



Orders: 877-616-CELL (2355)
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Web: info@cellsignal.com
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3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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#4573

Cool2/αPix (C23D2) Rabbit mAb

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

Applications: W, IF-IC	Sensitivity: Endogenous	MW (kDa): 87	Source/Isotype: Rabbit	UniProt ID: #Q15052	Entrez-Gene Id: 9459
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Product Usage Information	Application Western Blotting Immunofluorescence (Immunocytochemistry)	Dilution 1:1000 1:400
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	Cool2/αPix (C23D2) Rabbit mAb detects endogenous levels of total Cool2/αPix protein.	
Species predicted to react based on 100% sequence homology	Rat, Dog	
Source / Purification	Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human Cool2/αPix.	
Background	<p>Cool/Pix proteins comprise a family of guanine nucleotide exchange factors (GEFs) localized to focal adhesions. The family consists of two isoforms, cool2/αPix and cool1/βPix, the latter having two splice variants that vary in their carboxy termini (1). Cool2/αPix, like other GEFs, has a DH (Dbl homology) domain, which allows binding of small GTPases and GDP/GTP exchange, and a PH (Pleckstrin homology) domain (2).</p> <p>X-chromosomal genes mutated in nonspecific mental retardation (MRX) comprise a family of genes, including the gene encoding Cool2/αPix, thought to be involved in mental retardation (3,4). Cool2/αPix interacts with β-parvin/affixin, a protein involved in integrin signaling (5), and may act downstream of integrin-linked kinase (ILK) to regulate actin reorganization and cell spreading (6). When Cool2αPix exists as a dimer, it functions as a Rac-specific GEF, whereas the monomeric protein acts as a GEF for both Rac and Cdc42. Regulation of Cool2/αPix dimerization, and therefore its specificity, occurs at least in part through p21 activated kinase (PAK) in response to extracellular signaling (7). Further, binding of Cdc42 enhances the Rac GEF activity of the Cool2/αPix dimer. Activated Rac in turn inhibits Cool2/αPix Rac GEF activity (8).</p>	
Background References	<ol style="list-style-type: none"> 1. Koh, C.G. et al. (2001) <i>J Cell Sci</i> 114, 4239-51. 2. Kutsche, K. and Gal, A. (2001) <i>Cytogenet Cell Genet</i> 95, 196-201. 3. Kutsche, K. et al. (2000) <i>Nat Genet</i> 26, 247-50. 4. Lower, K.M. and Gecz, J. (2001) <i>Am J Med Genet</i> 100, 43-8. 5. Rosenberger, G. et al. (2003) <i>Hum Mol Genet</i> 12, 155-67. 6. Filipenko, N.R. et al. (2005) <i>Oncogene</i> 24, 5837-49. 7. Feng, Q. et al. (2004) <i>EMBO J</i> 23, 3492-504. 8. Baird, D. et al. (2005) <i>Curr Biol</i> 15, 1-10. 	

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 IF-IC: Immunofluorescence (Immunocytochemistry)
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