

# ARHGEF16 (G-10): sc-377104

## BACKGROUND

Rho GTPases, which play fundamental roles in numerous cellular processes, are initiated by external stimuli that signal through 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 chromosome 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

ARHGEF16 (G-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 683-708 at the C-terminus of ARHGEF16 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ARHGEF16 (G-10) is available conjugated to agarose (sc-377104 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377104 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377104 PE), fluorescein (sc-377104 FITC), Alexa Fluor® 488 (sc-377104 AF488), Alexa Fluor® 546 (sc-377104 AF546), Alexa Fluor® 594 (sc-377104 AF594) or Alexa Fluor® 647 (sc-377104 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377104 AF680) or Alexa Fluor® 790 (sc-377104 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377104 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

## APPLICATIONS

ARHGEF16 (G-10) is recommended for detection of ARHGEF16 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).

ARHGEF16 (G-10) 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.

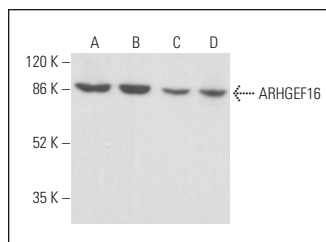
Molecular Weight of ARHGEF16: 80 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, MCF7 whole cell lysate: sc-2206 or ARHGEF16 (h2): 293 Lysate: sc-174462.

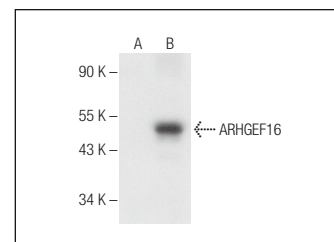
## RECOMMENDED SUPPORT REAGENTS

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 A/G PLUS-Agarose: sc-2003 (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



ARHGEF16 (G-10): sc-377104. Western blot analysis of ARHGEF16 expression in HeLa (A), MCF7 (B), Caco-2 (C) and SK-BR-3 (D) whole cell lysates.



ARHGEF16 (G-10): sc-377104. Western blot analysis of ARHGEF16 expression in non-transfected: sc-110760 (A) and human ARHGEF16 transfected: sc-174462 (B) 293 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.