Best Tools for immunology Research

Akt (phospho Ser473) Polyclonal Antibody

Catalog No :	YP0006
Reactivity :	Human;Mouse;Rat;Chicken
Applications :	IF;WB;IHC;ELISA
Target :	AKT1/2/3
Fields :	>>EGFR tyrosine kinase inhibitor resistance;>>Endocrine resistance;>>Platinum drug resistance;>>MAPK signaling pathway;>>ErbB signaling pathway;>>Ras signaling pathway;>>Rap1 signaling pathway;>>cGMP-PKG signaling pathway;>>cAMP signaling pathway;>>Chemokine signaling pathway;>>HIF-1 signaling pathway;>>FoxO signaling pathway;>>Sphingolipid signaling pathway;>>Phospholipase D signaling pathway;>>Autophagy - animal;>>mTOR signaling pathway;>>PI3K-Akt signaling pathway;>>AMPK signaling pathway;>>Apoptosis;>>Longevity regulating pathway;>>Longevity regulating pathway - multiple species;>>Cellular senescence;>>Adrenergic signaling in cardiomyocytes;>>VEGF signaling pathway;>>Apelin signaling pathway;>>Osteoclast differentiation;>>Focal adhesion;>>Signaling pathways regulating pluripotency of stem cells;>>Platelet activation;>>Neutrophil extracellular trap formation;>>Toll-like receptor signaling pathway;>>C-type lectin receptor signaling pathway;>>JAK-STAT signaling pathway;>>T cell recept
Gene Name :	AKT1/AKT2/AKT3
Protein Name :	RAC-alpha serine/threonine-protein kinase/RAC-beta serine/threonine-protein kinase/RAC-gamma serine/threonine-protein kinase
Human Gene Id :	207/208/10000
Human Swiss Prot No :	P31749/P31751/Q9Y243
Mouse Gene Id :	11651/11652/23797
Rat Gene Id :	24185/25233/29414
Rat Swiss Prot No :	P47196/P47197/Q63484
Immunogen :	The antiserum was produced against synthesized peptide derived from human Akt around the phosphorylation site of Ser473. AA range:431-480

Specificity : Phospho-Akt (S473) Polyclonal Antibody detects endogenous levels of Akt protein only when phosphorylated at S473.

Formulation : Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.

Source : Polyclonal, Rabbit,IgG

Dilution : IF 1:50-200 WB 1:500 - 1:2000. IHC 1:100 - 1:300. ELISA: 1:40000. Not yet tested in other applications.

Purification : The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.

Concentration : 1 mg/ml

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

Observed Band : 56kD

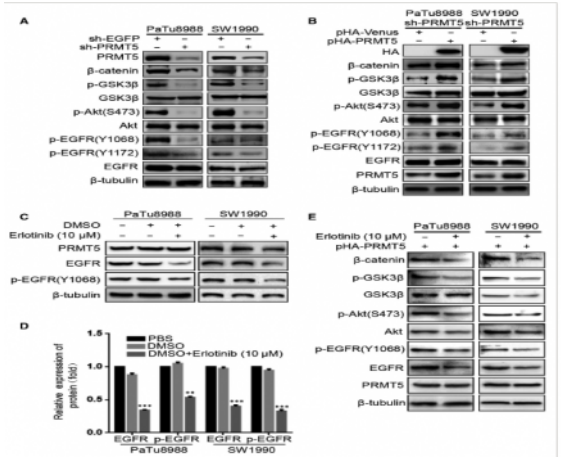
Cell Pathway : Regulation_Microtubule; T_Cell_Receptor; Regulates Angiogenesis; SAPK_JNK; Stem cell pathway; Insulin Receptor; Toll_Like; ErbB/HER; AMPK; MAPK_ERK_Growth;MAPK_G_Protein; B_Cell_Antigen; Adherens_Junc

Background : The serine-threonine protein kinase encoded by the AKT1 gene is catalytically inactive in serum-starved primary and immortalized fibroblasts. AKT1 and the related AKT2 are activated by platelet-derived growth factor. The activation is rapid and specific, and it is abrogated by mutations in the pleckstrin homology domain of AKT1. It was shown that the activation occurs through phosphatidylinositol 3-kinase. In the developing nervous system AKT is a critical mediator of growth factor-induced neuronal survival. Survival factors can suppress apoptosis in a transcription-independent manner by activating the serine/threonine kinase AKT1, which then phosphorylates and inactivates components of the apoptotic machinery. Mutations in this gene have been associated with the Proteus syndrome. Multiple alternatively spliced transcript variants have been found for this gene. [provided by RefSeq, Jul 2011]

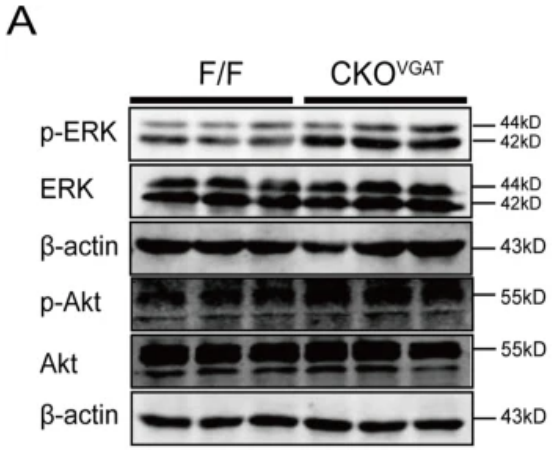
Function : catalytic activity:ATP + a protein = ADP + a phosphoprotein.,disease:Defects in AKT1 are associated with breast cancer (BC) [MIM:114480]. BC is an extremely common malignancy, affecting one in eight women during their lifetime.,disease:Defects in AKT1 are associated with colorectal cancer (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:Gene
Subcellular Location :	Cytoplasm . Nucleus . Cell membrane . Nucleus after activation by integrin-linked protein kinase 1 (ILK1). Nuclear translocation is enhanced by interaction with TCL1A. Phosphorylation on Tyr-176 by TNK2 results in its localization to the cell membrane where it is targeted for further phosphorylations on Thr-308 and Ser-473 leading to its activation and the activated form translocates to the nucleus. Colocalizes with WDFY2 in intracellular vesicles (PubMed:16792529). .
Expression :	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.
Tag :	orthogonal,hot
Sort :	1
No1 :	4060S
No2 :	4058L
No3 :	ab285034
No4 :	1
Host :	Rabbit
Modifications :	Phospho

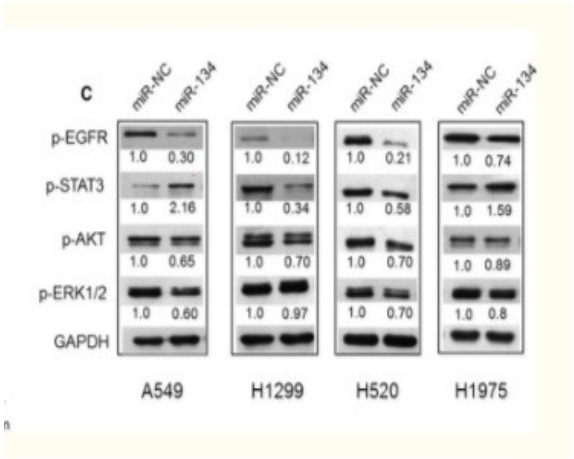
Products Images



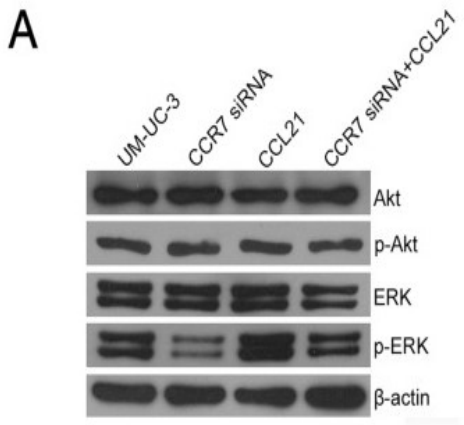
Ge, Lu, et al. "PRMT5 promotes epithelial-mesenchymal transition via EGFR-β-catenin axis in pancreatic cancer cells." Journal of cellular and molecular medicine 24.2 (2020): 1969-1979.



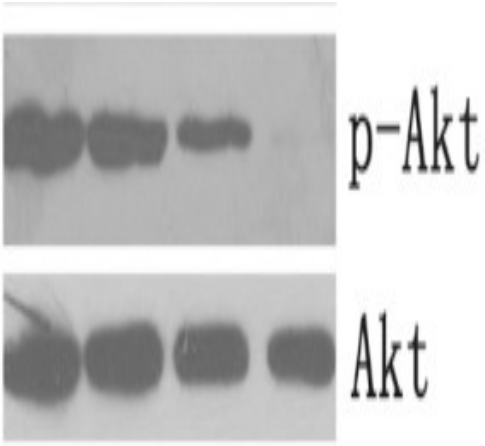
Guo, Moran, et al. "Deletion of FGF9 in GABAergic neurons causes epilepsy." Cell death & disease 12.2 (2021): 1-13.



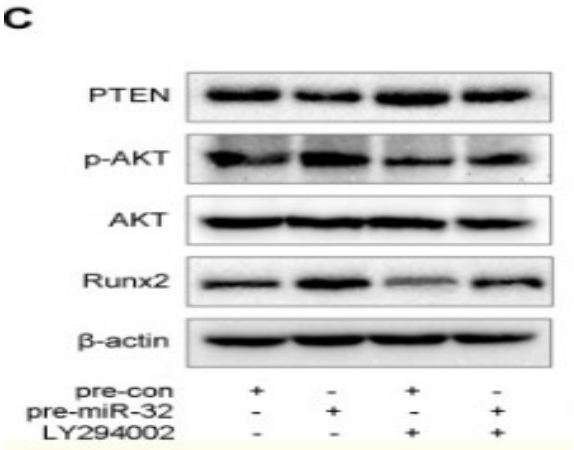
Qin, Qin, et al. "miR-134 inhibits non-small cell lung cancer growth by targeting the epidermal growth factor receptor." Journal of cellular and molecular medicine 20.10 (2016): 1974-1983.



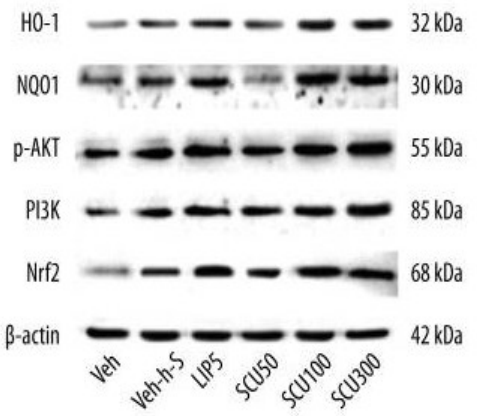
Xiong, Yang, et al. "CCL21/CCR7 interaction promotes cellular migration and invasion via modulation of the MEK/ERK1/2 signaling pathway and correlates with lymphatic metastatic spread and poor prognosis in urinary bladder cancer." International journal of oncology 51.1 (2017): 75-90.



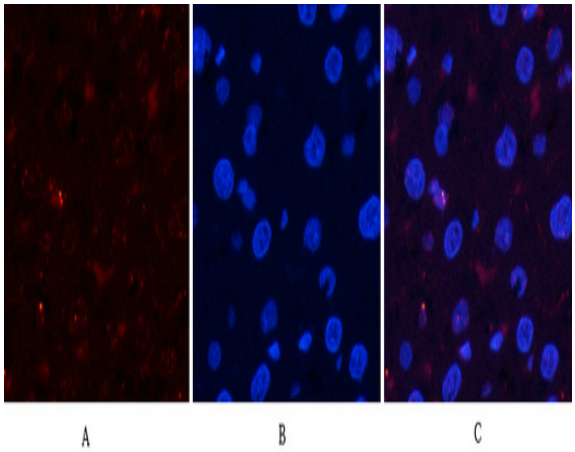
Wang, Xinzhao, et al. "Ad-p53 enhances the sensitivity of triple-negative breast cancer MDA-MB-468 cells to the EGFR inhibitor gefitinib." Oncology reports 33.2 (2015): 526-532.



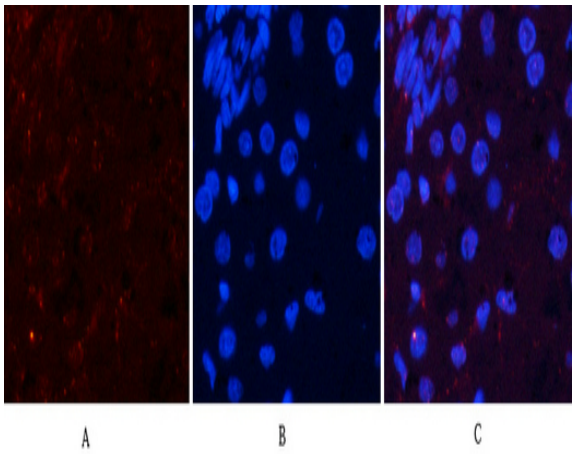
Liu, Jianghua, et al. "MicroRNA-32 promotes calcification in vascular smooth muscle cells: Implications as a novel marker for coronary artery calcification." PloS one 12.3 (2017): e0174138.



Fan, Hua, et al. "Scutellarin Prevents Nonalcoholic Fatty Liver Disease (NAFLD) and Hyperlipidemia via PI3K/AKT-Dependent Activation of Nuclear Factor (Erythroid-Derived 2)-Like 2 (Nrf2) in Rats." Medical science monitor: international medical journal of experimental and clinical research 23 (2017): 5599.



Immunofluorescence analysis of rat-liver tissue. 1,Akt (phospho Ser473) Polyclonal Antibody(red) was diluted at 1:200(4°C,overnight). 2, Cy3 labled Secondary antibody was diluted at 1:300(room temperature, 50min).3, Picture B: DAPI(blue) 10min. Picture A:Target. Picture B: DAPI. Picture C: merge of A+B



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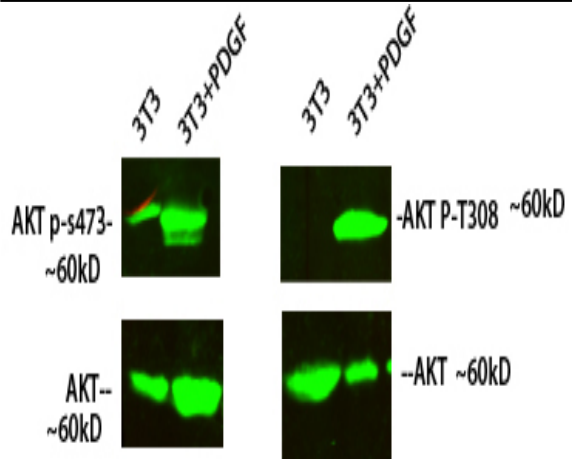
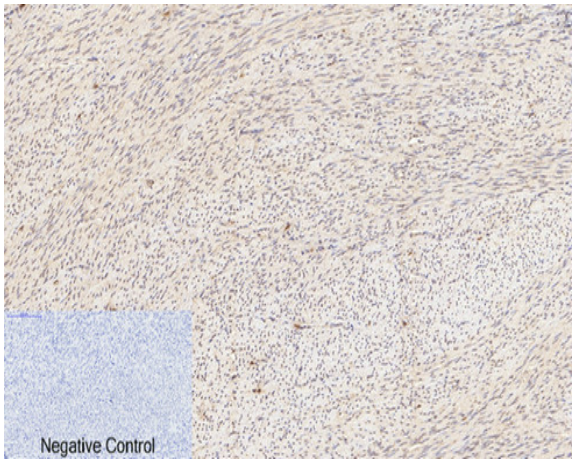
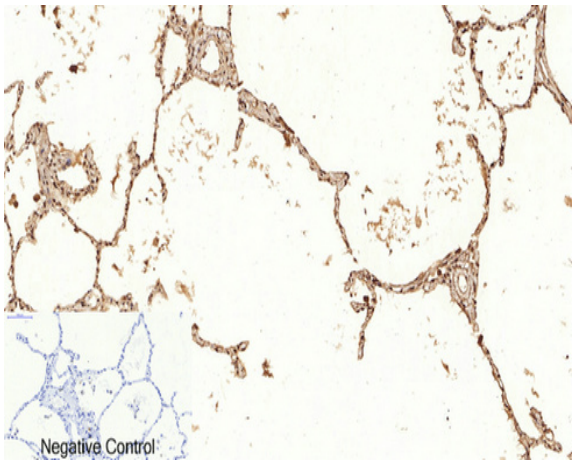


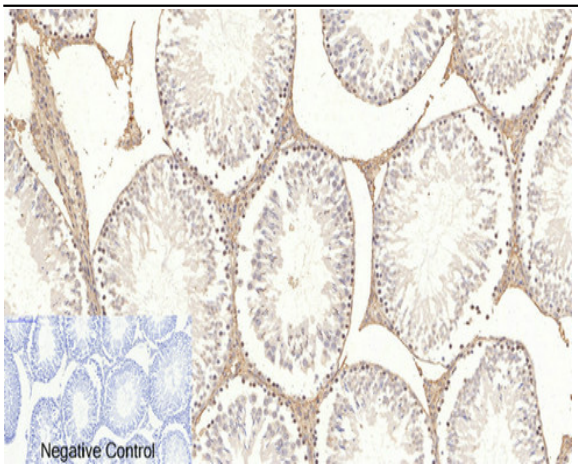
Western Blot analysis of 3T3 cells treated with PDGF using primary antibody diluted at 1:1000(4°C overnight). Secondary antibody:Goat Anti-rabbit IgG IRDye 800(diluted at 1:5000, 25°C, 1 hour)



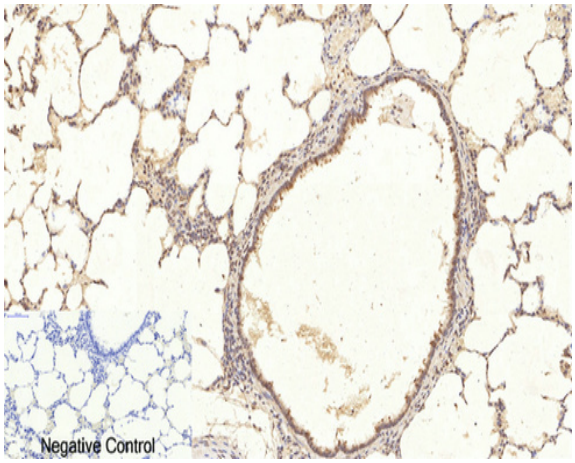
Immunohistochemical analysis of paraffin-embedded Human-uterus tissue. 1,Akt (phospho Ser473) Polyclonal Antibody was diluted at 1:200(4°C,overnight). 2, Sodium citrate pH 6.0 was used for antibody retrieval(>98°C,20min). 3,Secondary antibody was diluted at 1:200(room tempeRature, 30min). Negative control was used by secondary antibody only.



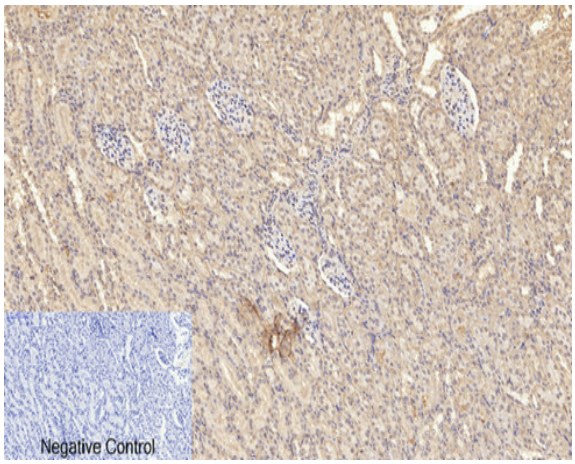
Immunohistochemical analysis of paraffin-embedded Human-lung tissue. 1,Akt (phospho Ser473) Polyclonal Antibody was diluted at 1:200(4°C,overnight). 2, Sodium citrate pH 6.0 was used for antibody retrieval(>98°C,20min). 3,Secondary antibody was diluted at 1:200(room tempeRature, 30min). Negative control was used by secondary antibody only.



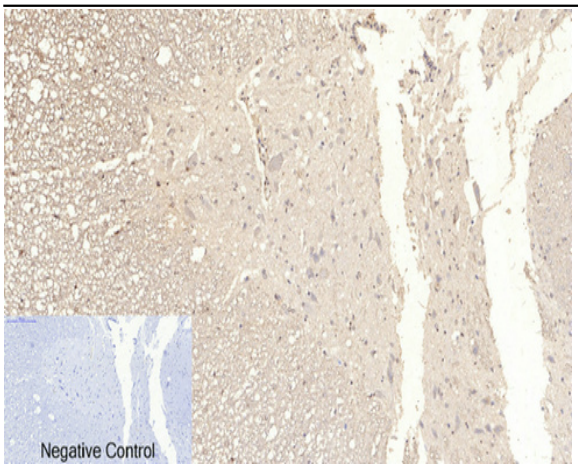
Immunohistochemical analysis of paraffin-embedded Rat-testis tissue. 1,Akt (phospho Ser473) Polyclonal Antibody was diluted at 1:200(4°C,overnight). 2, Sodium citrate pH 6.0 was used for antibody retrieval(>98°C,20min). 3,Secondary antibody was diluted at 1:200(room tempeRature, 30min). Negative control was used by secondary antibody only.



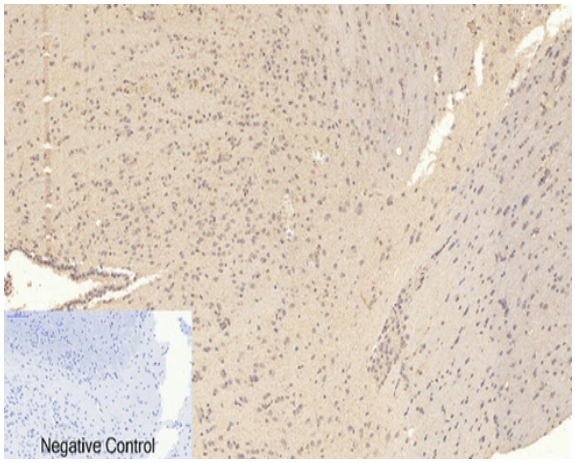
Immunohistochemical analysis of paraffin-embedded Rat-lung tissue. 1,Akt (phospho Ser473) Polyclonal Antibody was diluted at 1:200(4°C,overnight). 2, Sodium citrate pH 6.0 was used for antibody retrieval(>98°C,20min). 3,Secondary antibody was diluted at 1:200(room tempeRature, 30min). Negative control was used by secondary antibody only.



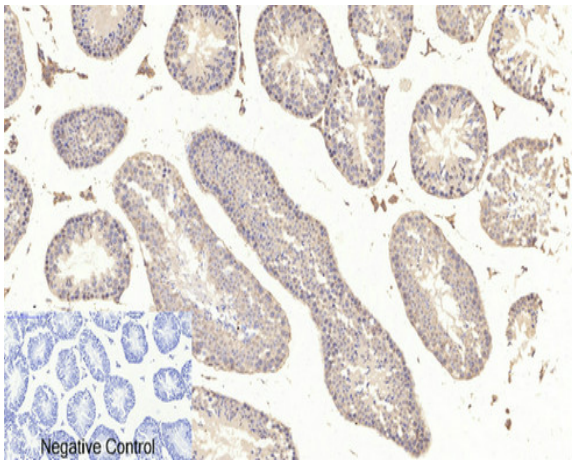
Immunohistochemical analysis of paraffin-embedded Rat-kidney tissue. 1,Akt (phospho Ser473) Polyclonal Antibody was diluted at 1:200(4°C,overnight). 2, Sodium citrate pH 6.0 was used for antibody retrieval(>98°C,20min). 3,Secondary antibody was diluted at 1:200(room tempeRature, 30min). Negative control was used by secondary antibody only.



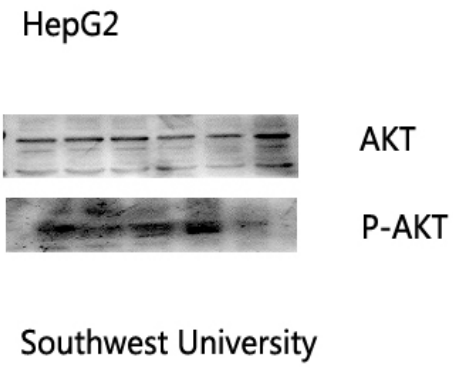
Immunohistochemical analysis of paraffin-embedded Rat-spinal-cord tissue. 1,Akt (phospho Ser473) Polyclonal Antibody was diluted at 1:200(4°C,overnight). 2, Sodium citrate pH 6.0 was used for antibody retrieval(>98°C,20min). 3,Secondary antibody was diluted at 1:200(room tempeRature, 30min). Negative control was used by secondary antibody only.



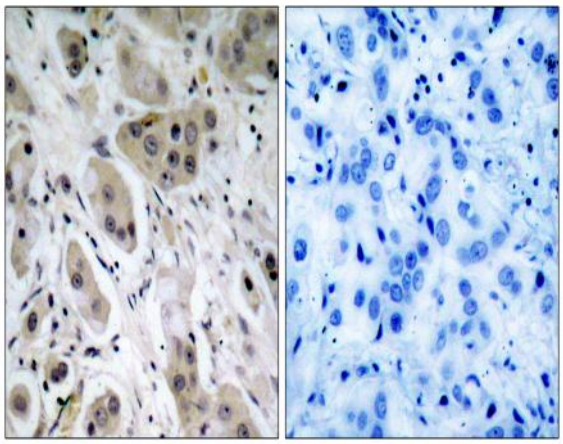
Immunohistochemical analysis of paraffin-embedded Rat-brain tissue. 1,Akt (phospho Ser473) Polyclonal Antibody was diluted at 1:200(4°C,overnight). 2, Sodium citrate pH 6.0 was used for antibody retrieval(>98°C,20min). 3,Secondary antibody was diluted at 1:200(room tempeRature, 30min). Negative control was used by secondary antibody only.



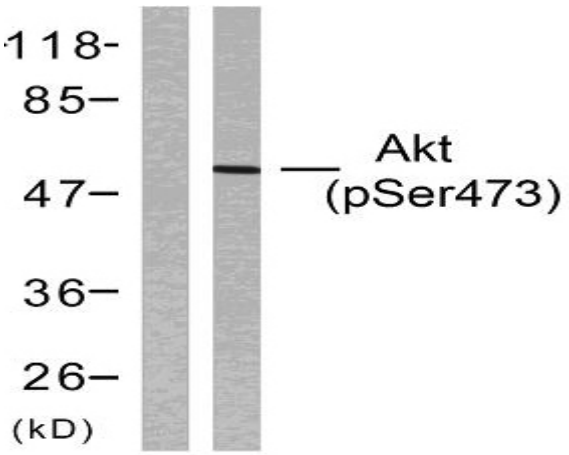
Immunohistochemical analysis of paraffin-embedded Mouse-testis tissue. 1,Akt (phospho Ser473) Polyclonal Antibody was diluted at 1:200(4°C,overnight). 2, Sodium citrate pH 6.0 was used for antibody retrieval(>98°C,20min). 3,Secondary antibody was diluted at 1:200(room tempeRature, 30min). Negative control was used by secondary antibody only.



The picture was kindly provided by our customer



Immunohistochemistry analysis of paraffin-embedded human breast carcinoma, using Akt (Phospho-Ser473) Antibody. The picture on the right is blocked with the phospho peptide.



Western blot analysis of lysates from HeLa cells treated with heat shock, using Akt (Phospho-Ser473) Antibody. The lane on the left is blocked with the phospho peptide.