

Rabbit Anti-phospho-PAK2 (Ser141)/AP Conjugated antibody

SL1654R-AP

Product Name	Anti-phospho-PAK2 (Ser141)/AP
Chinese Name	碱性磷酸酶 (AP) 标记的磷酸化 p21 激活激酶 2 抗体
Alias	PAK1 (phospho S141); PAK1 (phospho Ser141); p-PAK1 (S141); p-PAK1 (Ser141); 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; p21/Cdc42/Rac1-activated kinase 1 (STE20 homolog, yeast); p65 PAK; p65-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); STE20 homolog yeast.
Product Type	Phosphorylated anti
Research Area	Tumour Cell biology Microbiology Signal transduction Kinases and Phosphatases
Immunogen Species	Rabbit
Clonality	Polyclonal
React Species	Mouse(predicted:Human,Rat,Dog,Cow,Horse,Rabbit) IHC-P=1:100-500,IHC-F=1:100-500
Applications	not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight	23/35/58kDa
Form	Lyophilized or Liquid
Concentration	1mg/ml
immunogen	KLH conjugated Synthesised phosphopeptide derived from human PAK2 around the phosphorylation site of (Ser141)
Lsotype	IgG
Purification	affinity purified by Protein A
Storage Buffer	1M TBS(pH7.4) with 1% BSA, 3% 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 1M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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:

Serine/threonine protein kinase that plays a role in a variety of different signaling pathways including cytoskeleton regulation, cell motility, cell cycle progression, apoptosis or proliferation. Acts as 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. Full-length PAK2 stimulates cell survival and cell growth. Phosphorylates MAPK4 and MAPK6 and activates the downstream target MAPKAPK5, a regulator of F-actin polymerization and cell migration. Phosphorylates JUN and plays an important role in EGF-induced cell proliferation. Phosphorylates many other substrates including histone H4 to promote assembly of H3.3 and H4 into nucleosomes, BAD, ribosomal protein S6, or MBP. Additionally, associates with ARHGEF7 and GIT1 to perform kinase-independent functions such as spindle orientation control during mitosis. On the other hand, apoptotic stimuli such as DNA damage lead to caspase-mediated cleavage of PAK2, generating PAK-2p34, an active p34 fragment that translocates to the nucleus and promotes cellular apoptosis involving the JNK signaling pathway. Caspase-activated PAK2 phosphorylates MKNK1 and reduces cellular translation.

Product Detail

Subunit:

Interacts tightly with GTP-bound but not GDP-bound CDC42/p21 and RAC1. Interacts with SH3MD4. Interacts with and activated by HIV-1 Nef. Interacts with SCRIB. Interacts with ARHGEF7 and GIT1. PAK-2p34 interacts with ARHGAP10.

Subcellular Location:

Serine/threonine-protein kinase PAK 2: Cytoplasm. Note=MYO18A mediates the cellular distribution of the PAK2-ARHGEF7-GIT1 complex to the inner surface of the cell membrane.

PAK-2p34: Nucleus. Cytoplasm, perinuclear region. Membrane; Lipid-anchor. Note=Interaction with ARHGAP10 probably changes PAK-2p34 location to cytoplasmic perinuclear region. Myristoylation changes PAK-2p34 location to the membrane.

Tissue Specificity:

Ubiquitously expressed. Higher levels seen in skeletal muscle, ovary, thymus and spleen.

Post-translational modifications:

Full length PAK2 is autophosphorylated when activated by CDC42/p21. Following cleavage, both peptides, PAK-2p27 and PAK-2p34, become highly autophosphorylated, with PAK-2p27 being phosphorylated on serine and PAK-2p34 on threonine residues, respectively. Autophosphorylation of PAK-2p27 can occur in the absence of any effectors and is dependent on phosphorylation of Thr-402, because PAK-2p27 is acting as an exogenous substrate.

During apoptosis proteolytically cleaved by caspase-3 or caspase-3-like proteases to yield active PAK-2p34.

Ubiquitinated, leading to its proteasomal degradation.

PAK-2p34 is myristoylated.

Similarity:

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

Contains 1 CRIB domain.

Contains 1 protein kinase domain.

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。