

Akt (pan) (Phospho Ser473) (7F9) Mouse mAb

CatalogNo: YP1881 **Orthogonal Validated** 

Key Features

Host Species

- Mouse

Reactivity

- Human

Applications

- WB,IHC,IF

MW

- 56kD (Observed)

Storage

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

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

Recommended Dilution Ratios

WB 1:1000-2000

IHC 1:100-200

IF 1:50-200

Basic Information

Clonality Monoclonal

Clone Number 7F9

Immunogen Information

Immunogen Synthetic Peptide of Phospho-Akt (S473) at AA range of 410-490

Specificity Phospho-Akt (S473) protein detects endogenous levels of AKT1

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	207 ; 208 ; 10000 ;	P31749 ; P31751 ; Q9Y243 ;
Mouse	11651 ; 11652 ; 23797 ;	P31750 ;
Rat	24185 ; 25233 ; 29414 ;	P47196 ; P47197 ; Q63484 ;

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) . .

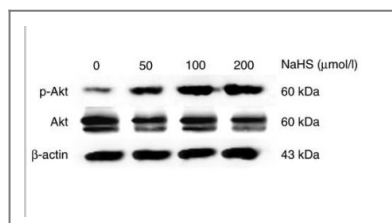
Tissue specificity

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.

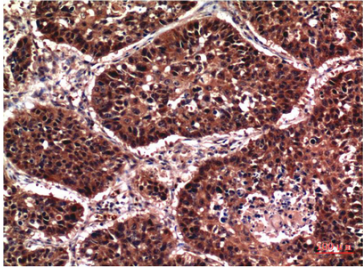
Function

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.

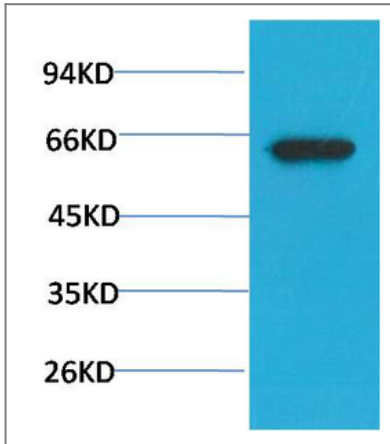
Validation Data



Xiao, Jun, et al. "Hydrogen sulfide inhibits PCSK9 expression through the PI3K/Akt-SREBP-2 signaling pathway to influence lipid metabolism in HepG2 cells." *International journal of molecular medicine* 43.5 (2019): 2055-2063.



Immunohistochemical analysis of paraffin-embedded Human Lung Carcinoma Tissue using Phospho-Akt Ser473 Mouse mAb diluted at 1:200.



Western blot analysis of PC3 Cell Lysate using Phospho-Akt Ser473 Mouse mAb diluted at 1:1000.

Contact information

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Akt (pan) (Phospho Ser473) (7F9) Mouse mAb

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