



# PAK $\alpha$ / $\beta$ / $\gamma$ (phospho Thr423/402/421) Polyclonal Antibody

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| <b>Catalog No</b>         | YP-Ab-14526                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Isotype</b>            | IgG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Reactivity</b>         | Human;Mouse;Rat                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Applications</b>       | WB;IHC;IF;ELISA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Gene Name</b>          | PAK1/PAK2/PAK3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Protein Name</b>       | Serine/threonine-protein kinase PAK 1/Serine/threonine-protein kinase PAK 2/Serine/threonine-protein kinase PAK 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Immunogen</b>          | The antiserum was produced against synthesized peptide derived from human PAK1/2/3 around the phosphorylation site of Thr423/402/421. AA range:391-440                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Specificity</b>        | Phospho-PAK $\alpha$ / $\beta$ / $\gamma$ (T423/402/421) Polyclonal Antibody detects endogenous levels of PAK $\alpha$ / $\beta$ / $\gamma$ protein only when phosphorylated at T423/402/421.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Formulation</b>        | Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Source</b>             | Polyclonal, Rabbit,IgG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Purification</b>       | The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Dilution</b>           | WB: 1/500 - 1/2000. IHC: 1/100 - 1/300. ELISA: 1/5000.. IF 1:50-200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Concentration</b>      | 1 mg/ml                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Purity</b>             | ≥90%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Storage Stability</b>  | -20°C/1 year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Synonyms</b>           | PAK1; Serine/threonine-protein kinase PAK 1; Alpha-PAK; p21-activated kinase 1; PAK-1; p65-PAK; PAK2; Serine/threonine-protein kinase PAK 2; Gamma-PAK; PAK65; S6/H4 kinase; p21-activated kinase 2; PAK-2; p58; PAK3; OPHN3; Serine/threonine-p                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Observed Band</b>      | 60kD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Cell Pathway</b>       | Cytoplasm . Cell junction, focal adhesion . Cell projection, lamellipodium . Cell membrane . Cell projection, ruffle membrane . Cell projection, invadopodium . Nucleus, nucleoplasm . Chromosome . Cytoplasm, cytoskeleton, microtubule organizing center, centrosome . Colocalizes with RUFY3, F-actin and other core migration components in invadopodia at the cell periphery (PubMed:25766321). Recruited to the cell membrane by interaction with CDC42 and RAC1. Recruited to focal adhesions upon activation. Colocalized with CIB1 within membrane ruffles during cell spreading upon readhesion to fibronectin. Upon DNA damage, translocates to the nucleoplasm when phosphorylated at Thr-212 where is co-recruited with MORC2 on damaged chromatin (PubMed:23260667). Localization to the centrosome does not depen |
| <b>Tissue Specificity</b> | Overexpressed in gastric cancer cells and tissues (at protein level) (PubMed:25766321).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |



## Function

catalytic activity: ATP + a protein = ADP + a phosphoprotein., cofactor: Magnesium., enzyme regulation: Activated by binding small G proteins. Binding of GTP-bound CDC42 or RAC1 to the autoregulatory region releases monomers from the autoinhibited dimer, enables phosphorylation of Thr-423 and allows the kinase domain to adopt an active structure. Also activated by binding to GTP-bound CDC42, independent of the phosphorylation state of Thr-423. Phosphorylation of Thr-84 by OXSR1 inhibits this activation., 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. Activity is inhibited in cells undergoing apop

## 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],

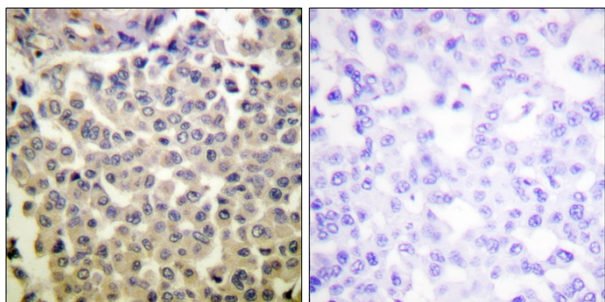
## matters needing attention

Avoid repeated freezing and thawing!

## Usage suggestions

This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.

## Products Images



Immunohistochemistry analysis of paraffin-embedded human breast carcinoma, using PAK1/2/3 (Phospho-Thr423/402/421) Antibody. The picture on the right is blocked with the phospho peptide.