

PDZ-RhoGEF (N-16): sc-46235

BACKGROUND

The multidomain (RGS)-containing RhoGEFs represent a family of guanine nucleotide exchange factors that stabilize the nucleotide-free state of small GTPases through their DH/PH domains, leading to the exchange of GDP to GTP. Uniquely, PDZ-RhoGEF, also known as Rho guanine nucleotide exchange factor 11 and ARHGEF11, binds tightly to both nucleotide-free and activated Rho A, therefore playing a role as a primary regulator of Rho A. Mutations within the carboxylate-binding loop of PDZ-RhoGEF result in changes in cell morphology and actin organization which is likely due to its interaction with MAP-1A (MAP1 light chain LC2). PDZ-RhoGEF also plays a role in B plexin-mediated activation of Rho/Rho kinase signaling, which is implicated in the regulation of axon guidance and cell migration.

REFERENCES

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2. Rumenapp, U., et al. 1999. Rho-specific binding and guanine nucleotide exchange catalysis by KIAA0380, a DBL family member. *FEBS Lett.* 459: 313-318.
3. Garrard, S.M., et al. 2001. Expression, purification, and crystallization of the RGS-like domain from the Rho nucleotide exchange factor, PDZ-RhoGEF, using the surface entropy reduction approach. *Protein Expr. Purif.* 21: 412-416.
4. Driessens, M.H., et al. 2002. B plexins activate Rho through PDZ-RhoGEF. *FEBS Lett.* 529: 168-172.
5. Oleksy, A., et al. 2004. Preliminary crystallographic analysis of the complex of the human GTPase Rho A with the DH/PH tandem of PDZ-RhoGEF. *Acta Crystallogr. D Biol. Crystallogr.* 60: 740-742.
6. Tanabe, S., et al. 2004. Regulation of RGS-RhoGEFs by G $_{\alpha 12}$ and G $_{\alpha 13}$ proteins. *Methods Enzymol.* 390: 285-294.

CHROMOSOMAL LOCATION

Genetic locus: ARHGEF11 (human) mapping to 1q23.1; Arhgef11 (mouse) mapping to 3 F1.

SOURCE

PDZ-RhoGEF (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of PDZ-RhoGEF of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-46235 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

PDZ-RhoGEF (N-16) is recommended for detection of PDZ-RhoGEF isoform 1 and 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

Suitable for use as control antibody for PDZ-RhoGEF siRNA (h): sc-45823, PDZ-RhoGEF siRNA (m): sc-45824, PDZ-RhoGEF shRNA Plasmid (h): sc-45823-SH, PDZ-RhoGEF shRNA Plasmid (m): sc-45824-SH, PDZ-RhoGEF shRNA (h) Lentiviral Particles: sc-45823-V and PDZ-RhoGEF shRNA (m) Lentiviral Particles: sc-45824-V.

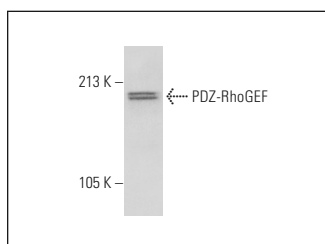
Molecular Weight of PDZ-RhoGEF: 183 kDa.

Positive Controls: PC-3 cell lysate: sc-2220, HeLa whole cell lysate: sc-2200 or rat cerebrum tissue extract.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



PDZ-RhoGEF (N-16): sc-46235. Western blot analysis of PDZ-RhoGEF expression in HeLa 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.

MONOS
Satisfaction
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Try **PDZ-RhoGEF (20): sc-136469** or **PDZ-RhoGEF (D-9): sc-166740**, our highly recommended monoclonal alternatives to PDZ-RhoGEF (N-16).