SANTA CRUZ BIOTECHNOLOGY, INC.

ARHGAP18 siRNA (m): sc-141205

BACKGROUND

GTPase-activating proteins (GAPs) accelerate the intrinsic rate of GTP hydrolysis of Ras-related proteins, resulting in downregulation of their active form. ARHGAP18 (Rho GTPase activating protein 18), also known as MacGAP, is a 663 amino acid protein that localizes to the nucleus and contains one Rho-GAP domain. Found to interact with MPP6, ARHGAP18 functions as a negative regulator of Rho-type GTPases, specifically catalyzing the conversion of the target GTPase to an inactive, GDP-bound state. Via its catalytic activity, ARHGAP18 is involved in cell proliferation, migration and differentiation, as well as in Actin remodeling. ARHGAP18 exists as two alternatively spliced isoforms and is encoded by a gene which maps to human chromosome 6q22.33.

REFERENCES

1. Lehner, B. and Sanderson, C.M. 2004. A protein interaction framework for human mRNA degradation. Genome Res. 14: 1315-1323.
2. Wennerberg, K. and Der, C.J. 2004. Rho-family GTPases: it's not only Rac and Rho (and I like it). J. Cell Sci. 117: 1301-1312.
3. Kandpal, R.P. 2006. Rho GTPase activating proteins in cancer phenotypes. Curr. Protein Pept. Sci. 7: 355-365.
4. Lv, L., et al. 2007. Sequence analysis of a human RhoGAP domain-containing gene and characterization of its expression in human multiple tissues. DNA Seq. 18: 184-189.
5. Cronin, S., et al. 2009. Screening for replication of genome-wide SNP associations in sporadic ALS. Eur. J. Hum. Genet. 17: 213-218.

CHROMOSOMAL LOCATION

Genetic locus: Arhgap18 (mouse) mapping to 10 A4.

PRODUCT

ARHGAP18 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 ARHGAP18 shRNA Plasmid (m): sc-141205-SH and ARHGAP18 shRNA (m) Lentiviral Particles: sc-141205-V as alternate gene silencing products.

For independent verification of ARHGAP18 (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-141205A, sc-141205B and sc-141205C.

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

ARHGAP18 siRNA (m) is recommended for the inhibition of ARHGAP18 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ARHGAP18 gene expression knockdown using RT-PCR Primer: ARHGAP18 (m)-PR: sc-141205-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.