SANTA CRUZ BIOTECHNOLOGY, INC.

Rhotekin 2 (2C2): sc-517159

BACKGROUND

Rho, the Ras-related small GTPase, is responsible for the regulation of Actin-based cytoskeletal structures including stress fibers, focal adhesions and the contractile ring apparatus. Rho proteins function as molecular switches that are able to turn cytokinesis on and off. Although little is known about signaling downstream of Rho, a host of putative Rho effector proteins have been described, including rhophilin, Rhotekin, citron and the serine/threonine kinase, protein kinase N. Rhotekin 2, also known as PLEKHK1 (Pleckstrin homology domain-containing family K member 1), is a 609 amino acid protein that is expressed in bone marrow-derived cells, lymphocytes and CD4 positive T-cells. Due to this expression pattern, it is likely that Rhotekin 2 participates in lymphopoiesis. Rhotekin 2 contains one PH domain, a motif that is present in a variety of proteins that are involved in intracellular signaling. There are three isoforms of Rhotekin that are produced as a result of alternative splicing events.

REFERENCES

1. Reid, T., et al. 1996. Rhotekin, a new putative target for Rho bearing homology to a serine/threonine kinase, PKN, and rhophilin in the Rho-binding domain. J. Biol. Chem. 271: 13556-13560.
2. Collier, F.M., et al. 2004. Identification and characterization of a lymphocytic Rho-GTPase effector: rhotekin-2. Biochem. Biophys. Res. Commun. 324: 1360-1369.
3. Chen, D., et al. 2004. Bone morphogenetic proteins. Growth Factors 22: 233-241.
4. Gregorio-King, C.C., et al. 2004. Mechanisms of resistance to the cytotoxic effects of oxysterols in human leukemic cells. J. Steroid Biochem. Mol. Biol. 88: 311-320.
5. Ito, H., et al. 2006. Possible interaction of a Rho effector, Rhotekin, with a PDZ-protein, PIST, at synapses of hippocampal neurons. Neurosci. Res. 56: 165-171.
6. Williams, D.A., et al. 2008. Rho GTPases and regulation of hematopoietic stem cell localization. Methods Enzymol. 439: 365-393.
7. Nagata, K., et al. 2009. Interaction of a multi-domain adaptor protein, vinexin, with a Rho-effector, Rhotekin. Med. Mol. Morphol. 42: 9-15.

CHROMOSOMAL LOCATION

Genetic locus: RTKN2 (human) mapping to 10q21.2.

SOURCE

Rhotekin 2 (2C2) is a mouse monoclonal antibody raised against amino acids 1-163 representing full length Rhotekin 2 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

Rhotekin 2 (2C2) is recommended for detection of Rhotekin 2 of 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), 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).

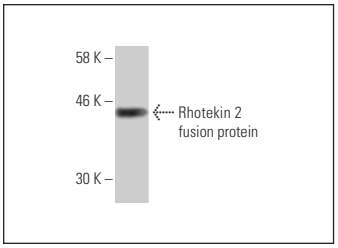
Suitable for use as control antibody for Rhotekin 2 siRNA (h): sc-90523, Rhotekin 2 shRNA Plasmid (h): sc-90523-SH and Rhotekin 2 shRNA (h) Lentiviral Particles: sc-90523-V.

Molecular Weight of Rhotekin 2: 69 kDa.

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, TBS Blotto A Blocking Reagent: sc-2333 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



Rhotekin 2 (2C2): sc-517159. Western blot analysis of human recombinant Rhotekin 2 fusion protein.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.