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ARG58154
anti-PAK1 antibody

Package: 100 µl
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes PAK1
Tested Reactivity	Hu, Ms, Rat
Tested Application	ICC/IF, IHC-P, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	PAK1
Species	Human
Immunogen	Synthetic peptide derived from Human PAK1.
Conjugation	Un-conjugated
Alternate Names	PAKalpha; Serine/threonine-protein kinase PAK 1; Alpha-PAK; p65-PAK; EC 2.7.11.1; PAK-1; p21-activated kinase 1

Application Instructions

Application table

Application	Dilution
ICC/IF	1:50 - 1:200
IHC-P	1:100 - 1:500
WB	1:500 - 1:2000

Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.
Positive Control	A431
Observed Size	~ 60 kDa

Properties

Form	Liquid
Purification	Affinity purified.
Buffer	PBS (pH 7.4), 150mM NaCl, 0.02% Sodium azide and 50% Glycerol.
Preservative	0.02% Sodium azide
Stabilizer	50% Glycerol
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.

Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Gene Symbol	PAK1
Gene Full Name	p21 protein (Cdc42/Rac)-activated kinase 1
Background	This gene encodes a family member of serine/threonine p21-activating kinases, known as PAK proteins. These proteins are critical effectors that link RhoGTPases to cytoskeleton reorganization and nuclear signaling, and they serve as targets for the small GTP binding proteins Cdc42 and Rac. This specific family member regulates cell motility and morphology. Alternatively spliced transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Apr 2010]
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. [UniProt]
Calculated Mw	61 kDa
PTM	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. [UniProt]

Images

ARG58154 anti-PAK1 antibody WB image

Western blot: A431 cell lysate stained with ARG58154 anti-PAK1 antibody.