SANTA CRUZ BIOTECHNOLOGY, INC.

ARHGEF16 (C-15): sc-160151

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Rho GTPases, which play fundamental roles in numerous cellular processes, are initiated by external stimuli that signal though G protein-coupled receptors. ARHGEF16 (Rho guanine exchange factor (GEF) 16), also known as NBR or GEF16, is a 709 amino acid protein that contains a DH (DBL-homology) domain, a PH domain and an SH3 domain. The DH domain consists of a region containing about 150 amino acids that induce Rho family GTPases to release GDP. The DH domain is invariably followed by a Pleckstrin homology (PH) domain, and while not required for catalysis of nucleotide exchange, the PH domain is suggested to greatly increase catalytic efficiency. ARHGEF16 exists as two alternatively spliced isoforms and is encoded by a gene located on human chromsome 1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome.

REFERENCES

1. Chan, A.M., et al. 1994. Expression cDNA cloning of a novel oncogene with sequence similarity to regulators of small GTP-binding proteins. Oncogene 9: 1057-1063.
2. Snyder, J.T., et al. 2002. Structural basis for the selective activation of Rho GTPases by Dbl exchange factors. Nat. Struct. Biol. 9: 468-475.
3. Ogita, H., et al. 2003. EphA4-mediated Rho activation via Vsm-RhoGEF expressed specifically in vascular smooth muscle cells. Circ. Res. 93: 23-31.
4. O'Brien, M., et al. 2008. Expression of RhoGTPase regulators in human myometrium. Reprod. Biol. Endocrinol. 6: 1.
5. Stacey, S.N., et al. 2008. Common variants on 1p36 and 1q42 are associated with cutaneous basal cell carcinoma but not with melanoma or pigmentation traits. Nat. Genet. 40: 1313-1318.
6. Shin, E.Y., et al. 2009. Involvement of βPIX in angiotensin II-induced migration of vascular smooth muscle cells. Exp. Mol. Med. 41: 387-396.
7. Wang, Z., et al. 2009. Regulation of immature dendritic cell migration by RhoA guanine nucleotide exchange factor ARHGEF5. J. Biol. Chem. 284: 28599-28606.

CHROMOSOMAL LOCATION

Genetic locus: ARHGEF16 (human) mapping to 1p36.32; Arhgef16 (mouse) mapping to 4 E2.

SOURCE

ARHGEF16 (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of ARHGEF16 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-160151 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ARHGEF16 (C-15) is recommended for detection of ARHGEF16 of mouse 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 ARHGEF family members.

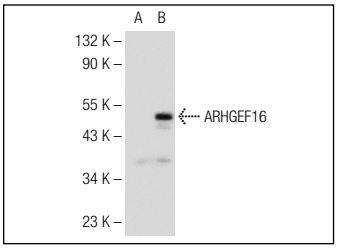
ARHGEF16 (C-15) is also recommended for detection of ARHGEF16 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ARHGEF16 siRNA (h): sc-88758, ARHGEF16 siRNA (m): sc-141224, ARHGEF16 shRNA Plasmid (h): sc-88758-SH, ARHGEF16 shRNA Plasmid (m): sc-141224-SH, ARHGEF16 shRNA (h) Lentiviral Particles: sc-88758-V and ARHGEF16 shRNA (m) Lentiviral Particles: sc-141224-V.

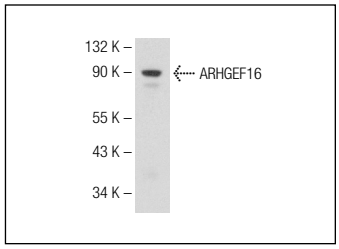
Molecular Weight of ARHGEF16: 80 kDa.

Positive Controls: ARHGEF16 (h2): 293T Lysate: sc-174462 or PC-3 cell lysate: sc-2220.

DATA



ARHGEF16 (C-15): sc-160151. Western blot analysis of ARHGEF16 expression in non-transfected: sc-117752 (**A**) and human ARHGEF16 transfected: sc-174462 (**B**) 293T whole cell lysates.



ARHGEF16 (C-15): sc-160151. Western blot analysis of ARHGEF16 expression in PC-3 whole cell lysate.

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.