10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Phospho-AKT3(S472) Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP3468a

Product Information

Application	WB, DB, E
Primary Accession	Q9Y243
Other Accession	Q63484, Q9WUA6
Reactivity	Human
Predicted	Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	55775

Additional Information

Gene ID	10000
Other Names	RAC-gamma serine/threonine-protein kinase, Protein kinase Akt-3, Protein kinase B gamma, PKB gamma, RAC-PK-gamma, STK-2, AKT3, PKBG
Target/Specificity	This AKT3 Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding S472 of human AKT3.
Dilution	WB~~1:1000 DB~~1:500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Phospho-AKT3(S472) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	AKT3
Synonyms	PKBG
Function	AKT3 is one of 3 closely related serine/threonine-protein kinases (AKT1, AKT2 and AKT3) called the AKT kinase, and which regulate many processes

	including metabolism, proliferation, cell survival, growth and angiogenesis. This is mediated through serine and/or threonine phosphorylation of a range of downstream substrates. Over 100 substrate candidates have been reported so far, but for most of them, no isoform specificity has been reported. AKT3 is the least studied AKT isoform. It plays an important role in brain development and is crucial for the viability of malignant glioma cells. AKT3 isoform may also be the key molecule in up-regulation and down-regulation of MMP13 via IL13. Required for the coordination of mitochondrial biogenesis with growth factor-induced increases in cellular energy demands. Down- regulation by RNA interference reduces the expression of the phosphorylated form of BAD, resulting in the induction of caspase- dependent apoptosis.
Cellular Location	Nucleus. Cytoplasm. Membrane; Peripheral membrane protein Note=Membrane-associated after cell stimulation leading to its translocation
Tissue Location	In adult tissues, it is highly expressed in brain, lung and kidney, but weakly in heart, testis and liver. In fetal tissues, it is highly expressed in heart, liver and brain and not at all in kidney

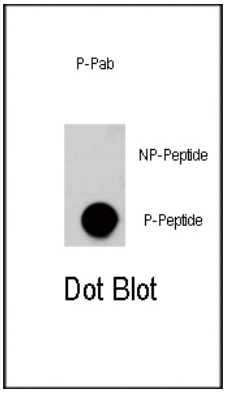
Background

AKT3 is a member of the AKT, also called PKB, serine/threonine protein kinase family. AKT kinases are known to be regulators of cell signaling in response to insulin and growth factors. They are involved in a wide variety of biological processes including cell proliferation, differentiation, apoptosis, tumorigenesis, as well as glycogen synthesis and glucose uptake. This kinase has been shown to be stimulated by platelet-derived growth factor (PDGF), insulin, and insulin-like growth factor 1 (IGF1).

References

Xu, Z., et al., Biochem. Biophys. Res. Commun. 312(2):388-396 (2003).
Tiwari, G., et al., Mol. Cancer Res. 1(6):475-484 (2003).
Brozinick, J.T. Jr., et al., Diabetes 52(4):935-941 (2003).
Deregibus, M.C., et al., J. Biol. Chem. 277(28):25195-25202 (2002).
Brodbeck, D., et al., J. Biol. Chem. 276(31):29550-29558 (2001).

Images



Dot blot analysis of anti-AKT3-pS472 Phospho-specific Pab (RB13331) on nitrocellulose membrane. 50ng of Phospho-peptide or Non Phospho-peptide per dot were adsorbed. Antibody working concentrations are 0.5ug per ml.

Citations

- Cyclical expression of GDNF is required for spermatogonial stem cell homeostasis.
- Flotillin-2 promotes metastasis of nasopharyngeal carcinoma by activating NF-κB and PI3K/Akt3 signaling pathways.
- 8-Methoxypsoralen Induces Intrinsic Apoptosis in HepG2 Cells: Involvement of Reactive Oxygen Species Generation

and ERK1/2 Pathway Inhibition.
- Blockade of CCN6 (WISP3) activates growth factor-independent survival and resistance to anoikis in human mammary epithelial cells.
- Akt1 mediates purinergic-dependent NOS3 activation in thick ascending limbs.