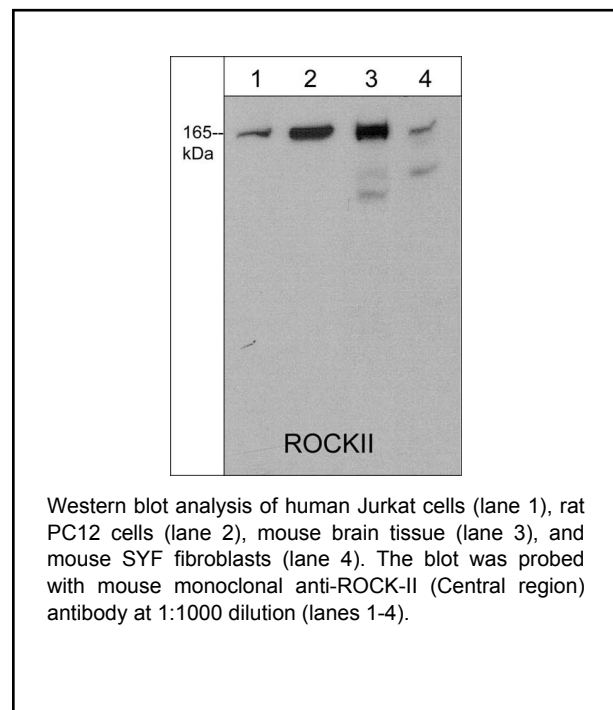


Background

Rho-associated kinases (ROCKs) are a family of serine/threonine kinases that have important roles in Rho-mediated signaling. The structure of ROCKs (ROCK-I/ROK β and ROCK-II/ROK α) includes an N-terminal catalytic domain, a coiled-coil region, and a C-terminal pleckstrin homology domain. The C-terminal region negatively regulates kinase activity, and this inhibitory regulation is controlled through C-terminal cleavage. Caspase-3-induced cleavage of ROCK-I and direct cleavage of ROCK-II by granzyme B activate ROCK. This leads to inhibition of myosin phosphatase and phosphorylation of myosin light chain, which causes myosin II-mediated changes in cytoskeletal dynamics. This pathway has been implicated as a downstream effector of Rho-mediated changes in cytokinesis, cell motility, apoptosis and muscle contraction.

Background References

Nakagawa, O. et al. (1996) FEBS Lett. 392:189.
 Lee, J.H. et al. (2004) J. Cell. Biol. 167:327.
 Sebbagh, M. et al. (2005) J. Exp. Med. 201:465.



Applications

WB 1:1000
 ELISA 1:2000

Species Reactivity

Hu, Rt, Ms

Specificity

The antibody detects a 165 kDa* band corresponding to ROCK-II in mouse kidney, heart, and brain tissues, as well as in rat PC12, mouse SYF, and human Jurkat cells.

Isotype: IgG1

*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

End user should determine optimal dilution for their particular applications and experiments.
 Western blot membranes were incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1 hour at room temperature.

Immunogen

Uniprot ID: Q28021

Clone (M276) was generated from amino acids in the central region of human ROCK-II. This sequence has high homology to rat and mouse ROCK-II, and has 50% homology to ROCK-I.

Buffer and Storage

Mouse monoclonal antibody purified with protein A chromatography is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at -20°C. Stable for 1 year.

Related Products

CP2251 CRMP2 (Thr-555), phospho-specific Rabbit Polyclonal
 RP1501 Rho (Central region) Rabbit Polyclonal
 RP1361 RhoA (Ser-188), phospho-specific Rabbit Polyclonal
 RM2721 ROCK-I Mouse Monoclonal
 RM2741 ROCK-I (C-terminal), cleavage-specific Mouse Monoclonal

Product References

Amelio, I. et al. (2012) J Cell Biol. 199(2):347.
 WB: human primary epidermal keratinocytes
 Mei, H. et al. (2011) Cellular Signalling. 23(2):389.
 WB: mouse C2C12

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