

Rac1/2/3 Antibody

100 µl
 (10 western blots)

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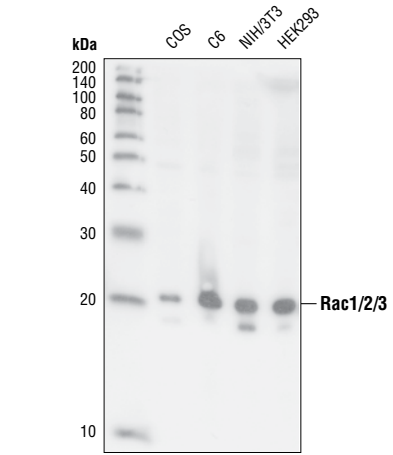
rev. 1/19/10

This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, F Endogenous	H, M, R, Mk, B	21 kDa	Rabbit**

Background: 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).

Specificity/Sensitivity: Rac1/2/3 Antibody detects endogenous levels of total Rac1/2/3 proteins. This antibody does not cross-react with other small GTPases.



Western blot analysis of extracts from COS, C6, NIH/3T3 and HEK293 cells using Rac1/2/3 Antibody.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide (KLH-coupled) corresponding to residues surrounding Thr138 of human Rac1. Antibodies are purified by protein A and peptide affinity chromatography.

- Background References:**
- (1) Wennerberg, K. and Der, C.J. (2004) *J. Cell Sci.* 117, 1301–1312.
 - (2) Bernards, A. and Settleman, J. (2004) *Trends Cell Biol.* 14, 377–385.
 - (3) Rossman, K.L. et al. (2005) *Nat. Rev. Mol. Cell Biol.* 6, 167–180.

Entrez-Gene ID #5879
Swiss-Prot Acc. #P63000

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.

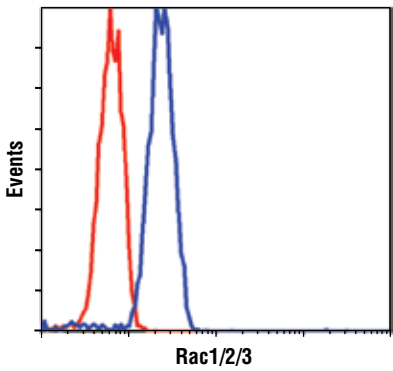
***Species cross-reactivity is determined by Western blot.**
****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western Blotting	1:1000
Flow Cytometry	1:25

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.



Flow cytometric analysis of Jurkat cells using Rac1/2/3 Antibody (blue) compared to a nonspecific negative control antibody (red).

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

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
 Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.