SANTA CRUZ BIOTECHNOLOGY, INC.

ARHGAP29 siRNA (m): sc-141215

BACKGROUND

GTPase-activating proteins (GAPs) accelerate the intrinsic rate of GTP hydrolysis of Ras-related proteins, resulting in down regulation of their active form. ARHGAP29 (Rho GTPase activating protein 29), also known as PARG1, is a 1,261 amino acid protein that is widely expressed and contains a phorbolester/DAG-type zinc finger and a Rho-GAP domain. There is high expression of ARHGAP29 in skeletal muscle and heart, intermediate expression in placenta, liver and pancreas, and weak expression in brain, lung and kidney. As a GTPase activator, ARHGAP29 converts Rho-type GTPases to an inactive GDP-bound state and has strong activity toward Rho A, and weaker activity toward Rac 1 and Cdc42. Also considered a specific effector of Rap 2A to regulate Rho, ARHGAP29 is strongly down-regulated in mantle-cell lymphomas and upregulated in migrating glioma cells. ARHGAP29 exists as two alternatively spliced isoforms.

REFERENCES

1. Saras, J., et al. 1997. A novel GTPase-activating protein for Rho interacts with a PDZ domain of the protein-tyrosine phosphatase PTPL1. J. Biol. Chem. 272: 24333-24338.
2. 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.
3. Myagmar, B.E., et al. 2005. PARG1, a protein-tyrosine phosphatase-associated RhoGAP, as a putative Rap2 effector. Biochem. Biophys. Res. Commun. 329: 1046-1052.
4. Meyer-Ficca, M.L., et al. 2005. Poly(ADP-ribose) polymerases: managing genome stability. Int. J. Biochem. Cell Biol. 37: 920-926.
5. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610496. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Ripperger, T., et al. 2007. Promoter methylation of PARG1, a novel candidate tumor suppressor gene in mantle-cell lymphomas. Haematologica 92: 460-468.

CHROMOSOMAL LOCATION

Genetic locus: Arhgap29 (mouse) mapping to 3 G1.

PRODUCT

ARHGAP29 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ARHGAP29 shRNA Plasmid (m): sc-141215-SH and ARHGAP29 shRNA (m) Lentiviral Particles: sc-141215-V as alternate gene silencing products.

For independent verification of ARHGAP29 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-141215A, sc-141215B and sc-141215C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

ARHGAP29 siRNA (m) is recommended for the inhibition of ARHGAP29 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

ARHGAP29 (H-2): sc-377022 is recommended as a control antibody for monitoring of ARHGAP29 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ARHGAP29 gene expression knockdown using RT-PCR Primer: ARHGAP29 (m)-PR: sc-141215-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.