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PAK2 Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1296a

Specification

PAK2 Antibody - Product Information

Application	**WB, IHC, ICC, E**
Primary Accession	Q13177
Reactivity	**Human, Monkey**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1**
Calculated MW	**61kDa KDa**

Description
PAK2, also known as P21 (CDKN1A)-activated kinase 2. The p21 activated kinases (PAK) are critical effectors that link Rho GTPases to cytoskeleton reorganization and nuclear signaling. The PAK proteins are a family of serine/threonine kinases that serve as targets for the small GTP binding proteins, CDC42 and RAC1, and have been implicated in a wide range of biological activities. PAK2 is activated by proteolytic cleavage during caspase-mediated apoptosis, and may play a role in regulating the apoptotic events in the dying cell. PAK2 has been shown to interact with SH3KBP1, CDC42 and Abl gene.

Immunogen
Purified recombinant fragment of PAK2 expressed in E. Coli.

Formulation
Ascitic fluid containing 0.03% sodium azide.

PAK2 Antibody - Additional Information

Gene ID 5062

Other Names
Serine/threonine-protein kinase PAK 2, 2.7.11.1, Gamma-PAK, PAK65, S6/H4 kinase, p21-activated kinase 2, PAK-2, p58, PAK-2p27, p27, PAK-2p34, p34, C-t-PAK2, PAK2

Dilution
WB~~1/500 - 1/2000
IHC~~1/200 - 1/1000
ICC~~N/A
E~~N/A

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
PAK2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

PAK2 Antibody - Protein Information

Name PAK2

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 (PubMed:12853446, PubMed:16617111, PubMed:19273597, PubMed:19923322, PubMed:33693784, PubMed:7744004, PubMed:9171063). Acts as a downstream effector of the small GTPases CDC42 and RAC1 (PubMed:7744004). 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 (PubMed:7744004). Full- length PAK2 stimulates cell survival and cell growth (PubMed:7744004). Phosphorylates MAPK4 and MAPK6 and activates the downstream target MAPKAPK5, a regulator of F-actin polymerization and cell migration (PubMed:21317288). Phosphorylates JUN and plays an important role in EGF-induced cell proliferation (PubMed:21177766). Phosphorylates many other substrates including histone H4 to promote assembly of H3.3 and H4 into nucleosomes, BAD, ribosomal protein S6, or MBP (PubMed:21724829). Phosphorylates CASP7, thereby preventing its activity (PubMed:21555521, PubMed:27889207). Additionally, associates with ARHGEF7 and GIT1 to perform kinase-independent functions such as spindle orientation control during mitosis (PubMed:19273597, PubMed:19923322). 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 (PubMed:12853446, PubMed:16617111, PubMed:9171063). Caspase-activated PAK2 phosphorylates MKNK1 and reduces cellular translation (PubMed:15234964).

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

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

PAK2 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

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- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PAK2 Antibody - Images

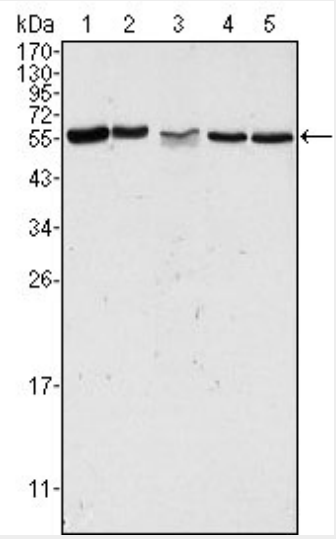

Figure 1: Western blot analysis using PAK2 mouse mAb against Hela (1), Jurkat (2), A549 (3), HEK293 (4) and K562 (5) cell lysate.

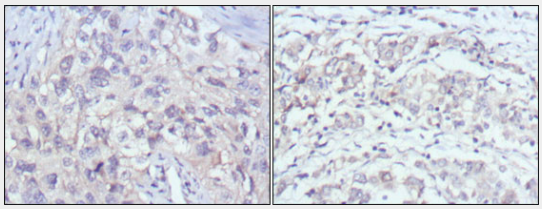

Figure 2: Immunohistochemical analysis of paraffin-embedded human lung cancer (left) and gastric cancer (right) using PAK2 mouse mAb with DAB staining.

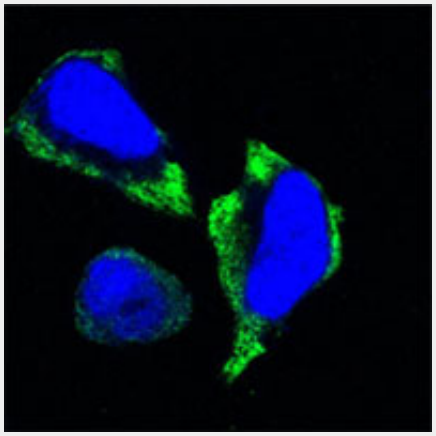

Figure 3: Confocal immunofluorescence analysis of Hela cells using PAK2 mouse mAb (green).

Blue: DRAQ5 fluorescent DNA dye.

PAK2 Antibody - References

1. J Immunol. 2004 Jun 15;172(12):7324-34. 2. J Mol Biol. 2007 Jul 20;370(4):620-32.