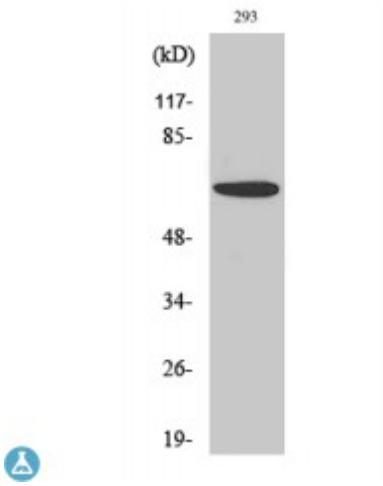
Anti-PA alpha antibody



Description	Rabbit polyclonal to PAKalpha.

Model	STJ94941
Host	Rabbit
Reactivity	Human, Mouse, Rat
Applications	ELISA, IF, IHC, WB
Immunogen	Synthesized peptide derived from human PAKalpha around the non-phosphorylation site of T212.
Immunogen Region	150-230 aa
Gene ID	5058
Gene Symbol	PAK1
Dilution range	WB 1:500-1:2000IHC 1:100-1:300IF 1:200-1:1000ELISA 1:5000
Specificity	PAKalpha Polyclonal Antibody detects endogenous levels of PAKalpha protein.
Tissue Specificity	Overexpressed in gastric cancer cells and tissues (at protein level) .
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Note	For Research Use Only (RUO).
Protein Name	Serine/threonine-protein kinase PAK 1 Alpha-PAK p21-activated kinase 1 PAK-1 p65-PAK
Molecular Weight	60 kDa

Clonality	Polyclonal
Conjugation	Unconjugated
Isotype	IgG
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Concentration	1 mg/ml
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:8590OMIM:602590
Alternative Names	Serine/threonine-protein kinase PAK 1 Alpha-PAK p21-activated kinase 1 PAK-1 p65-PAK
Function	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 .
Cellular Localization	Cytoplasm Cell junction, focal adhesion. Cell membrane. Cell projection, ruffle membrane. Cell projection, invadopodium. Colocalizes with RUFY3, F-actin and other core migration components in invadopodia at the cell periphery . 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.
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.