

Affinity Purified Rabbit Anti-Phospho-PAK-1, 2, 3 (T402) Certificate of Analysis

ORDERING INFORMATION

Catalog Number: PPS058

Lot Numbers: 1630287

Size: 100 μ L (sufficient for 10 mini-blot)

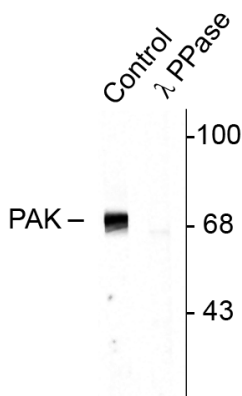
Storage: $\leq -20^{\circ}$ C

Specificity: Human, mouse, non-human primates, and rat ~68 - 70 kDa PAK-1, 2, 3 phosphorylated at T402. T402 in PAK-2 corresponds to T423 in human PAK-1.

Immunogen: Phosphopeptide corresponding to amino acid residues surrounding the phospho-T402 of rat p21 Activated Kinase 2 (PAK-2). The peptide sequence used is identical in PAK-1, 2 and 3.

Ig Type: rabbit IgG

Applications: Western blot



Western blot of rat hippocampal lysate showing specific immunolabeling of the approximately 68 - 70 kDa PAK protein (Control). The phosphospecificity of this labeling is shown in the second lane (λ phosphatase: λ PPase). The blot is identical to the control except that it was incubated in λ PPase (1200 units for 30 minutes) before being exposed to the anti-Phospho-PAK-1, 2, 3 (T402). The immunolabeling of PAK is completely eliminated by treatment with λ PPase.

Description

PAK (p21-activated kinase) is a general term for a Serine/Threonine kinase that functions downstream of Rho-family GTPases to regulate cytoskeletal (actin) structure and gene transcription. There are two mammalian PAK groups, each with three members. Group I contains PAK-1/ α -PAK, PAK-2/ β -PAK and PAK-3/ γ -PAK; group II contains PAKs 4 - 6. All PAKs contain p21-binding domains and a kinase domain. Only group I PAKs are activated by Cdc42 (cell division cycle 24) and exist as dimers. The dimeric form of group I PAKs keep them in an inactive state. This is due to cross-inhibition from one monomer to another. Following p21 binding, these PAKs dissociate and undergo either auto-, or exogenous (PKD1) phosphorylation on a kinase domain Threonine that is embedded in an 18 aa sequence that is absolutely conserved in PAKs 1 - 3 in both rat and human. In rat, this Threonine occurs at 402 in PAK-2, T422 in PAK-1, and T421 in PAK-3. In human, each position is increased by one (*i.e.* T403 vs. T402 in rat PAK-2, etc.). Phosphorylation at this homologous site activates the PAKs, which, following additional regulatory phosphorylations, can then interact with desmin, myosin light chain kinase, LIM1, filamin A and/or Merlin.

Preparation

Prepared from rabbit serum by affinity purification via sequential chromatography using phospho and dephosphopeptide columns.

Formulation

100 μ L in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 μ g/mL BSA and 50% glycerol.

Storage

For long-term storage, $\leq -20^{\circ}$ C is recommended. Product is stable at $\leq -20^{\circ}$ C for at least 1 year.

Specificity

This antibody is specific for the 68 - 70 kDa PAK-1, 2, 3 in Western blots of rat hippocampal lysates.

Applications

Western blot - 1:1000

Optimal dilutions should be determined by each laboratory for each application.

References

1. Bokoch, G.M. (2003) Annu. Rev. Biochem. **72**:743.
2. Zkumar, R. *et al.* (2006) Nat. Rev. Cancer **6**:459.
3. Parrini, M.C. *et al.* (2002) Mol. Cell **9**:73.
4. King, C.C. *et al.* (2000) J. Biol. Chem. **275**:41201.
5. Chong, C. *et al.* (2001) J. Biol. Chem. **276**:17347.

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