

Rabbit PAK1 Polyclonal Antibody | anti-PAK1 antibody

Phospho-PAK1 (Ser199) Antibody

CATALOG # AAA329256	HOST Rabbit	REACTIVITY Human, Mouse, Rat	APPLICATIONS ELISA, Immunohistochemistry
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PRODUCT SYNONYMS

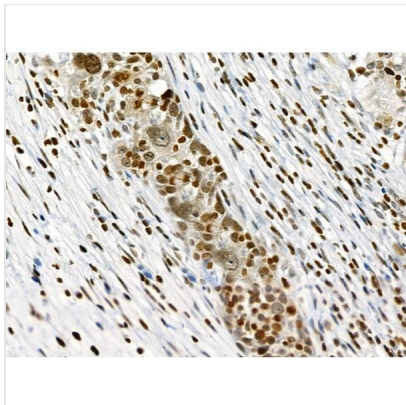
PAK1; Polyclonal Antibody; Phospho-PAK1 (Ser199) Antibody; ADRB2; Alpha PAK; Alpha-PAK; MGC130000; MGC130001; p21 activated kinase 1; p21 protein (Cdc42/Rac) activated kinase 1; p21-activated kinase 1; p21/Cdc42/Rac1 activated kinase 1 (yeast Ste20 related); p21/Cdc42/Rac1-activated kinase 1 (STE20 homolog; yeast); p65 PAK; p65-PAK; P68-PAK; PAK alpha; PAK-1; Pak1; PAK1_HUMAN; Paka; PAKalpha; Protein kinase MUK2; Rac/p21-activated kinase; Serine/threonine-protein kinase PAK 1; STE20 homolog yeast; anti-PAK1 antibody

PRODUCT SPECIFICATIONS

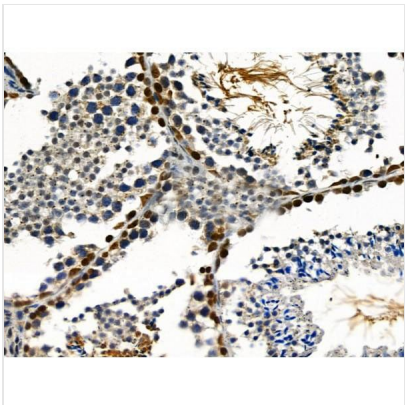
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	Rabbit IgG
Specificity	Phospho-PAK1 (Ser199) Antibody detects endogenous levels of PAK1 only when phosphorylated at Ser199. Tissue Specificity: Overexpressed in gastric cancer cells and tissues (at protein level).
Purity/Purification	The antibody is from purified rabbit serum by affinity purification via sequential chromatography on phospho-peptide and non-phospho-peptide affinity columns.
Form/Format	Liquid. Rabbit IgG in phosphate buffered saline, pH7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Applicable Applications for anti-PAK1 antibody	ELISA (Peptide ELISA), IHC (Immunohistochemistry)
Immunogen	A synthesized peptide derived from human PAK1 around the phosphorylation site of Ser199.
Conjugation	Unconjugated
Fragment	Fab fragment
Post Translational Modifications	Autophosphorylated in trans, meaning that in a dimer, one kinase molecule phosphorylates the other one. Activated by autophosphorylation at Thr-423 in response to a conformation change, triggered by interaction with GTP-bound CDC42 or RAC1. Activated by phosphorylation at Thr-423 by BRSK2 and by PDPK1. Phosphorylated by JAK2 in response to PRL; this increases PAK1 kinase activity. Phosphorylated at Ser-21 by PKB/AKT; this reduces interaction with NCK1 and association with focal adhesion sites. Upon DNA damage, phosphorylated at Thr-212 and translocates to the nucleoplasm. Phosphorylated at tyrosine residues, which can be enhanced by NTN1 (By similarity).
Subunit Structure	Homodimer; homodimerization results in autoinhibition. Active as monomer. Component of cytoplasmic complexes, which also contains PXN, ARHGEF6 and GIT1. Interacts with NISCH (By similarity). Interacts with DVL1; mediates the formation of a DVL1, MUSK and PAK1 ternary complex involved in AChR clustering (By similarity). Binds to the caspase-cleaved p110 isoform of CDC2L1 and CDC2L2, p110C, but not the full-length proteins. Interacts with ARHGEF7. Interacts tightly with GTP-bound but not GDP-bound CDC42/P21 and RAC1 (By similarity). Probably found in a ternary complex composed of DSCAM, PAK1 and RAC1. Interacts with DSCAM (via cytoplasmic domain); the interaction is direct and enhanced in presence of RAC1. Interacts with SCRIB. Interacts with PDPK1. Interacts (via kinase domain) with RAF1. Interacts with NCK1 and NCK2. Interacts with TBCB. Interacts with CRIPAK. Interacts with BRSK2 (By similarity). Interacts with SNAI1. Interacts with CIB1 isoform 2. Interacts with CIB1 (via N-terminal region); the interaction is direct, promotes PAK1 activity and occurs in a calcium-dependent manner. Interacts with INPP5K.

Similarity	Belongs to the protein kinase superfamily. STE Ser/Thr protein kinase family. STE20 subfamily.
Subcellular Location	Cytoplasm. Cell junction>Focal adhesion. Cell membrane. Cell projection>Ruffle membrane. Cell projection>Invadopodium. Nucleus>Nucleoplasm. Chromosome. Note: Colocalizes with RUFY3, F-actin and other core migration components in invadopodia at the cell periphery (PubMed:25766321). Recruited to the cell membrane by interaction with CDC42 and RAC1. Recruited to focal adhesions upon activation. Colocalized with CIB1 within membrane ruffles during cell spreading upon readhesion to fibronectin. Upon DNA damage, translocates to the nucleoplasm when phosphorylated at Thr-212 where is co-recruited with MORC2 on damaged chromatin (PubMed:23260667).
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

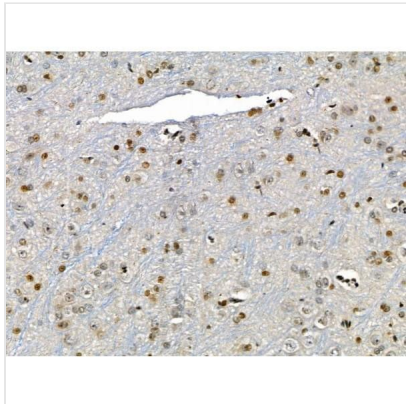
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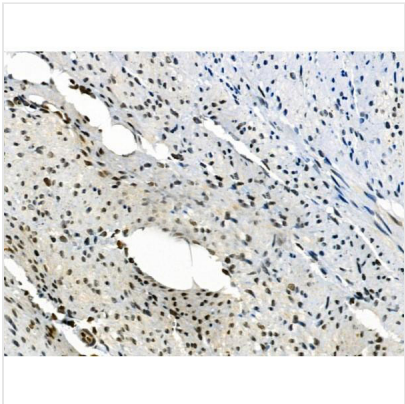
IHC (Immunohistochemistry)
At 1/100 staining Human ovarian cancer by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



IHC (Immunohistochemisry)
At 1/100 staining Mouse testis tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



IHC (Immunohiostchemistry)
Staining Rat brain tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



IHC (Immunohistochemistry)
At 1/100 staining Rat stomach tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.

ADDITIONAL INFORMATION

Related Product Information for anti-PAK1 antibody

Protein kinase involved in intracellular signaling pathways downstream of integrins and receptor-type kinases that plays an important role in cytoskeleton dynamics, in cell adhesion, migration, proliferation, apoptosis, mitosis, and in vesicle-mediated transport processes. Can directly phosphorylate BAD and protects cells against apoptosis. Activated by interaction with CDC42 and RAC1. Functions as GTPase effector that links the Rho-related GTPases CDC42 and RAC1 to the JNK MAP kinase pathway. Phosphorylates and activates MAP2K1, and thereby mediates activation of downstream MAP kinases. Involved in the reorganization of the actin cytoskeleton, actin stress fibers and of focal adhesion complexes. Phosphorylates the tubulin chaperone TBCB and thereby plays a role in the regulation of microtubule biogenesis and organization of the tubulin cytoskeleton. Plays a role in the regulation of insulin secretion in response to elevated glucose levels. Part of a ternary complex that contains PAK1, DVL1 and MUSK that is important for MUSK-dependent regulation of AChR clustering during the formation of the neuromuscular junction (NMJ). Activity is inhibited in cells undergoing apoptosis, potentially due to binding of CDC2L1 and CDC2L2. Phosphorylates MYL9/MLC2. Phosphorylates RAF1 at 'Ser-338' and 'Ser-339' resulting in: activation of RAF1, stimulation of RAF1 translocation to mitochondria, phosphorylation of BAD by RAF1, and RAF1 binding to BCL2. Phosphorylates SNAI1 at 'Ser-246' promoting its transcriptional repressor activity by increasing its accumulation in the nucleus. In podocytes, promotes NR3C2 nuclear localization. Required for atypical chemokine receptor ACKR2-induced phosphorylation of LIMK1 and cofilin (CFL1) and for the up-regulation of ACKR2 from endosomal compartment to cell membrane, increasing its efficiency in chemokine uptake and degradation. In synapses, seems to mediate the regulation of F-actin cluster formation performed by SHANK3, maybe through CFL1 phosphorylation and inactivation. Plays a role in RUFY3-mediated facilitating gastric cancer cells migration and invasion. In response to DNA damage, phosphorylates MORC2 which activates its ATPase activity and facilitates chromatin remodeling.

NCBI AND UNIPROT INFORMATION

NCBI GI #	190886457
NCBI GeneID	5058
NCBI Accession #	NP_001122092.1
NCBI GenBank Nucleotide #	NM_001128620.1
UniProt Accession #	Q13153 ; O75561 ; Q13567 ; Q32M53 ; Q32M54 ; Q86W79
Molecular Weight	60,647 Da
NCBI Official Full Name	serine/threonine-protein kinase PAK 1 isoform 1
NCBI Official Synonym Full Names	p21 protein (Cdc42/Rac)-activated kinase 1
NCBI Official Symbol	PAK1
NCBI Official Synonym Symbols	PAKalpha
NCBI Protein Information	serine/threonine-protein kinase PAK 1; p65-PAK; alpha-PAK; STE20 homolog, yeast; p21/Cdc42/Rac1-activated kinase 1 (yeast Ste20-related); p21/Cdc42/Rac1-activated kinase 1 (STE20 homolog, yeast)
UniProt Protein Name	Serine/threonine-protein kinase PAK 1
UniProt Gene Name	PAK1
UniProt Synonym Gene Names	PAK-1
UniProt Entry Name	PAK1_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com

Online datasheet: <https://stage.aaabiotech.com/polyclonal/pak1-antibody-peptide-elisa-immunohistochemistry-elisa/329256>