

CdGAP (N-13): sc-102431

BACKGROUND

The superfamily of GTP-binding proteins, for which the Ras proteins are prototypes, has been implicated in regulation of diverse biological activities involving various aspects of cell growth and division. Cdc42 mediates many signaling pathways that lead to transcriptional activation, cell cycle control and Actin reorganization. CdGAP (Cdc42 GTPase-activating protein) is a 1,444 amino acid protein that serves as a GAP (GTP-activating protein) for the Rho GTPases Cdc42 and Rac 1, but not Rho A. Overexpression of CdGAP in Cos-7 cells results in membrane blebbing, suggesting that CdGAP may play a role in apoptosis. Via binding to GSK-3 α and GSK-3 β , human CdGAP is phosphorylated on threonine 776. CdGAP is ubiquitously expressed in all tissues with highest levels in muscle and heart.

REFERENCES

- Lamarque-Vane, N. and Hall, A. 1998. CdGAP, a novel proline-rich GTPase-activating protein for Cdc42 and Rac. *J. Biol. Chem.* 273: 29172-29177.
- Jenna, S., Hussain, N.K., Danek, E.I., Triki, I., Wasiak, S., McPherson, P.S. and Lamarque-Vane, N. 2002. The activity of the GTPase-activating protein CdGAP is regulated by the endocytic protein intersectin. *J. Biol. Chem.* 277: 6366-6373.
- Itoh, R.E., Kurokawa, K., Ohba, Y., Yoshizaki, H., Mochizuki, N. and Matsuda, M. 2002. Activation of Rac and Cdc42 video imaged by fluorescent resonance energy transfer-based single-molecule probes in the membrane of living cells. *Mol. Cell. Biol.* 22: 6582-6591.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610911. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Tcherkezian, J., Danek, E.I., Jenna, S., Triki, I. and Lamarque-Vane, N. 2005. Extracellular signal-regulated kinase 1 interacts with and phosphorylates CdGAP at an important regulatory site. *Mol. Cell. Biol.* 25: 6314-6329.
- Tcherkezian, J., Triki, I., Stenne, R., Danek, E.I. and Lamarque-Vane, N. 2006. The human orthologue of CdGAP is a phosphoprotein and a GTPase-activating protein for Cdc42 and Rac 1 but not Rho A. *Biol. Cell* 98: 445-456.
- LaLonde, D.P., Grubinger, M., Lamarque-Vane, N. and Turner, C.E. 2006. CdGAP associates with actopaxin to regulate integrin-dependent changes in cell morphology and motility. *Curr. Biol.* 16: 1375-1385.
- Danek, E.I., Tcherkezian, J., Triki, I., Meriane, M. and Lamarque-Vane, N. 2007. Glycogen synthase kinase-3 phosphorylates CdGAP at a consensus ERK 1 regulatory site. *J. Biol. Chem.* 282: 3624-3631.
- Engelse, M.A., Laurens, N., Verloop, R.E., Koolwijk, P. and van Hinsbergh, V.W. 2008. Differential gene expression analysis of tubule forming and non-tubule forming endothelial cells: Cdc42GAP as a counter-regulator in tubule formation. *Angiogenesis* 11: 153-167.

CHROMOSOMAL LOCATION

Genetic locus: CDGAP (human) mapping to 3q13.32; Cdgap (mouse) mapping to 16 B4.

SOURCE

CdGAP (N-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of CdGAP of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-102431 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CdGAP (N-13) is recommended for detection of CdGAP 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).

Suitable for use as control antibody for CdGAP siRNA (h): sc-78231, CdGAP siRNA (m): sc-142222, CdGAP shRNA Plasmid (h): sc-78231-SH, CdGAP shRNA Plasmid (m): sc-142222-SH, CdGAP shRNA (h) Lentiviral Particles: sc-78231-V and CdGAP shRNA (m) Lentiviral Particles: sc-142222-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™ 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.

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 or our catalog for detailed protocols and support products.


 MONOS
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Try **CdGAP (G-8): sc-393839**, our highly recommended monoclonal alternative to CdGAP (N-13).