

PDZ-RhoGEF (D-9): sc-166740

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.

CHROMOSOMAL LOCATION

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

SOURCE

PDZ-RhoGEF (D-9) is a mouse monoclonal antibody raised against amino acids 1223-1522 mapping at the C-terminus of PDZ-RhoGEF of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PDZ-RhoGEF (D-9) is available conjugated to agarose (sc-166740 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166740 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166740 PE), fluorescein (sc-166740 FITC), Alexa Fluor® 488 (sc-166740 AF488), Alexa Fluor® 546 (sc-166740 AF546), Alexa Fluor® 594 (sc-166740 AF594) or Alexa Fluor® 647 (sc-166740 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166740 AF680) or Alexa Fluor® 790 (sc-166740 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

PDZ-RhoGEF (D-9) is recommended for detection of PDZ-RhoGEF 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).

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.

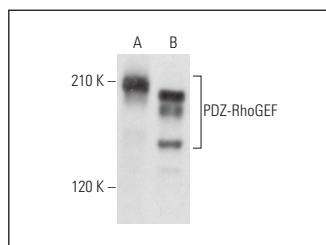
Molecular Weight of PDZ-RhoGEF: 183 kDa.

Positive Controls: PC-3 cell lysate: sc-2220, RAW 264.7 whole cell lysate: sc-2211 or KNRK whole cell lysate: sc-2214.

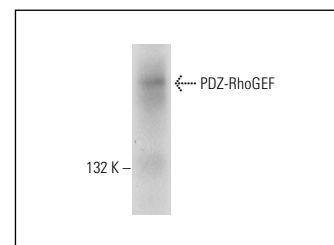
RECOMMENDED SUPPORT REAGENTS

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



PDZ-RhoGEF (D-9): sc-166740. Western blot analysis of PDZ-RhoGEF expression in RAW 264.7 (A) and KNRK (B) whole cell lysates.



PDZ-RhoGEF (D-9): sc-166740. Western blot analysis of PDZ-RhoGEF expression in PC-3 whole cell lysate.

SELECT PRODUCT CITATIONS

- Kermath, B.A., et al. 2020. Dysregulated prefrontal cortical RhoA signal transduction in bipolar disorder with psychosis: new implications for disease pathophysiology. *Cereb. Cortex* 30: 59-71.
- Liu, J., et al. 2020. Characterization of BRCA1-deficient premalignant tissues and cancers identifies Plekha5 as a tumor metastasis suppressor. *Nat. Commun.* 11: 4875.
- Du, J., et al. 2020. ARHGEF11 promotes proliferation and epithelial-mesenchymal transition of hepatocellular carcinoma through activation of β -catenin pathway. *Aging* 12: 20235-20253.
- Maiques, O., et al. 2021. A preclinical pipeline to evaluate migrastatics as therapeutic agents in metastatic melanoma. *Br. J. Cancer* 125: 699-713.

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 for detailed protocols and support products.