interaction phosphorylates CDKN1B promoting 14-3-3 binding and cell-cycle progression.,tissue specificity:In all human cell types so far analyzed.,

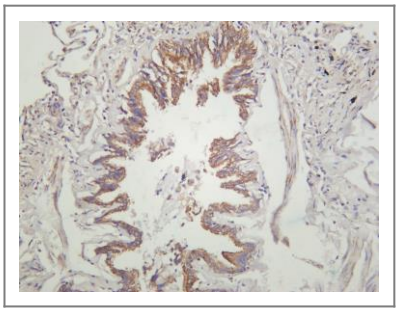
Validation Data



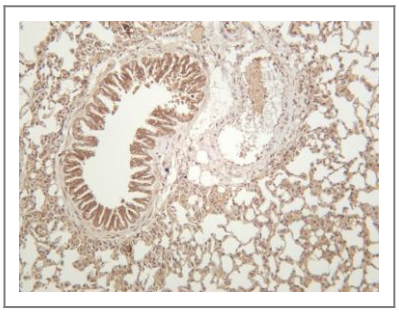
Various whole cell lysates were separated by 4-20% SDS-PAGE, and the membrane was blotted with anti-AKT (Phospho Ser473) antibody. The HRPconjugated Goat anti-Rabbit IgG(H + L) antibody was used to detect the antibody. Lane 1: NIH-3T3 Lane 2: PC-12
Predicted band size: 55kDa
Observed band size: 60kDa



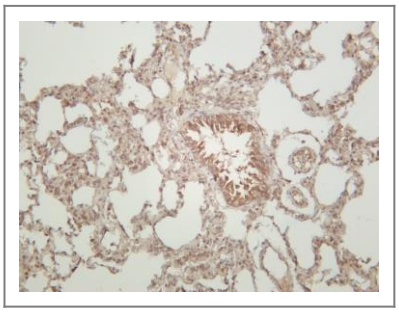
Human breast carcinoma was stained with anti-AKT (Phospho Ser473) (ANT0070R) rabbit antibody



Human lung was stained with anti-AKT (Phospho Ser473) (ANT0070R) rabbit antibody



Mouse lung was stained with anti-AKT (Phospho Ser473) (ANT0070R) rabbit antibody



Rat lung was stained with anti-AKT (Phospho Ser473) (ANT0070R) rabbit antibody