SANTA CRUZ BIOTECHNOLOGY, INC.

CdGAP (G-8): sc-393839

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 RAC1, but not RhoA. Overexpression of CdGAP in Cos-7 cells results in membrane blebbing, suggesting that CdGAP may play a role in apoptosis. Via binding to GSK-3α and GSK-3β, human CdGAP is phosphorylated on Theronine 776. CdGAP is ubiquitously expressed in all tissues with highest levels in muscle and heart.

REFERENCES

1. Lamarche-Vane, N. and Hall, A. 1998. CdGAP, a novel proline-rich GTPase-activating protein for Cdc42 and Rac. J. Biol. Chem. 273: 29172-29177.
2. Jenna, S., et al. 2002. The activity of the GTPase-activating protein CdGAP is regulated by the endocytic protein intersectin. J. Biol. Chem. 277: 6366-6373.
3. Itoh, R.E., et al. 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.
4. 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/
5. Tcherkezian, J., et al. 2005. Extracellular signal-regulated kinase 1 interacts with and phosphorylates CdGAP at an important regulatory site. Mol. Cell. Biol. 25: 6314-6329.

CHROMOSOMAL LOCATION

Genetic locus: ARHGAP31 (human) mapping to 3q13.33; Arhgap31 (mouse) mapping to 16 B4.

SOURCE

CdGAP (G-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1369-1392 near the C-terminus of CdGAP of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-393839 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

CdGAP (G-8) is recommended for detection of CdGAP of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

CdGAP (G-8) is also recommended for detection of CdGAP in additional species, including equine.

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.

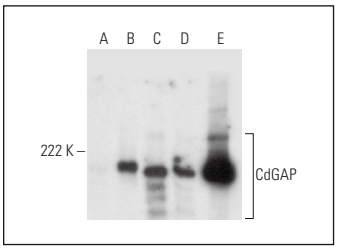
Molecular Weight of CdGAP isoforms: 250/155/90 kDa.

Positive Controls: CdGAP (h): 293T Lysate: sc-373309, U-2 OS cell lysate: sc-2295 or C2C12 whole cell lysate: sc-364188.

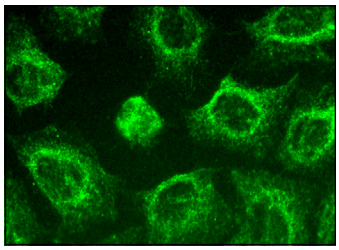
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



CdGAP (G-8): sc-393839. Western blot analysis of CdGAP expression in non-transfected 293T: sc-117752 (**A**), human CdGAP transfected 293T: sc-373309 (**B**), U-2 OS (**C**), C2C12 (**D**) and SH-SY5Y (**E**) whole cell lysates.



CdGAP (G-8): sc-393839. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Tian, H., et al. 2022. Synergistic effects of rare variants of ARHGAP31 and FBLN1 *in vitro* in terminal transverse limb defects. Front. Genet. 13: 946854.

RESEARCH USE

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