Revision 1

#8236 Store at -20C

ROCK2 Antibody

Cell Signaling TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB, IP	H M R	Endogenous	160	Rabbit	#O75116	9475

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50

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

ROCK2 Antibody recognizes endogenous levels of total ROCK2 protein.

Species predicted to react based on 100% sequence homology:

Monkey

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human ROCK2 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

ROCK (Rho-associated kinase), a family of serine/threonine kinases, is an important downstream target of Rho-GTPase and plays an important role in Rho-mediated signaling. Two isoforms of ROCK have been identified: ROCK1 and ROCK2. ROCK is composed of N-terminal catalytic, coiled-coil, and C-terminal PH (pleckstrin homology) domains. The C-terminus of ROCK negatively regulates its kinase activity (1,2). ROCK1 is cleaved by caspase-3 at a conserved DETD1113/G sequence resulting in loss of its C-terminal inhibitory domain (3). ROCK2 is directly cleaved by granzyme B (grB). Cleavage activates ROCK and leads to phosphorylation of myosin light chain (MLC) and inhibition of myosin phosphatase (4). This phosphorylation may account for the mechanism by which Rho regulates cytokinesis, cell motility, cell membrane blebbing during apoptosis, and smooth muscle contraction (5-7).

Background References

1. Nakagawa, O. et al. (1996) *FEBS Lett.* 392, 189-193.
2. Lee, J.H. et al. (2004) *J. Cell. Biol.* 167, 327-337.
3. Sebbagh, M. et al. (2005) *J. Exp. Med.* 201, 465-471.
4. Sebbagh, M. et al. (2001) *Nat Cell Biol* 3, 346-52.
5. Amano, M. et al. (1996) *J. Biol. Chem.* 271, 20246-20249.
6. Kureishi, Y. et al. (1997) *J. Biol. Chem.* 272, 12257-12260.
7. Totsukawa, G. et al. (2000) *J. Cell Biol.* 150, 797-806.

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

WB: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **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 **GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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