SANTA CRUZ BIOTECHNOLOGY, INC.

ARHGAP10 siRNA (h): sc-89197

BACKGROUND

GTPase-activating proteins (GAPs) accelerate the intrinsic rate of GTP hydrolysis of Ras-related proteins, resulting in down regulation of their active form. ARHGAP10 (Rho GTPase activating protein 10), also known as GRAF2, PSGAP or PS-GAP, is a 786 amino acid cytoplasmic and cytoskeletal Rho-GTPase activating protein that is expressed at high levels in heart and skeletal muscle. ARHGAP10 regulates caspase-activated γPAK by inhibiting the protein kinase activity and localization of γPAK from the nucleus to the perinuclear region. The GAP domain of ARHGAP10 associates with RhoA and Cdc42. ARHGAP10 converts these small GTPases to an inactive GDP-bound state. ARHGAP10 is essential for PTKB2 regulation of cytoskeletal organization via Rho family GTPases.

REFERENCES

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4. Koeppel, M.A., et al. 2004. Identification and characterization of PS-GAP as a novel regulator of caspase-activated PAK-2. J. Biol. Chem. 279: 53653-53664.
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6. 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.
7. 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.
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CHROMOSOMAL LOCATION

Genetic locus: ARHGAP10 (human) mapping to 4q31.23.

PRODUCT

ARHGAP10 siRNA (h) 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 ARHGAP10 shRNA Plasmid (h): sc-89197-SH and ARHGAP10 shRNA (h) Lentiviral Particles: sc-89197-V as alternate gene silencing products.

For independent verification of ARHGAP10 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-89197A, sc-89197B and sc-89197C.

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

ARHGAP10 siRNA (h) is recommended for the inhibition of ARHGAP10 expression in human 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ARHGAP10 gene expression knockdown using RT-PCR Primer: ARHGAP10 (h)-PR: sc-89197-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.