

# Cdc42EP2 (M-14): sc-167443

## BACKGROUND

Rho GTPases are molecular switches that regulate many essential cellular processes, including Actin dynamics, cell adhesion, cell-cycle progression and transcription. Cdc42, a small GTPase, regulates Actin polymerization, elongation of cell shape and cell signaling through interactions with many different downstream effector proteins, most of which contain a Cdc42-binding motif known as a CRIB domain. Cdc42EP2 (Cdc42 effector protein 2), also known as BORG1 or CEP2, is a 210 amino acid intracytoplasmic protein that localizes to both the cytoplasm and the cytoskeleton and contains one CRIB domain. Highly expressed in heart and present at lower levels in liver and pancreas, Cdc42EP2 interacts with Cdc42 and is thought to be involved in the organization of the Actin cytoskeleton and may also influence Actin filament assembly and overall cell shape.

## REFERENCES

1. Joberty, G., et al. 1999. The Borgs, a new family of Cdc42 and TC10 GTPase-interacting proteins. *Mol. Cell. Biol.* 19: 6585-6597.
2. Burbelo, P.D., et al. 1999. MSE55, a Cdc42 effector protein, induces long cellular extensions in fibroblasts. *Proc. Natl. Acad. Sci. USA* 96: 9083-9088.
3. Hirsch, D.S., et al. 2001. A new family of Cdc42 effector proteins, CEPs, function in fibroblast and epithelial cell shape changes. *J. Biol. Chem.* 276: 875-883.
4. Joberty, G., et al. 2001. Borg proteins control Septin organization and are negatively regulated by Cdc42. *Nat. Cell Biol.* 3: 861-866.
5. Kinoshita, M., et al. 2002. Self- and Actin-templated assembly of mammalian Septins. *Dev. Cell.* 3: 791-802.
6. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606132. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Sheffield, P.J., et al. 2003. Borg/Septin interactions and the assembly of mammalian Septin heterodimers, trimers, and filaments. *J. Biol. Chem.* 278: 3483-3488.
8. Xue, Y., et al. 2006. Role of Rac1 and Cdc42 in hypoxia induced p53 and von Hippel-Lindau suppression and HIF1 $\alpha$  activation. *Int. J. Cancer* 118: 2965-2972.

## CHROMOSOMAL LOCATION

Genetic locus: Cdc42ep2 (mouse) mapping to 19 A.

## SOURCE

Cdc42EP2 (M-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Cdc42EP2 of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-167443 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Cdc42EP2 (M-14) is recommended for detection of Cdc42EP2 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other Cdc42EP family members.

Suitable for use as control antibody for Cdc42EP2 siRNA (m): sc-142211, Cdc42EP2 shRNA Plasmid (m): sc-142211-SH and Cdc42EP2 shRNA (m) Lentiviral Particles: sc-142211-V.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.