Revision 1

#2615 Store at -20C

PAK2 (C17A10) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M Mk	Endogenous	61	Rabbit IgG	#Q13177	5062

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

PAK2 (C17A10) Rabbit mAb detects endogenous levels of total PAK2 protein. This antibody does not cross-react with PAK1, PAK3 or PAK4-6.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to the amino-terminal region of human PAK2.

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

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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.
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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

Cross-Reactivity Key

H: Human **M:** Mouse **Mk:** Monkey

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