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PAK5 Antibody

Catalog # ASC10182

Product Information

Application	WB, IF, ICC, E
Primary Accession	Q9P286
Other Accession	Q9P286, 12585290
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	80745
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	PAK5 antibody can be used for the detection of PAK5 by Western blot at 2 - 4 g/mL. Antibody can also be used for immunocytochemistry starting at 2 g/mL. For immunofluorescence start at 10 g/mL.

Additional Information

Gene ID	57144
Other Names	PAK5 Antibody: PAK5, KIAA1264, PAK5, p21-activated kinase 5, PAK-5, p21 protein (Cdc42/Rac)-activated kinase 7
Target/Specificity	PAK7;
Reconstitution & Storage	PAK5 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	PAK5 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PAK5 (HGNC:15916)
Synonyms	KIAA1264, PAK7
Function	Serine/threonine protein kinase that plays a role in a variety of different signaling pathways including cytoskeleton regulation, cell migration, proliferation or cell survival. Activation by various effectors including growth factor receptors or active CDC42 and RAC1 results in a conformational change and a subsequent autophosphorylation on several serine and/or threonine residues. Phosphorylates the proto-oncogene RAF1 and stimulates its kinase activity. Promotes cell survival by phosphorylating the BCL2 antagonist of cell

	death BAD. Phosphorylates CTNND1, probably to regulate cytoskeletal organization and cell morphology. Keeps microtubules stable through MARK2 inhibition and destabilizes the F-actin network leading to the disappearance of stress fibers and focal adhesions.
Cellular Location	Mitochondrion. Cytoplasm. Nucleus. Note=Shuttles between the nucleus and the mitochondria, and mitochondrial localization is essential for the role in cell survival
Tissue Location	Predominantly expressed in brain.

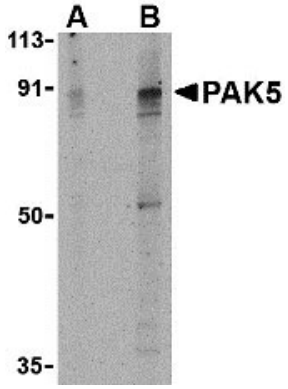
Background

PAK5 Antibody: The p21-activated kinases (PAKs) are serine-threonine kinases that bind to the active forms of Cdc42 and Rac. They are divided into two groups, the first of which include PAK1, 2 and 3, and can be activated by Cdc42/Rac binding. Group 1 PAKs contain an autoinhibitory domain whose activity is regulated by Cdc42/Rac binding. The group 1 PAKs are known to be involved in cellular processes such as gene transcription, apoptosis, and cell morphology and motility. Much less is known about the second group, which includes PAK4, 5 and 6. These proteins are not activated by Cdc42/Rac binding. PAK5 was initially identified as a kinase expressed primarily in brain that while possessing a kinase domain and GTPase binding domain similar to PAK4 and PAK6, is completely different from both. Expression of PAK5 in neural based cell lines resulted in neurite outgrowth suggesting that PAK5 may be involved in regulating the cytoskeletal changes necessary for promoting neurite outgrowth. Other experiments suggest that unlike the other PAKs, PAK5 may inhibit apoptosis by phosphorylating the Bcl-2 family member Bad.

References

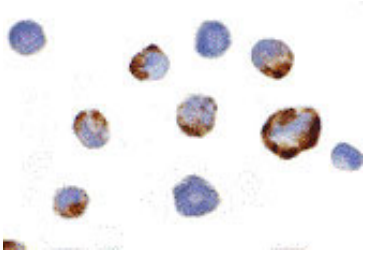
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Dan C, Nath N, Liberto M, et al. PAK5, a new brain-specific kinase, promotes neurite outgrowth in N1E-115 cells. Mol. Cell. Biol. 2002; 22:567-77.
Cotteret S, Jaffer ZM, Beeser A, et al. p21-activated kinase 5 (Pak5) localizes to mitochondria and inhibits apoptosis by phosphorylated BAD. Mol. Cell. Biol. 2003; 23:5526-39.

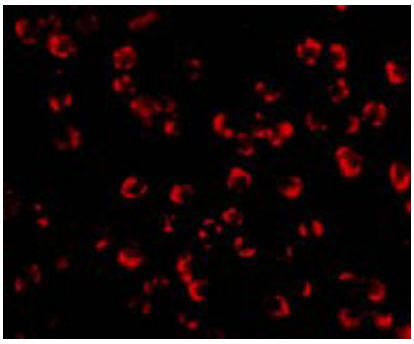
Images



Western blot analysis of PAK5 in T24 lysate with PAK5 antibody at (A) 2 and (B) 4 µg/mL.

Immunocytochemistry of PAK5 in K562 cells with PAK5 antibody at 2 µg/mL.





Immunofluorescence of PAK5 in K562 cells with PAK5 antibody at 10 µg/mL.

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