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PAK3 Antibody (Center K218)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7928a

Specification

PAK3 Antibody (Center K218) - Product Information

Application	**WB, IHC-P,E**
Primary Accession	O75914
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**62310**
Antigen Region	**218-247**

PAK3 Antibody (Center K218) - Additional Information

Gene ID 5063

Other Names
Serine/threonine-protein kinase PAK 3, Beta-PAK, Oligophrenin-3, p21-activated kinase 3, PAK-3, PAK3, OPHN3

Target/Specificity
This PAK3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 218-247 amino acids from the Central region of human PAK3.

Dilution
WB~~1:1000
IHC-P~~1:50~100

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

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
PAK3 Antibody (Center K218) is for research use only and not for use in diagnostic or therapeutic procedures.

PAK3 Antibody (Center K218) - Protein Information

Name PAK3

Synonyms OPHN3

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Function Serine/threonine protein kinase that plays a role in a variety of different signaling pathways including cytoskeleton regulation, cell migration, or cell cycle regulation. Plays a role in dendrite spine morphogenesis as well as synapse formation and plasticity. Acts as a downstream effector of the small GTPases CDC42 and RAC1. Activation by the binding of active CDC42 and RAC1 results in a conformational change and a subsequent autophosphorylation on several serine and/or threonine residues. Phosphorylates MAPK4 and MAPK6 and activates the downstream target MAPKAPK5, a regulator of F-actin polymerization and cell migration. Additionally, phosphorylates TNNI3/troponin I to modulate calcium sensitivity and relaxation kinetics of thin myofilaments. May also be involved in early neuronal development. In hippocampal neurons, necessary for the formation of dendritic spines and excitatory synapses; this function is dependent on kinase activity and may be exerted by the regulation of actomyosin contractility through the phosphorylation of myosin II regulatory light chain (MLC) (By similarity).

Cellular Location
Cytoplasm.

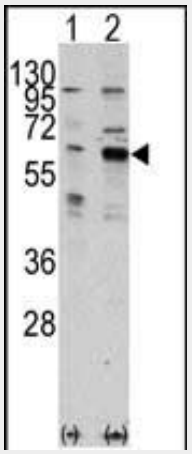
Tissue Location
Restricted to the nervous system. Highly expressed in postmitotic neurons of the developing and postnatal cerebral cortex and hippocampus.

PAK3 Antibody (Center K218) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PAK3 Antibody (Center K218) - Images



Western blot analysis of PAK3(arrow) using rabbit polyclonal PAK3 Antibody (Cat.#AP7928a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the PAK3 gene (Lane 2) (Origene Technologies).

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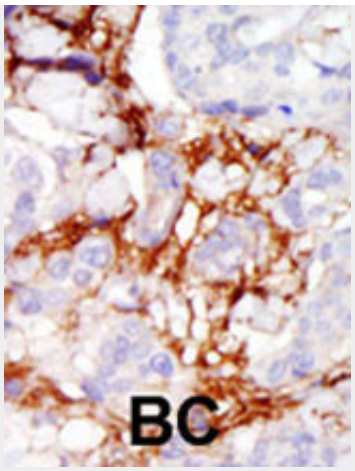

Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

PAK3 Antibody (Center K218) - Background

PAK3, a member of the STE20 subfamily of Ser/Thr protein kinases, acts on a variety of targets. PAK3 interacts tightly with GTP-bound but not GDP-bound CDC42/p21 and RAC1. It shows highly specific binding to the SH3 domains of phospholipase C-gamma and of adapter protein NCK. This protein is highly expressed in postmitotic neurons of the developing and postnatal cerebral cortex and hippocampus. PAK3 is autophosphorylated when activated by CDC42/p21. Defects in PAK3 are the cause of non-specific X-linked nonsyndromic mental retardation type 30 (MRX30). The protein structure contains 1 CRIB domain.

PAK3 Antibody (Center K218) - References

Kitano, T., et al., Mol. Biol. Evol. 20(8):1281-1289 (2003).
Allen, K.M., et al., Nat. Genet. 20(1):25-30 (1998).