Best Tools for immunology Research

Akt (PTR2314) Mouse mAb

Catalog No :	YM3618
Reactivity :	Human;Mouse;Rat;
Applications :	WB; IP
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 :	AKT1
Human Gene Id :	207
Human Swiss Prot No :	P31749
Mouse Swiss Prot No :	P31750
Immunogen :	Synthetic Peptide of human AKT at AA range of human 400-480 AA range: 370-477
Specificity :	AKT protein detects endogenous levels of AKT1
Formulation :	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.

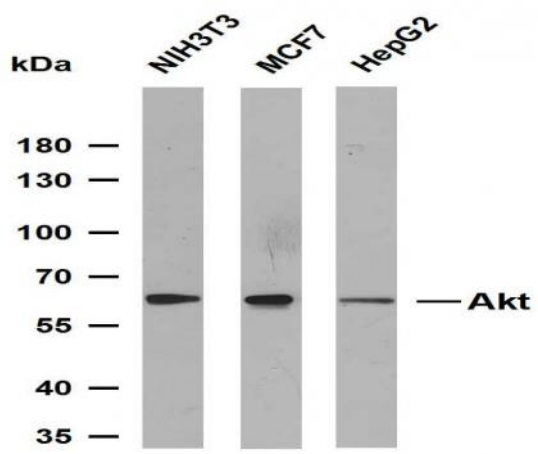
Source :	Mouse, Monoclonal/IgG3,kappa
Dilution :	WB 1:1000-2000, IP 1:200-500
Purification :	The antibody was affinity-purified from mouse ascites by affinity-chromatography using specific immunogen.
Concentration :	1 mg/ml
Storage Stability :	-15°C to -25°C/1 year(Do not lower than -25°C)
Observed Band :	56kD
Cell Pathway :	Akt_PKB;MAPK_ERK_Growth;MAPK_G_Protein;ErbB_HER;Chemokine;mTOR;Apoptosis_Inhibition;Apoptosis_Mitochondrial;Apoptosis_Overview;VEGF;Focal adhesion;Tight junction;Toll_Like;Jak_STAT;T_Cell_Receptor;B_C
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). .

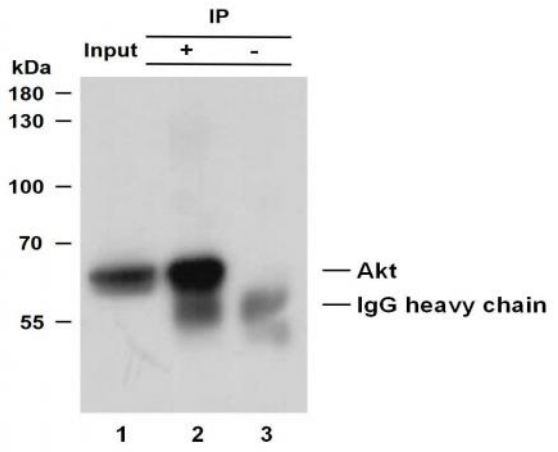
Expression :

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.

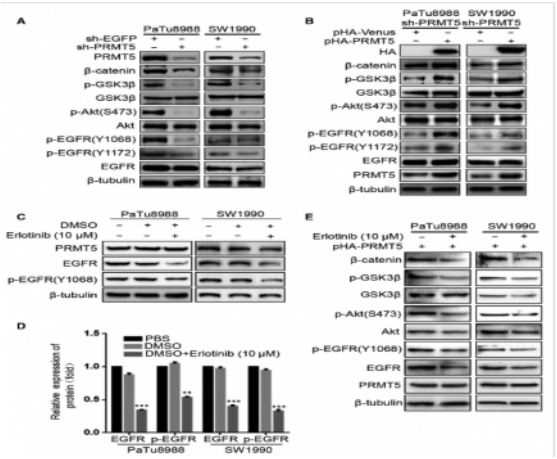
Products Images



Various whole cell lysates were separated by 8% SDS-PAGE, and the membrane was blotted with anti-Akt(PTR2314) antibody. The HRP-conjugated Goat anti-Mouse IgG(H + L) antibody was used to detect the antibody. Lane 1: NIH-3T3 Lane 2: MCF7 Lane 3: HepG2 Predicted band size: 56kDa Observed band size: 60kDa



Akt was immunoprecipitated from HEK293 whole cell lysate with anti-Akt antibody. Western blot was performed on the immunoprecipitate using anti-Akt antibody, and followed by the HRP-conjugated Goat anti-Mouse IgG(H + L) antibody. Lane 1: HEK293 whole cell lysate Lane 2: anti-Akt antibody IP in HEK293 whole cell lysate Lane 3: Mouse monoclonal IgG (MNH209) in HEK293 whole cell lysate.



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.