

## DESCRIPTION

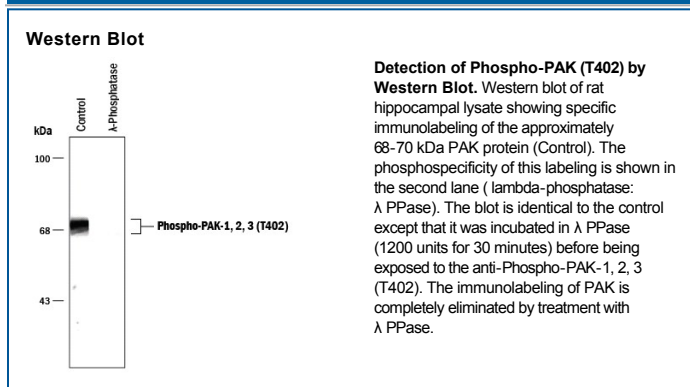
<b>Species Reactivity</b>	Human/Mouse/Rat/Primate
<b>Specificity</b>	Human, mouse, non-human primates, and rat ~68-70 kDa PAK-1, 2, 3 phosphorylated at T402. T402 in PAK-2 corresponds to T423 in human PAK-1 in Western blots.
<b>Source</b>	Polyclonal Rabbit IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Phosphopeptide corresponding to amino acid residues surrounding the phospho-T402 of PAK
<b>Formulation</b>	100 µL in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg/mL BSA and 50% glycerol. See Certificate of Analysis for details.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	1:1000 dilution	See Below

## DATA



## PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	For long-term storage, ≤ -20° C is recommended. Product is stable at ≤ -20° C for at least 1 year.

## BACKGROUND

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

### 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.