

Cdc42EP5 (S-12): sc-162662

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. Cdc42EP5 (Cdc42 effector protein 5), also known as BORG3 (binder of Rho GTPases 3) or CEP5, is a 148 amino acid peripheral membrane protein that localizes to the cytoplasm. One of several members of the BORG family of Cdc42 effectors, Cdc42EP5 contains one CRIB domain through which it binds to and negatively regulates the function of Cdc42. Additionally, via its interaction with Cdc42, Cdc42EP5 is thought to play a role in Actin cytoskeletal organization, possibly inducing Actin filament assembly and promoting cell shape changes.

REFERENCES

1. Joberty, G., Perlungher, R.R. and Macara, I.G. 1999. The Borgs, a new family of Cdc42 and TC10 GTPase-interacting proteins. *Mol. Cell. Biol.* 19: 6585-6597.
2. Hirsch, D.S., Pirone, D.M. and Burbelo, P.D. 2001. A new family of Cdc42 effector proteins, CEPs, function in fibroblast and epithelial cell shape changes. *J. Biol. Chem.* 276: 875-883.
3. Joberty, G., Perlungher, R.R., Sheffield, P.J., Kinoshita, M., Noda, M., Haystead, T. and Macara, I.G. 2001. Borg proteins control septin organization and are negatively regulated by Cdc42. *Nat. Cell Biol.* 3: 861-866.
4. Kinoshita, M., Field, C.M., Coughlin, M.L., Straight, A.F. and Mitchison, T.J. 2002. Self- and Actin-templated assembly of mammalian septins. *Dev. Cell.* 3: 791-802.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609171. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Roberts, P.J., Mitin, N., Keller, P.J., Chenette, E.J., Madigan, J.P., Currin, R.O., Cox, A.D., Wilson, O., Kirschmeier, P. and Der, C.J. 2008. RHO family GTPase modification and dependence on CAAX motif-signaled posttranslational modification. *J. Biol. Chem.* E-Published.

CHROMOSOMAL LOCATION

Genetic locus: CDC42EP5 (human) mapping to 19q13.42; Cdc42ep5 (mouse) mapping to 7 A1.

SOURCE

Cdc42EP5 (S-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Cdc42EP5 of mouse origin.

STORAGE

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

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-162662 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Cdc42EP5 (S-12) is recommended for detection of Cdc42EP5 of mouse, rat and human 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 Cdc42EP5 siRNA (h): sc-97416, Cdc42EP5 siRNA (m): sc-142214, Cdc42EP5 shRNA Plasmid (h): sc-97416-SH, Cdc42EP5 shRNA Plasmid (m): sc-142214-SH, Cdc42EP5 shRNA (h) Lentiviral Particles: sc-97416-V and Cdc42EP5 shRNA (m) Lentiviral Particles: sc-142214-V.

Molecular Weight of Cdc42EP5: 16 kDa.

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) 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.

RESEARCH USE

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

PROTOCOLS

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