SANTA CRUZ BIOTECHNOLOGY, INC.

Rac GAP1 (A-6): sc-271110

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

A large number of low molecular weight, GTP binding proteins of the Ras superfamily have been identified. These proteins regulate many fundamental processes in all eukaryotic cells such as growth, vesicle traffic and cytoskeletal organization. GTPase-activating proteins (GAPs) accelerate the intrinsic rate of GTP hydrolysis of Ras-related proteins, resulting in downregulation of their active form. Through this function, GAPs negatively regulate Ras-mediated signaling. Rac GAP1 (Rac GTPase activating protein 1), also known as MgcRacGAP (male germ cell Rac GTPase activating protein), ID-GAP or HsCYK-4, functions as a GAP and exhibits strong activity towards Rac 1 and Cdc42. Highly expressed in thymus, placenta and testis with lower levels in spleen and peripheral blood lymphocytes, Rac GAP1 contains one Rho-GAP domain and one phorbol-ester/DAG-type zinc finger. Rac GAP1 plays an essential role in cytokinesis, functioning as a scaffold protein as well as a GTPase regulator. During cytokinesis, Rac GAP1 is phosphorylated at multiple sites.

CHROMOSOMAL LOCATION

Genetic locus: RACGAP1 (human) mapping to 12q13.12; Racgap1 (mouse) mapping to 15 F1.

SOURCE

Rac GAP1 (A-6) is a mouse monoclonal antibody raised against amino acids 142-437 mapping within an internal region of Rac GAP1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Rac GAP1 (A-6) is available conjugated to agarose (sc-271110 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271110 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271110 PE), fluorescein (sc-271110 FITC), Alexa Fluor® 488 (sc-271110 AF488), Alexa Fluor® 546 (sc-271110 AF546), Alexa Fluor® 594 (sc-271110 AF594) or Alexa Fluor® 647 (sc-271110 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271110 AF680) or Alexa Fluor® 790 (sc-271110 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Rac GAP1 (A-6) is recommended for detection of Rac GAP1 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

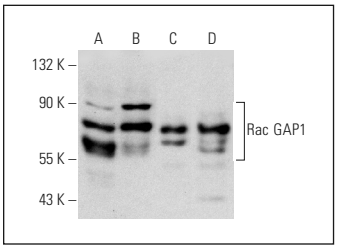
Suitable for use as control antibody for Rac GAP1 siRNA (h): sc-76335, Rac GAP1 siRNA (m): sc-76336, Rac GAP1 shRNA Plasmid (h): sc-76335-SH, Rac GAP1 shRNA Plasmid (m): sc-76336-SH, Rac GAP1 shRNA (h) Lentiviral Particles: sc-76335-V and Rac GAP1 shRNA (m) Lentiviral Particles: sc-76336-V.

Molecular Weight of Rac GAP1: 70 kDa.

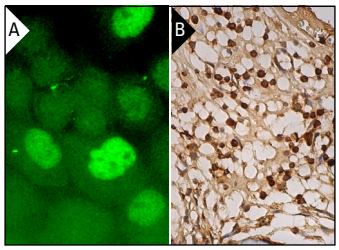
STORAGE

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

DATA



Rac GAP1 (A-6): sc-271110. Western blot analysis of Rac GAP1 expression in Jurkat (**A**), K-562 (**B**), F9 (**C**) and H19-7/IGF-IR (**D**) whole cell lysates.



Rac GAP1 (A-6): sc-271110. Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing nuclear and cytoplasmic staining of hematopoietic cells (**B**).

SELECT PRODUCT CITATIONS

1. Bailey, J.K., et al. 2015. WD repeat-containing protein 5 (WDR5) localizes to the midbody and regulates abscission. J. Biol. Chem. 290: 8987-9001.
2. Chang, C.F., et al. 2016. PBK/TOPK expression predicts prognosis in oral cancer. Int. J. Mol. Sci. 17: 1007.
3. Abadía-Molina, F., et al. 2017. Neuronal apoptosis inhibitory protein (NAIP) localizes to the cytokinetic machinery during cell division. Sci. Rep. 7: 39981.
4. Wang, H., et al. 2020. Symmetry breaking in hydrodynamic forces drives meiotic spindle rotation in mammalian oocytes. Sci. Adv. 6: eaaz5004.
5. Romano, R., et al. 2021. Alteration of the late endocytic pathway in Charcot-Marie-Tooth type 2B disease. Cell. Mol. Life Sci. 78: 351-372.
6. Bischoff, M.E., et al. 2021. Selective MAP1LC3C (LC3C) autophagy requires noncanonical regulators and the C-terminal peptide. J. Cell Biol. 220: e202004182.
7. Dehapiot, B., et al. 2021. RhoA- and Cdc42-induced antagonistic forces underlie symmetry breaking and spindle rotation in mouse oocytes. PLoS Biol. 19: e3001376.
8. Li, J., et al. 2021. Interaction between Ras and Bcl2L12 in B cells suppresses IL-10 expression. Clin. Immunol. 229: 108775.
9. Buentzel, J., et al. 2021. Metabolomic profiling of blood-derived microvesicles in breast cancer patients. Int. J. Mol. Sci. 22: 13540.
10. Law, R.A., et al. 2023. Cytokinesis machinery promotes cell dissociation from collectively migrating strands in confinement. Sci. Adv. 9: eabq6480.

RESEARCH USE

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