

# ARHGEF19 (F-13): sc-137301

## BACKGROUND

Rho GTPases, which play fundamental roles in numerous cellular processes, are initiated by external stimuli that signal through G protein-coupled receptors. ARHGEF19 (Rho guanine nucleotide exchange factor [GEF] 19), also known as WGEF (weakly similar to Rho GEF), is an 802 amino acid protein that contains one DH (DBL-homology) domain, one PH domain and one SH3 domain. Conserved in chimpanzee, canine, bovine, mouse, rat and zebrafish, ARHGEF19 exists as two alternatively spliced isoforms and shares 48% similarity with ARHGEF5. Highly expressed in intestine, with lower expression in liver, heart and kidney, ARHGEF19 displays GEF activity towards Rho A family members, with possible activity against Rac 1 and Cdc42. ARHGEF19 regulates adipogenesis by modifying DNA methylation. Overexpression of ARHGEF19 may be linked to filopodia and stress fiber formation, membrane ruffling and lamellipodia.

## REFERENCES

1. Wang, Y., et al. 2004. WGEF is a novel RhoGEF expressed in intestine, liver, heart, and kidney. *Biochem. Biophys. Res. Commun.* 324: 1053-1058.
2. Sahin, M., et al. 2005. Eph-dependent tyrosine phosphorylation of ephexin1 modulates growth cone collapse. *Neuron* 46: 191-204.
3. Nowicki, M., et al. 2007. The myelin-associated glycoprotein inhibitor BENZ induces outgrowth and survival of rat dorsal root ganglion cell cultures. *J. Neurosci. Res.* 85: 3053-3063.
4. McKown, R.L., et al. 2009. Lacritin and other new proteins of the lacrimal functional unit. *Exp. Eye Res.* 88: 848-858.
5. Mikkelsen, T., et al. 2009. Radiation sensitization of glioblastoma by cilengitide has unanticipated schedule-dependency. *Int. J. Cancer* 124: 2719-2727.
6. Horii, T., et al. 2009. Epigenetic regulation of adipocyte differentiation by a Rho guanine nucleotide exchange factor, WGEF. *PLoS ONE* 4: e5809.

## CHROMOSOMAL LOCATION

Genetic locus: ARHGEF19 (human) mapping to 1p36.13; Arhgef19 (mouse) mapping to 4 D3.

## SOURCE

ARHGEF19 (F-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ARHGEF19 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-137301 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

ARHGEF19 (A-12) is recommended for detection of ARHGEF19 isoforms 1 and 2 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); non cross-reactive with other ARHGEF family members.

ARHGEF19 (A-12) is also recommended for detection of ARHGEF19 isoforms 1 and 2 in additional species, including equine and porcine.

Suitable for use as control antibody for ARHGEF19 siRNA (h): sc-88342, ARHGEF19 siRNA (m): sc-141227, ARHGEF19 shRNA Plasmid (h): sc-88342-SH, ARHGEF19 shRNA Plasmid (m): sc-141227-SH, ARHGEF19 shRNA (h) Lentiviral Particles: sc-88342-V and ARHGEF19 shRNA (m) Lentiviral Particles: sc-141227-V.

Molecular Weight of ARHGEF19 isoforms: 89/55 kDa.

## 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.