SANTA CRUZ BIOTECHNOLOGY, INC.

RhoGEF p115 (D-11): sc-166341

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Ras superfamily of GTPases can be subdivided into the Ras, Rho/Rac, Sar, Rab, Arf and Ran subfamilies and controls multiple aspects of cell function, including cytoskeletal rearrangement, nuclear signaling and cell growth. The Ras superfamily of GTPases function as regulated switches that toggle between a biologically active GTP-bound and an inactive GDP-bound form. This activation is catalyzed by guanine nucleotide exchange factors (GEFs). The Dbl-related proteins are a large family of structurally related molecules that have a common ability to catalyze GEF activity for specific members of the Ras family. Dbl-related proteins include FGD1, RhoGEF p115/Lsc, Lfc, Lbc and Brx. RhoGEF p115/Lsc, Lbc and Lfc share sequence homology and show exchange activity toward Rho family GTPases. RhoGEF p115 (the human homolog of Lsc) catalyzes GEF activity for Rho but not Rac, Cdc42 or Ras GTPases.

REFERENCES

1. Bourne, H.R., et al. 1990. The GTPase superfamily: a conserved switch for diverse cell functions. Nature 348: 125-132.
2. Boguski, M.S. and McCormick, F. 1993. Proteins regulating Ras and its relatives. Nature 366: 643-654.
3. Whitehead, I.P., et al. 1996. Expression cloning of lsc, a novel oncogene with structural similarities to the Dbl family of guanine nucleotide exchange factors. J. Biol. Chem. 271: 18643-18650.
4. Hart, M.J., et al. 1996. Identification of a novel guanine nucleotide exchange factor for the Rho GTPase. J. Biol. Chem. 271: 25452-25458.
5. Cerione, R.A. and Zheng, Y. 1996. The Dbl family of oncogenes. Curr. Opin. Cell Biol. 8: 216-222.
6. Whitehead, I.P., et al. 1997. Dbl family proteins. Biochim. Biophys. Acta 1332: F1-F23.
7. Zohn, I.M., et al. 1998. Rho family proteins and Ras transformation: the RHOad less traveled gets congested. Oncogene 17: 1415-1438.

CHROMOSOMAL LOCATION

Genetic locus: ARHGEF1 (human) mapping to 19q13.2.

SOURCE

RhoGEF p115 (D-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 48-75 near the N-terminus of RhoGEF p115 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.

Blocking peptide available for competition studies, sc-166341 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

RhoGEF p115 (D-11) is recommended for detection of RhoGEF p115 of 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 RhoGEF p115 siRNA (h): sc-41734, RhoGEF p115 shRNA Plasmid (h): sc-41734-SH and RhoGEF p115 shRNA (h) Lentiviral Particles: sc-41734-V.

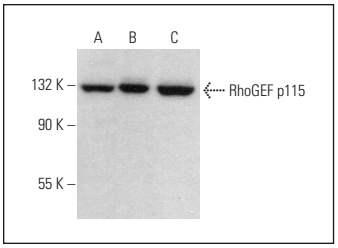
Molecular Weight of RhoGEF p115: 115 kDa.

Positive Controls: RhoGEF p115 (h): 293T Lysate: sc-113634, BJAB whole cell lysate: sc-2207 or HeLa whole cell lysate: sc-2200.

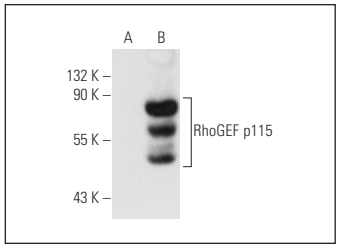
RECOMMENDED SUPPORT REAGENTS

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



RhoGEF p115 (D-11): sc-166341. Western blot analysis of RhoGEF p115 expression in HeLa (**A**), BJAB (**B**) and Raji (**C**) whole cell lysates.



RhoGEF p115 (D-11): sc-166341. Western blot analysis of RhoGEF p115 expression in non-transfected: sc-117752 (**A**) and human RhoGEF p115 transfected: sc-113634 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Juettner, V.V., et al. 2019. VE-PTP stabilizes VE-cadherin junctions and the endothelial barrier via a phosphatase-independent mechanism. J. Cell Biol. 218: 1725-1742.

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.