

**PAKy (phospho Ser20) Polyclonal Antibody**  
Catalog # AP67632**Specification**

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**PAKy (phospho Ser20) Polyclonal Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">Q13177</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal

**PAKy (phospho Ser20) Polyclonal Antibody - Additional Information****Gene ID** 5062**Other Names**

PAK2; Serine/threonine-protein kinase PAK 2; Gamma-PAK; PAK65; S6/H4 kinase; p21-activated kinase 2; PAK-2; p58

**Dilution**

WB~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. ELISA: 1/40000. Not yet tested in other applications.

**Format**

Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.

**Storage Conditions**

-20°C

**PAKy (phospho Ser20) Polyclonal 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](http://www.uniprot.org/citations/12853446)), PubMed: [16617111](http://www.uniprot.org/citations/16617111)), PubMed: [19273597](http://www.uniprot.org/citations/19273597)), PubMed: [19923322](http://www.uniprot.org/citations/19923322)), PubMed: [33693784](http://www.uniprot.org/citations/33693784)), PubMed: [7744004](http://www.uniprot.org/citations/7744004)), PubMed: [9171063](http://www.uniprot.org/citations/9171063)).

Acts as a downstream effector of the small GTPases CDC42 and RAC1 (PubMed: [7744004](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/7744004)). Full-length

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

#### 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

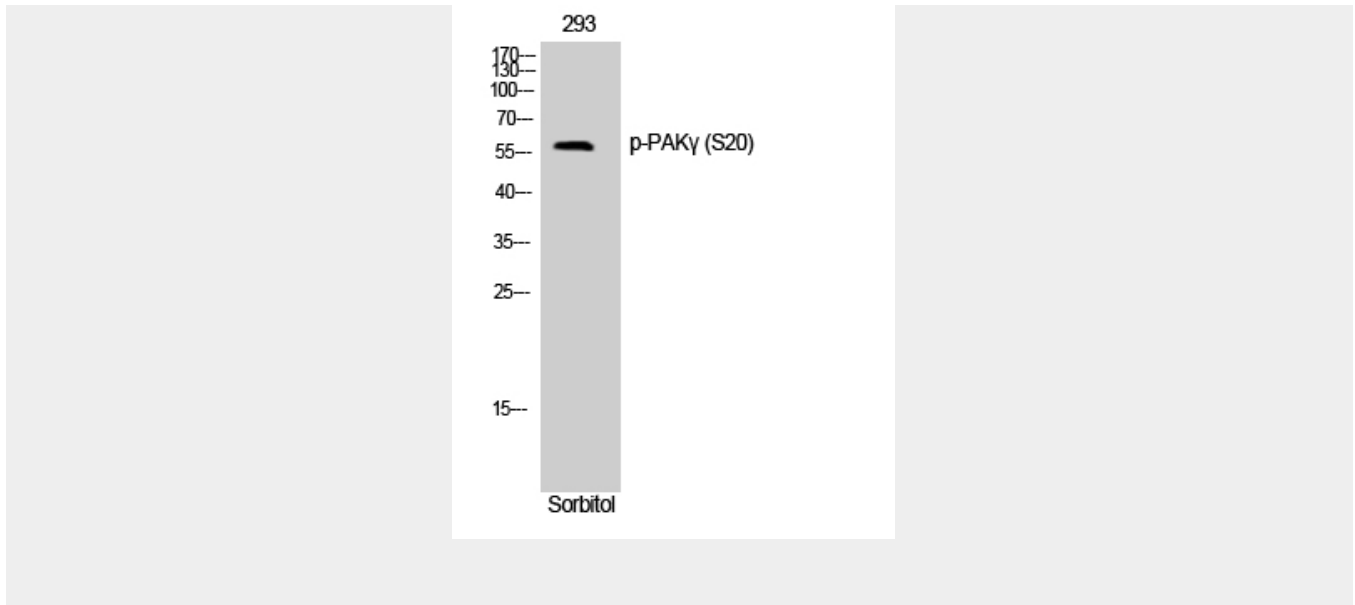
### PAK $\gamma$ (phospho Ser20) Polyclonal Antibody - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### PAK $\gamma$ (phospho Ser20) Polyclonal Antibody - Images





### PAK $\gamma$ (phospho Ser20) Polyclonal Antibody - Background

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.