SANTA CRUZ BIOTECHNOLOGY, INC.

ARHGAP1 (W-12): sc-109201

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The Power to Question

BACKGROUND

GTPase-activating proteins (GAPs) accelerate the intrinsic rate of GTP hydrolysis of Ras-related proteins, resulting in downregulation of their active form. ARHGAP1 (Rho GTPase activating protein 1), also known as CDC42GAP or Rho GAP1, is a 439 amino acid protein that localizes to the cytoplasm and contains one Rho GAP domain and one CRAL-TRIO domain. Expressed ubiquitously, ARHGAP1 exists in a complex with several other proteins, including eIF4AI and Exportin 7, and functions as a GTPase activator for Rho, Rac and Cdc42 proteins, effectively converting them to an inactive GDP-bound state. The gene encoding ARHGAP1 maps to human chromosome 11, which houses over 1,400 genes and comprises nearly 4% of the human genome. Jervell and Lange-Nielsen syndrome, Jacobsen syndrome, Niemann-Pick disease, hereditary angioedema and Smith-Lemli-Opitz syndrome are associated with defects in genes that maps to chromosome 11.

REFERENCES

1. Garrett, M.D., et al. 1991. Purification and N-terminal sequence of the p21Rho GTPase-activating protein, Rho GAP. Biochem. J. 276: 833-836.
2. Diekmann, D., et al. 1991. Bcr encodes a GTPase-activating protein for p21Rac. Nature 351: 400-402.
3. Barfod, E.T., et al. 1993. Cloning and expression of a human Cdc42 GTPase-activating protein reveals a functional SH3-binding domain. J. Biol. Chem. 268: 26059-26062.
4. Lancaster, C.A., et al. 1994. Characterization of Rho GAP. A GTPase-activating protein for Rho-related small GTPases. J. Biol. Chem. 269: 1137-1142.
5. Zhou, Y.T., et al. 2005. BNIP-2 induces cell elongation and membrane protrusions by interacting with Cdc42 via a unique Cdc42-binding motif within its BNIP-2 and Cdc42GAP homology domain. Exp. Cell Res. 303: 263-274.
6. Wildenberg, G.A., et al. 2006. p120-catenin and p190Rho GAP regulate cell-cell adhesion by coordinating antagonism between Rac and Rho. Cell 127: 1027-1039.
7. Engelse, M.A., et al. 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: ARHGAP1 (human) mapping to 11p11.2; Arhgap1 (mouse) mapping to 2 E1.

SOURCE

ARHGAP1 (W-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ARHGAP1 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-109201 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ARHGAP1 (W-12) is recommended for detection of ARHGAP1 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).

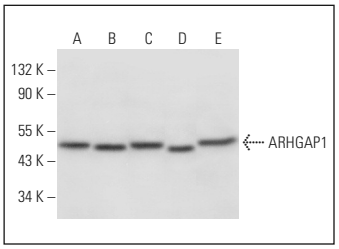
ARHGAP1 (W-12) is also recommended for detection of ARHGAP1 in additional species, including porcine.

Suitable for use as control antibody for ARHGAP1 siRNA (h): sc-96477, ARHGAP1 siRNA (m): sc-141199, ARHGAP1 shRNA Plasmid (h): sc-96477-SH, ARHGAP1 shRNA Plasmid (m): sc-141199-SH, ARHGAP1 shRNA (h) Lentiviral Particles: sc-96477-V and ARHGAP1 shRNA (m) Lentiviral Particles: sc-141199-V.

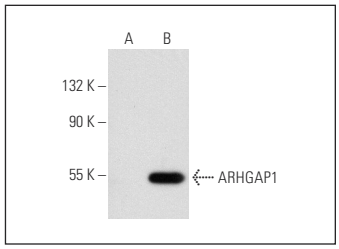
Molecular Weight of ARHGAP1: 50 kDa.

Positive Controls: ARHGAP1 (h): 293T Lysate: sc-172064, PC-12 cell lysate: sc-2250 or NIH/3T3 whole cell lysate: sc-2210.

DATA



ARHGAP1 (W-12): sc-109201. Western blot analysis of ARHGAP1 expression in PC-12 (**A**), MES-SA/Dx5 (**B**), RAW 264.7 (**C**), Jurkat (**D**) and NIH/3T3 (**E**) whole cell lysates.



ARHGAP1 (W-12): sc-109201. Western blot analysis of ARHGAP1 expression in non-transfected: sc-117752 (**A**) and human ARHGAP1 transfected: sc-172064 (**B**) 293T whole cell lysates.

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.