SANTA CRUZ BIOTECHNOLOGY, INC.

PDZ-RhoGEF (C-20): sc-46233

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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. 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.
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.
7. Longhurst, D.M., et al. 2006. Interaction of PDZ-RhoGEF with microtubule-associated protein 1 light chains: link between microtubules, actin cytoskeleton, and neuronal polarity. J. Biol. Chem. 281: 12030-12040.

CHROMOSOMAL LOCATION

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

SOURCE

PDZ-RhoGEF (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near 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.

Blocking peptide available for competition studies, sc-46233 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PDZ-RhoGEF (C-20) 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 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).

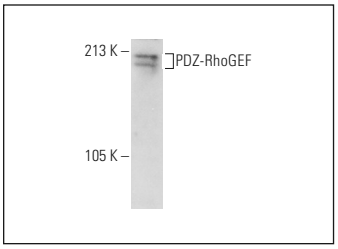
PDZ-RhoGEF (C-20) is also recommended for detection of PDZ-RhoGEF isoform 1 and 2 in additional species, including equine, canine and porcine.

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, rat cerebrum tissue extract or A549 cell lysate: sc-2413.

DATA



PDZ-RhoGEF (C-20): sc-46233. Western blot analysis of PDZ-RhoGEF expression in A549 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.