

Akt 1/2/3 (PT0013R) rabbit mAb

Catalog No :	YM8003
Reactivity :	Human;Mouse;(predicted: Rat)
Applications :	WB;IP;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 :	Synthesized peptide derived from human protein. AA range:370-477

Specificity :	endogenous
Formulation :	PBS, 50% glycerol, 0.05% Proclin 300, 0.05%BSA
Source :	Monoclonal Rabbit IgG1, Kappa
Dilution :	WB 1:500-2000 IP 1:50-200 ELISA: 1:20000
Purification :	Protein A
Storage Stability :	-15°C to -25°C/1 year(Do not lower than -25°C)
Molecularweight :	56kD
Observed Band :	60kD
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 :	<p>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]</p>
Function :	<p>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</p>

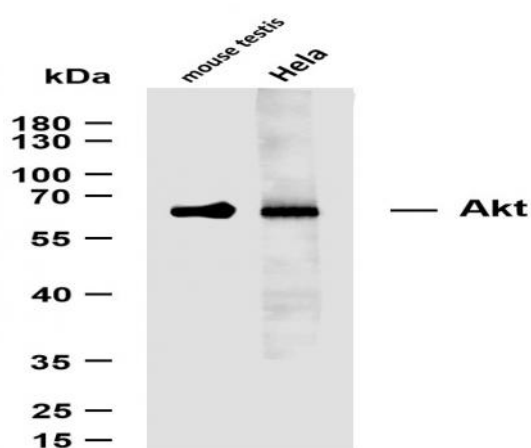
Subcellular Location :

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 10% SDS-PAGE, and the membrane was blotted with anti-AKT (PT0013R) antibody. The HRP-conjugated Goat anti-Rabbit IgG(H + L) antibody was used to detect the antibody. Lane 1:mouse testis Lane 2:HeLa Predicted band size: 60kDa Observed band size: 60kDa