

#4651 Store at -20C

# Rac1/Cdc42 Antibody

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

<b>Applications:</b> WB	<b>Reactivity:</b> H M R Mk	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 21	<b>Source:</b> Rabbit	<b>UniProt ID:</b> #P63000, #P60953	<b>Entrez-Gene Id:</b> 5879, 998
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<b>Product Usage Information</b>	<b>Application</b> Western Blotting	<b>Dilution</b> 1:1000
<b>Storage</b>	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.	
<b>Specificity / Sensitivity</b>	Rac1/Cdc42 Antibody recognizes endogenous levels of total rac1 and cdc42 protein. Based on sequence similarities, the antibody may react with other small GTPases.	
<b>Source / Purification</b>	Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the amino termini of human rac1 and cdc42. Antibodies are purified using protein A and peptide affinity chromatography.	
<b>Background</b>	Rac and Cdc42 are members of the Rho-GTPase family. In mammals, Rac exists as three isoforms, Rac1, Rac2 and Rac3, which are highly similar in sequence. Rac1 and Cdc42, the most widely studied of this group, are ubiquitously expressed. Rac2 is expressed in cells of hematopoietic origin, and Rac3, while highly expressed in brain, is also found in many other tissues. Rac and Cdc42 play key signaling roles in cytoskeletal reorganization, membrane trafficking, transcriptional regulation, cell growth and development (1). GTP binding stimulates the activity of Rac/Cdc42, and the hydrolysis of GTP to GDP through the protein's intrinsic GTPase activity, rendering it inactive. GTP hydrolysis is aided by GTPase activating proteins (GAPs), while exchange of GDP for GTP is facilitated by guanine nucleotide exchange factors (GEFs). Another level of regulation is achieved through the binding of RhoGDI, a guanine nucleotide dissociation inhibitor, which retains Rho family GTPases, including Rac and Cdc42, in their inactive GDP-bound state (2,3).	
<b>Background References</b>	<ol style="list-style-type: none"> <li>1. Wennerberg, K. and Der, C.J. (2004) <i>J Cell Sci</i> 117, 1301-12.</li> <li>2. Bernards, A. and Settleman, J. (2004) <i>Trends Cell Biol</i> 14, 377-85.</li> <li>3. Rossman, K.L. et al. (2005) <i>Nat Rev Mol Cell Biol</i> 6, 167-80.</li> </ol>	
<b>Species Reactivity</b>	Species reactivity is determined by testing in at least one approved application (e.g., western blot).	
<b>Western Blot Buffer</b>	<b>IMPORTANT:</b> 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.	
<b>Applications Key</b>	<b>WB:</b> Western Blotting	
<b>Cross-Reactivity Key</b>	<b>H:</b> human <b>M:</b> mouse <b>R:</b> rat <b>Hm:</b> hamster <b>Mk:</b> monkey <b>Vir:</b> virus <b>Mi:</b> mink <b>C:</b> chicken <b>Dm:</b> D. melanogaster <b>X:</b> Xenopus <b>Z:</b> zebrafish <b>B:</b> bovine <b>Dg:</b> dog <b>Pg:</b> pig <b>Sc:</b> S. cerevisiae <b>Ce:</b> C. elegans <b>Hr:</b> horse <b>GP:</b> Guinea Pig <b>Rab:</b> rabbit <b>All:</b> all species expected	
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