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R1465 Polyclonal Antibody to AKT1 / PKB pSer473 - Aff - Purified

Alternate names: Akt-1, C-AKT, Protein kinase B, RAC-PK-alpha, RAC-alpha serine/threonine-protein kinase

Quantity: 0.1 mg

Concentration: 0.75 mg/ml (by UV absorbance at 280 nm)

Background: AKT is a component of the PI-3 kinase pathway and is activated by phosphorylation at Ser 473 and Thr 308. AKT is a cytoplasmic protein also known as Protein Kinase B (PKB) and rac (related to A and C kinases). AKT is a key regulator of many signal transduction pathways. AKT Exhibits tight control over cell proliferation and cell viability. Overexpression or inappropriate activation of AKT is noted in many types of cancer. AKT mediates many of the downstream events of PI 3-kinase (a lipid kinase activated by growth factors, cytokines and insulin). PI 3-kinase recruits AKT to the membrane, where it is activated by PDK1 phosphorylation. Once phosphorylated, AKT dissociates from the membrane and phosphorylates targets in the cytoplasm and the cell nucleus. AKT has two main roles: (i) inhibition of apoptosis; (ii) promotion of proliferation.

Uniprot ID: P31749

NCBI: NP_001014431.1

GeneID: 207

Host: Rabbit

Immunogen: A synthetic peptide corresponding to the C-terminus aa 460-480 of human, mouse, rat and chicken AKT proteins conjugated to KLH
AA Sequence:
C-H-F-P-Q-F-pS-Y-S-A-S
Remarks: Human AKT1 protein, 480 aa, has a predicted MW of 55.7 kDa.

Format: **State:** Liquid (sterile filtered) purified Ig fraction.
Purification: Immunoaffinity Chromatography using phospho peptide coupled to agarose beads followed by solid phase adsorption(s) against non-phospho peptide and non-specific peptide to remove any unwanted reactivities.
Buffer System: 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2 with 0.01% Sodium Azide as preservative.

Applications: Western blotting (1/200-1/1000).
Immunohistochemistry (Formalin-Fixed Paraffin-Embedded Sections, 1/100-1/500) (No pre-treatment of sample is required).
ELISA (1/15,000-1/60,000).
Immunofluorescence.
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity:

Assay by immunoelectrophoresis resulted in a single precipitin arc against anti-Rabbit Serum.
This antibody is specific for phosphorylated AKT.
Minimal reactivity occurs against non-phosphorylated AKT.
Species: Human.
Other species not tested.

Add. Information:

Protein Sequence: Human AKT1 protein, 480 aa, predicted MW 55.7kDa
1 msdvaivkeg wlhkrgeyik twrpryfllk ndgtfigyke rpqdvdqrea plnnfsvaqc
61 qlmkterprp ntfiirclqw ttviertfhv etpeereewt taiqtvadgl kkqeeeemdf
121 rsgspsdnsg aeemevslak pkhrvtmnef eylkllgkgt fgkvilvkek
atgryyamki
181 lkkevivakd evahtltenr vlqnsrhpfl talkysfqth drlcfvmeya nggelffhls
241 rervfsedra rfygaeivsa ldylhseknv vyrdlklenl mldkdghiki tdfglckegi
301 kdgatmktfc gtpeylapev lendygrav dwwglgvvmy emmcgrlpfy nqdheklfel
361 ilmeeirfpr tlgpeaksll sgllkkdpkq rlgggsedak eimqhrffag ivwqhvyekk
421 lsppfkpqvt setdtryfde eftaqmitit ppdqddsmec vdserrphfp qfsysasgta

Storage:

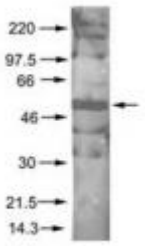
Store vial at -20°C prior to opening. This product is stable for one month at 2-8°C as an undiluted liquid. Aliquot contents and freeze at -20°C or below for extended storage. Centrifuge product if not completely clear after standing at room temperature.
Dilute only prior to immediate use.
Avoid cycles of freezing and thawing.
Expiration date is one year from despatch.

General Readings:

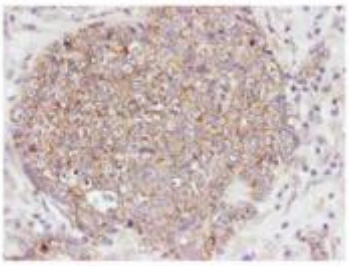
1. Lawlor MA, Alessi DR. PKB/Akt: a key mediator of cell proliferation, survival and insulin responses? J Cell Sci. 2001 Aug;114(Pt 16):2903-10. PubMed PMID: 11686294.
2. Alessi DR. Discovery of PDK1, one of the missing links in insulin signal transduction. Colworth Medal Lecture. Biochem Soc Trans. 2001 May;29(Pt 2):1-14. PubMed PMID: 11356119.

Pictures:

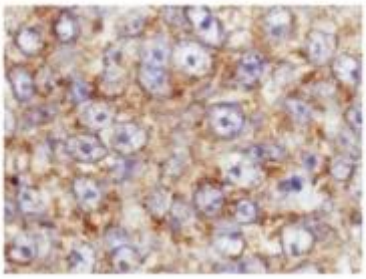
Western Blot of Rabbit anti-AKT pS473 antibody. Lane 1: nuclear extract from cells infected with adenovirus expressing nuclear-targeted AKT kinase. Load: 35 µg per lane. Primary antibody: AKT pS473 antibody at 1:200 dilution for overnight at 4°C. Secondary antibody: IRDye800™ rabbit secondary antibody at 1:10,000 for 45 min at RT. Block: 5% BLOTTO overnight at 4°C. Predicted/Observed size: ~56 kDa for AKT pS473. Other band(s): unspecific.



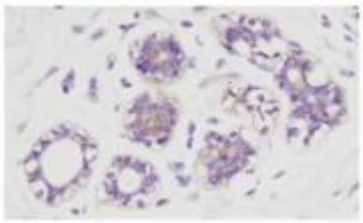
Immunohistochemistry of Rabbit Anti-Akt pS473 antibody. Tissue: human breast carcinoma. Fixation: formalin fixed paraffin embedded. Antigen retrieval: not required. Primary antibody: Akt pS473 antibody at 100 dilution for 1 h at RT. Secondary antibody: Dako's Techmate streptavidin-biotin reagents at 1:10,000 for 45 min at RT. Localization: Akt pS473 is nuclear and occasionally cytoplasmic.



Immunohistochemistry at higher magnification of Rabbit Anti-Akt pS473 antibody. Tissue: human breast carcinoma. Fixation: formalin fixed paraffin embedded. Antigen retrieval: not required. Primary antibody: Akt pS473 antibody at 100 dilution for 1 h at RT. Secondary antibody: Dako's Techmate streptavidin-biotin reagents at 1:10,000 for 45 min at RT. Localization: Akt pS473 is nuclear and occasionally cytoplasmic.



Immunohistochemistry of Rabbit anti-AKT pS473 antibody. Tissue: human breast carcinoma. Fixation: formalin fixed paraffin embedded. Antigen retrieval: not required. Primary antibody: AKT pS473 antibody at 1:100 for 1 h at RT. Secondary antibody: Dako's Techmate streptavidin-biotin reagents at 1:10,000 for 45 min at RT. Localization: AKT pS473 is nuclear and occasionally cytoplasmic.



IF of Rabbit anti-AKT pS473 antibody. Tissue: cardiomyocytes infected with adenovirus expressing with wild-type AKT. Fixation: 0.5% PFA. Antigen retrieval: not required. Primary antibody: AKT pS473 antibody at 1:40 for 1 h at RT. Secondary antibody: texas-red conjugated rabbit secondary antibody at 1:10,000 for 45 min at RT. Localization: AKT pS473 is nuclear. Staining: AKT pS473 as green fluorescent signal with texas-red conjugated phalloidin (red) to label filamentous actin.