

Cdc42EP4 (E-14): sc-161471

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. Cdc42EP4 (CDC42 effector protein (Rho GTPase binding) 4), also known as CEP4 or BORG4, is a 356 amino acid endomembrane system protein that localizes to the cytoplasm and is a member of the BORG/CEP family. Cdc42EP4 is expressed only in fetal or embryonic tissues and not in adult tissues. Cdc42EP4 is suggested to be involved in the organization of the Actin cytoskeleton and may act downstream of Cdc42 to induce Actin filament assembly leading to changes in cell shape. When overexpressed in fibroblasts, Cdc42EP4 induces pseudopodia formation.

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.

CHROMOSOMAL LOCATION

Genetic locus: CDC42EP4 (human) mapping to 17q25.1; Cdc42ep4 (mouse) mapping to 11 E2.

SOURCE

Cdc42EP4 (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Cdc42EP4 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-161471 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

Cdc42EP4 (E-14) is recommended for detection of Cdc42EP4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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 Cdc42EP4 siRNA (h): sc-94218, Cdc42EP4 siRNA (m): sc-142213, Cdc42EP4 shRNA Plasmid (h): sc-94218-SH, Cdc42EP4 shRNA Plasmid (m): sc-142213-SH, Cdc42EP4 shRNA (h) Lentiviral Particles: sc-94218-V and Cdc42EP4 shRNA (m) Lentiviral Particles: sc-142213-V.

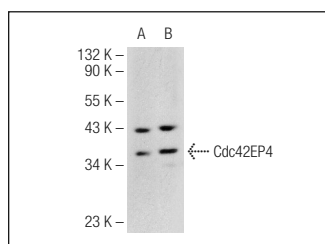
Molecular Weight of Cdc42EP4: 38 kDa.

Positive Controls: ECV304 cell lysate: sc-2269 or HeLa whole cell lysate: sc-2200.

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™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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™ Mounting Medium: sc-24941.

DATA



Cdc42EP4 (E-14): sc-161471. Western blot analysis of Cdc42EP4 expression in HeLa (A) and ECV304 (B) whole cell lysates.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.