SANTA CRUZ BIOTECHNOLOGY, INC.

PDZ-RhoGEF (H-300): sc-67023

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The multidomain (RGS)-containing RhoGEFs represent a family of guanine nucleotide exchange factors that stabilize the nucelotide-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

1. Rumenapp, U., et al. 1999. Rho-specific binding and guanine nucleotide exchange catalysis by KIAA0380, a DBL family member. FEBS. Lett. 459: 313-318.
2. Fukuhara, S., et al. 1999. A novel PDZ domain containing guanine nucleotide exchange factor links heterotrimeric G proteins to Rho. J. Biol. Chem. 274: 5868-5879.
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.

SOURCE

PDZ-RhoGEF (H-300) is a rabbit polyclonal antibody raised against amino acids 1223-1522 mapping at the C-terminus of PDZ-RhoGEF 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.

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.

APPLICATIONS

PDZ-RhoGEF (H-300) is recommended for detection of PDZ-RhoGEF of 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).

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

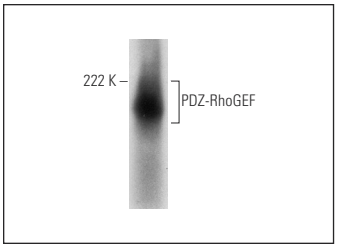
Molecular Weight of PDZ-RhoGEF: 183 kDa.

Positive Controls: MDA-MB-435S whole cell lysate: sc-364184 or PC-3 cell lysate: sc-2220.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PDZ-RhoGEF (H-300): sc-67023. Western blot analysis of PDZ-RhoGEF expression in MDA-MB-435S whole cell lysate.

SELECT PRODUCT CITATIONS

1. Jiang, X., et al. 2010. HGAL, a germinal center specific protein, decreases lymphoma cell motility by modulation of the RhoA signaling pathway. Blood 116: 5217-5227.