



Rabbit Anti-Phospho-PAK1 (Ser199 + Ser204) + PAK2 (Ser192 + Ser197) antibody

SL3315R

Product Name:	Phospho-PAK1 (Ser199 + Ser204) + PAK2 (Ser192 + Ser197)
Chinese Name:	磷酸化p21激活激酶1/2抗体
Alias:	PAK1 + PAK2 (phospho S199 + S204); PAK2 (phospho S192 + S197); PAKalpha; serine/threonine-protein kinase PAK 1; p21 activated kinase 1; PAK alpha; Paka; PAKalpha; Protein kinase MUK2; STE20 homolog (yeast); Alpha PAK; p21/Cdc42/Rac1 activated kinase 1; CB422; EC 2.7.11.1; Gamma PAK; hPAK65; Kinase; p21 (CDKN1A)-activated kinase 2a; p21 activated kinase 2; p21 protein (Cdc42/Rac)-activated kinase 2; p21 protein Cdc42 Rac activated kinase 2; p21-activated kinase, 65-KD; p21-activated protein kinase I; p21CDKN1A activated kinase 2; p58; p65PAK; PAK 2; PAK65; PAKgamma; S6 H4 kinase; Serine threonine protein kinase PAK 2; Serine/threonine-protein kinase PAK 3; p21-activated kinase 3; PAK-3; Beta-PAK; PAK1_HUMAN; PAK2_HUMAN.
Organism Species:	Rabbit
Clonality:	Polyclonal
React Species:	Human,Mouse,Rat,Rabbit,
Applications:	WB=1:500-2000ELISA=1:500-1000IHC-P=1:400-800IHC-F=1:400-800IF=1:100-500 (Paraffin sections need antigen repair) not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight:	60kDa
Cellular localization:	cytoplasmicThe cell membrane
Form:	Lyophilized or Liquid
Concentration:	1mg/ml
immunogen:	KLH conjugated synthesised phosphopeptide derived from human PAK1 around the phosphorylation site of Ser199/204:TK(p-S)VY
Lsotype:	IgG
Purification:	affinity purified by Protein A

Storage Buffer:	0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
PubMed:	PubMed
Product Detail:	<p>In mammals, there are several identified isoforms of p21 Activated Protein Kinases or PAKs: PAK1 and PAK3 are mostly brain specific, while PAK2 is expressed ubiquitously. Mutations of the gene coding for PAK3 are associated with X linked mental retardation and PAK3 is a key regulator of synapse formation and plasticity in the hippocampus. PAK3 is thought to play a key role in regulation of cell shape and motility as well as cell death. P21-activated kinase (PAK) is actually a family of serine/threonine protein kinases, members of which are activated by small molecular weight GTPases. The three most common isoforms are PAK 1, PAK 2, and PAK 3 (also known as alpha PAK, gamma PAK, and beta PAK, respectively). These kinases contain numerous regulatory elements that trigger diverse signaling processes such as those initiated by activated GTPases, interaction with Src homology 3 (SH3) domains, and caspase mediated proteolytic cleavage. Autophosphorylation of serine 141 (serine 144 for PAK 1 and serine 139 PAK 3), catalyzed by Cdc42, is required for activation of PAK.</p> <p>Function: The activated kinase acts on a variety of targets. Likely to be the GTPase effector that links the Rho-related GTPases to the JNK MAP kinase pathway. Activated by CDC42 and RAC1. Involved in dissolution of stress fibers and reorganization of focal complexes. Involved in regulation of microtubule biogenesis through phosphorylation of TBCB. DVL1 and PAK1 form a ternary complex with MUSK which 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.</p> <p>Subunit: Homodimer in its autoinhibited state. Active as monomer. Interacts tightly with GTP-bound but not GDP-bound CDC42/P21 and RAC1. Binds to the caspase-cleaved p110 isoform of CDC2L1 and CDC2L2, p110C, but not the full-length proteins. Component of cytoplasmic complexes, which also contain PXN, ARHGEF6 and GIT1. Interacts with ARHGEF7. Also interacts with CRIPAK. Interacts with NISCH. Interacts with DVL1; mediates the formation of a DVL1, MUSK and PAK1 ternary complex involved in AChR clustering. 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. Interaction with NCK1 and NCK2.</p>

Subcellular Location:

Cytoplasm. Cell junction, focal adhesion. Note=Recruited to focal adhesions upon activation.

Post-translational modifications:

Autophosphorylated when activated by CDC42/p21 and RAC1. Phosphorylation at Thr-423 by PDPK1 results in its activation.

Similarity:

Belongs to the protein kinase superfamily. STE Ser/Thr protein kinase family. STE20 subfamily.

Contains 1 CRIB domain.

Contains 1 protein kinase domain.

SWISS:

Q13153

Gene ID:

5058

Database links:

[Entrez Gene: 5058](#) Human

[Entrez Gene: 18479](#) Mouse

[Entrez Gene: 29431](#) Rat

[Omim: 602590](#) Human

[SwissProt: Q13153](#) Human

[SwissProt: O88643](#) Mouse

[SwissProt: P35465](#) Rat

[Unigene: 435714](#) Human

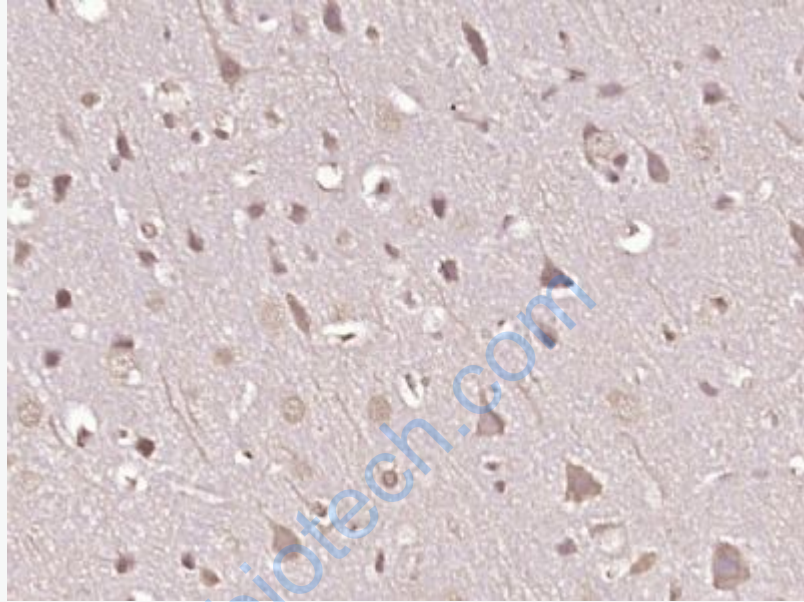
[Unigene: 260227](#) Mouse

[Unigene: 9149](#) Rat

Important Note:

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

PAK1-3蛋白具有广泛的生物学功能,也是一个保守的丝氨酸/苏氨酸蛋白激酶,参与许多重要的细胞活动。包括Cytoskeleton的动力学调节,细胞移动,生存和凋亡,细胞周期,基因转录调节,细胞生长Signal transduction和转化等。



Picture:

Paraformaldehyde-fixed, paraffin embedded (rat brain tissue); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (PAK1) Polyclonal Antibody, Unconjugated (SL3315R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.