

**PAK2 Antibody**

**Orders:** 877-616-CELL (2355)  
orders@cellsignal.com

**Support:** 877-678-TECH (8324)

**Web:** info@cellsignal.com  
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

**For Research Use Only. Not for Use in Diagnostic Procedures.**

<b>Applications:</b> W, IP	<b>Reactivity:</b> H M R Mk GP	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 61	<b>Source/Isotype:</b> Rabbit	<b>UniProt ID:</b> #Q13177	<b>Entrez-Gene Id:</b> 5062
-------------------------------	-----------------------------------	-----------------------------------	------------------------	----------------------------------	-------------------------------	--------------------------------

**Product Usage Information****Application**

Western Blotting  
Immunoprecipitation

**Dilution**

1:1000  
1:100

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

**Specificity/Sensitivity**

PAK2 Antibody detects endogenous levels of total PAK2 protein. This antibody does not cross-react with PAK1, PAK3 or PAK4-6.

**Source / Purification**

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the amino-terminal region of human PAK2. Antibodies are purified by protein A and peptide affinity chromatography.

**Background**

The p21-activated kinase (PAK) family of serine/threonine kinases is engaged in multiple cellular processes, including cytoskeletal reorganization, MAPK signaling, apoptotic signaling, control of phagocyte NADPH oxidase, and growth factor-induced neurite outgrowth (1,2). Several mechanisms that induce PAK activity have been reported. Binding of Rac/Cdc42 to the CRIB (or PBD) domain near the amino terminus of PAK causes autophosphorylation and conformational changes in PAK (1). Phosphorylation of PAK1 at Thr423 by PDK induces activation of PAK1 (3). Several autophosphorylation sites have been identified, including Ser199 and Ser204 of PAK1, and Ser192 and Ser197 of PAK2 (4,5). Because the autophosphorylation sites are located in the amino-terminal inhibitory domain, it has been hypothesized that modification in this region prevents the kinase from reverting to an inactive conformation (6). Research indicates that phosphorylation at Ser144 of PAK1 or Ser139 of PAK3 (located in the kinase inhibitory domain) affects kinase activity (7). Phosphorylation at Ser21 of PAK1 or Ser20 of PAK2 regulates binding with the adaptor protein Nck (8). PAK4, PAK5/7, and PAK6 have lower sequence similarity with PAK1-3 in the amino-terminal regulatory region (9). Phosphorylation at Ser474 of PAK4, a site analogous to Thr423 of PAK1, may play a pivotal role in regulating the activity and function of PAK4 (10). PAK family members are widely expressed, and often overexpressed in human cancer (11,12).

**Background References**

1. Knaus, U.G. and Bokoch, G.M. (1998) *Int. J. Biochem. Cell Biol.* 30, 857-62.
2. Daniels, R.H. et al. (1998) *EMBO J.* 17, 754-64.
3. King, C.C. et al. (2000) *J. Biol. Chem.* 275, 41201-9.
4. Manser, E. et al. (1997) *Mol. Cell. Biol.* 17, 1129-43.
5. Gatti, A. et al. (1999) *J. Biol. Chem.* 274, 8022-8.
6. Lei, M. et al. (2000) *Cell* 102, 387-97.
7. Chong, C. et al. (2001) *J. Biol. Chem.* 276, 17347-53.
8. Zhao, Z. et al. (2000) *Mol. Cell. Biol.* 20, 3906-17.
9. Abo, A. et al. (1998) *EMBO J.* 17, 6527-40.
10. Qu, J. et al. (2001) *Mol. Cell. Biol.* 21, 3523-33.
11. Wen, Y.Y. et al. (2014) *Expert Opin Ther Targets* 18, 807-15.
12. Molli, P.R. et al. (2009) *Oncogene* 28, 2545-55.

**Species Reactivity**

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

**Western Blot Buffer**

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

**Applications Key**

**W:** Western Blotting **IP:** Immunoprecipitation

**Cross-Reactivity Key**

**H:** Human **M:** Mouse **R:** Rat **Mk:** Monkey **GP:** Guinea Pig

## Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit [cellsignal.com/trademarks](http://cellsignal.com/trademarks) for more information.

## Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.