

# Akt (pan) (Phospho Ser473) (PT0470R) PT™ Rabbit mAb

CatalogNo: YM8304 **Recombinant** 

## Key Features

### Host Species

- Rabbit

### Reactivity

- Human, Mouse, Rat, Chicken, Goat, Geese

### Applications

- WB, IHC, IF, ELISA

### MW

- 55kD (Calculated)  
60kD (Observed)

### Isotype

- IgG, Kappa

## Storage

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

**Formulation** PBS, 50% glycerol, 0.05% Proclin 300, 0.05% BSA

## Recommended Dilution Ratios

**IHC 1:200-1:500**

**WB 1:1000-1:5000**

**IF 1:200-1:1000**

**ELISA 1:5000-1:20000**

## Basic Information

**Clonality** Monoclonal

**Clone Number** PT0470R

## Immunogen Information

**Immunogen** The specific immunogen used to produce this antibody is proprietary information.

**Specificity** This antibody detects endogenous levels of Phospho Akt1 only when phosphorylated at Ser473. This antibody also recognizes Akt2 and Akt3 when phosphorylated at the corresponding sites.

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## | Target Information

**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

Organism	Gene ID	UniProt ID
Human	<a href="#">207</a> ; <a href="#">208</a> ; <a href="#">10000</a> ;	<a href="#">P31749</a> ; <a href="#">P31751</a> ; <a href="#">Q9Y243</a> ;
Mouse	<a href="#">11651</a> ; <a href="#">11652</a> ; <a href="#">23797</a> ;	<a href="#">P31750</a> ;
Rat	<a href="#">24185</a> ; <a href="#">25233</a> ; <a href="#">29414</a> ;	<a href="#">P47196</a> ; <a href="#">P47197</a> ; <a href="#">Q63484</a> ;

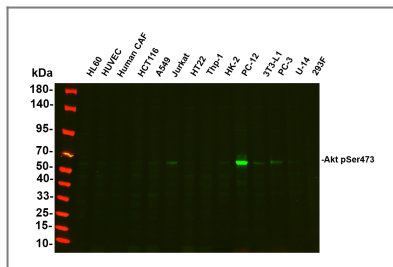
**Cellular Localization** Cytoplasm . Nucleus . Cell membrane . Nucleus after activation by integrin-linked protein kinase 1 (ILK1) . Nuclear translocation is enhanced by interaction with TCL1A. Phosphorylation on Tyr-176 by TNK2 results in its localization to the cell membrane where it is targeted for 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) . .

**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.

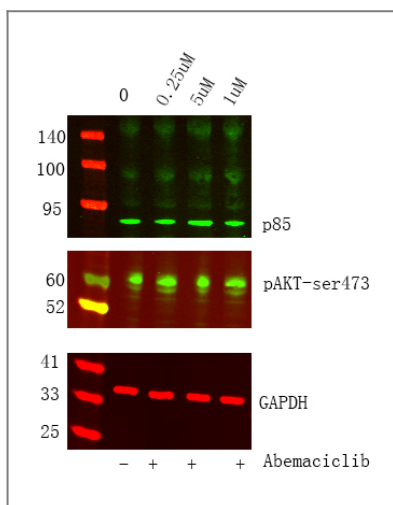
**Function** Plays a role as a key modulator of the AKT-mTOR signaling pathway controlling the tempo of the process of newborn neurons integration during adult neurogenesis , including correct neuron positioning , dendritic development and synapse formation (By similarity) . General protein kinase capable 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 by phosphorylating TSC2 at 'Ser-939' and 'Thr-1462' , thereby activating mTORC1 signaling and leading to both phosphorylation of 4E-BP1 and in activation of RPS6KB1. Promotes glycogen synthesis by mediating the insulin-induced activation of glycogen synthase. The activated form can suppress FoxO gene transcription and promote cell cycle progression. Essential for the SPATA13-mediated regulation of cell migration and adhesion assembly and disassembly.

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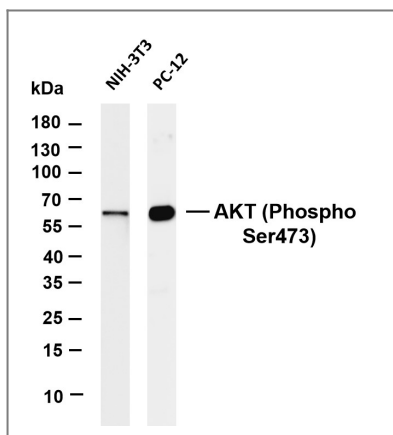
## | Validation Data



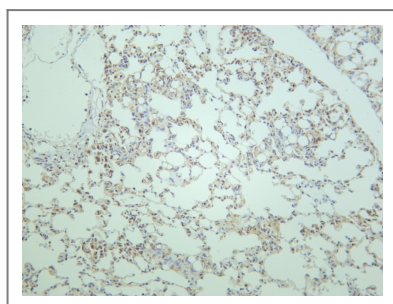
Various whole cell lysates were separated by 4-20% SDS-PAGE, and the primary antibody was used at 4°C over night with a 1:5000 dilution. The Dylight 800-conjugated Goat anti-Rabbit antibody (Cat:RS23920) was used to detect the antibody. Lane1: HL60 - Human promyelocytic leukemia cell Lane2: HUVEC - Human umbilical vein endothelial cell Lane3: Human CAF - Human cancer-associated fibroblast Lane4: HCT116 - Human colorectal carcinoma Lane5: A549 - Human lung carcinoma Lane6: Jurkat - Human T lymphocyte leukemia Lane7: HT22 - Mouse hippocampal neuronal Lane8: Thp-1 - Human monocytic leukemia Lane9: HK-2 - Human proximal tubular epithelial Lane10: PC-12 - Rat adrenal pheochromocytoma Lane11: 3T3-L1 - Mouse embryonic fibroblast Lane12: PC-3 - Human prostate adenocarcinoma Lane13: U-14 - Mouse cervical carcinoma Lane14: 293F - HEK293 derivative, adapted for suspension culture Predicted band size: 60kDa Observed band size: 60kDa



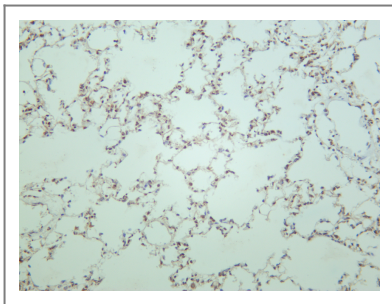
Western Blot analysis using HepG2 whole cell lysates were separated by 4-20% SDS-PAGE, and the membrane was blotted with anti-PI3-Kinase p85  $\alpha$  rabbit mAb (YM8045) diluted at 1:2000. anti-AKT (Phospho Ser473) Rabbit mAb (YM8304) diluted at 1:2000. Loading contrl: Mouse anti GAPDH (YM8394 1:5000) Secondary : Dylight 800, Goat Anti Rabbit IgG (RS23920 1:10000) Dylight 680, Goat Anti Rabbit IgG (RS23720 1:10000)



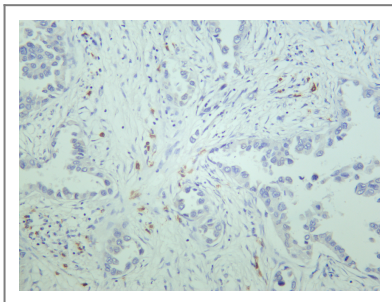
Various whole cell lysates were separated by 4-20% SDS-PAGE, and the membrane was blotted with anti-AKT (Phospho Ser473) antibody. The HRP-conjugated Goat anti-Rabbit IgG (H + L) antibody was used to detect the antibody. Lane 1: NIH-3T3 Lane 2: PC-12 Predicted band size: 55kDa Observed band size: 60kDa



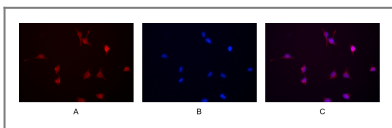
Mouse lung was stained with anti-AKT (Phospho Ser473) rabbit antibody



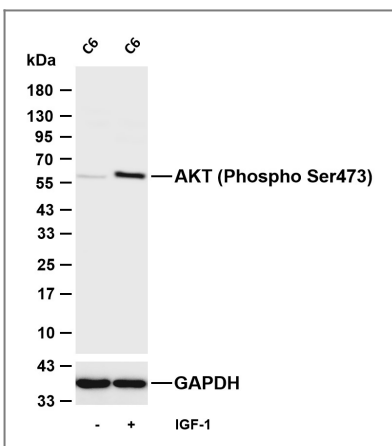
Rat lung was stained with anti-AKT (Phospho Ser473) rabbit antibody



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



Immunofluorescence analysis of HEK293. Picture A: AKT antibody (red). Picture B: DAPI (blue). Picture C: Merge of A+B



Various whole cell lysates were separated by 4-20% SDS-PAGE, and the membrane was blotted with anti-AKT (Phospho Ser473) (PT0470R) antibody. The HRP-conjugated Goat anti-Rabbit IgG (H + L) antibody was used to detect the antibody. Lane 1: C6 Lane 2: C6 was treated with IGF-1 (50ng/mL) for 5 minutes Predicted band size: 55kDa Observed band size: 60kDa

## Contact information

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