SANTA CRUZ BIOTECHNOLOGY, INC.

ARHGAP21 (E-10): sc-390145

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

GTPase-activating proteins (GAPs) accelerate the intrinsic rate of GTP hydrolysis of Ras-related proteins, resulting in downregulation of their active form. ARHGAP21 (Rho GTPase activating protein 21), also known as ARHGAP10, is a 1,957 amino acid protein that localizes to the membrane of the Golgi apparatus, as well as to cell junctions and the cytoplasm, and contains one Rho-GAP domain, one PH domain and one PDZ domain. Expressed at high levels in heart, placenta, brain and skeletal muscle, ARHGAP21 functions as a GTPase-activating protein for Cdc42 and Rho A and is thought to control the structure and activity of the Golgi apparatus. While ARHGAP21 is upregulated during cellular differentiation, depletion of ARHGAP21 may induce cell spreading, as well as an accumulation of Actin stress fibers. Multiple isoforms of ARHGAP21 exist due to alternative splicing events.

REFERENCES

1. Bassères, D.S., et al. 2002. ARHGAP10, a novel human gene coding for a potentially cytoskeletal Rho-GTPase activating protein. Biochem. Biophys. Res. Commun. 294: 579-585.
2. Katoh, M. and Katoh, M. 2004. Characterization of human ARHGAP10 gene in silico. Int. J. Oncol. 25: 1201-1206.
3. Dubois, T., et al. 2005. Golgi-localized GAP for Cdc42 functions downstream of ARF1 to control Arp2/3 complex and F-Actin dynamics. Nat. Cell Biol. 7: 353-364.
4. Sousa, S., et al. 2005. ARHGAP10 is necessary for α-catenin recruitment at adherens junctions and for *Listeria* invasion. Nat. Cell Biol. 7: 954-960.
5. Menetrey, J., et al. 2007. Structural basis for ARF1-mediated recruitment of ARHGAP21 to Golgi membranes. EMBO J. 2: 1953-1962.

CHROMOSOMAL LOCATION

Genetic locus: ARHGAP21 (human) mapping to 10p12.1; Arhgap21 (mouse) mapping to 2 A3.

SOURCE

ARHGAP21 (E-10) is a mouse monoclonal antibody raised against amino acids 241-540 mapping within an internal region of ARHGAP21 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ARHGAP21 (E-10) is available conjugated to agarose (sc-390145 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390145 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390145 PE), fluorescein (sc-390145 FITC), Alexa Fluor® 488 (sc-390145 AF488), Alexa Fluor® 546 (sc-390145 AF546), Alexa Fluor® 594 (sc-390145 AF594) or Alexa Fluor® 647 (sc-390145 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390145 AF680) or Alexa Fluor® 790 (sc-390145 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

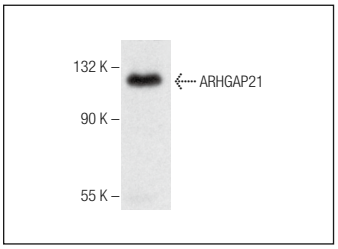
ARHGAP21 (E-10) is recommended for detection of ARHGAP21 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution 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 ARHGAP21 siRNA (h): sc-90334, ARHGAP21 siRNA (m): sc-141208, ARHGAP21 shRNA Plasmid (h): sc-90334-SH, ARHGAP21 shRNA Plasmid (m): sc-141208-SH, ARHGAP21 shRNA (h) Lentiviral Particles: sc-90334-V and ARHGAP21 shRNA (m) Lentiviral Particles: sc-141208-V.

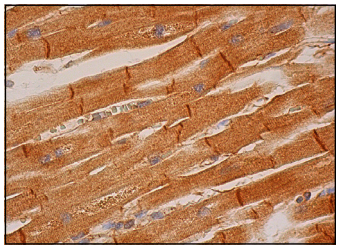
Molecular Weight of ARHGAP21 isoforms: 217/129 kDa.

Positive Controls: T98G cell lysate: sc-2294 or Jurkat whole cell lysate: sc-2204.

DATA



ARHGAP21 (E-10): sc-390145. Western blot analysis of ARHGAP21 expression in T98G whole cell lysate.



ARHGAP21 (E-10): sc-390145. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic and intercalated disc staining of myocytes.

SELECT PRODUCT CITATIONS

1. Lee, C.C., et al. 2018. α-Tubulin acetyltransferase/MEC-17 regulates cancer cell migration and invasion through epithelial-mesenchymal transition suppression and cell polarity disruption. Sci. Rep. 8: 17477.
2. Lin, L.L., et al. 2021. ARHGAP10 inhibits the epithelial-mesenchymal transition of non-small cell lung cancer by inactivating PI3K/Akt/GSK3β signaling pathway. Cancer Cell Int. 21: 320.
3. Lazarini, M., et al. 2023. Silencing of ARHGAP21, a Rho GTPase activating protein (RhoGAP), reduces the growth of prostate cancer xenografts in NOD/SCID mice. Biochim. Biophys. Acta Mol. Cell Res. 1870: 119439.

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.