SANTA CRUZ BIOTECHNOLOGY, INC.

ARHGAP11B siRNA (h): sc-89994

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The Power to Question

BACKGROUND

GTPase-activating proteins (GAPs) accelerate the intrinsic rate of GTP hydrolysis of Ras-related proteins, resulting in downregulation of their active form. ARHGAP11B (Rho GTPase activating protein 11B), also known as GAP (1-8) or FAM7B1 (family with sequence similarity 7, member B1), is a 267 amino acid protein that contains one Rho-GAP domain. Likely to possess GTPase activating activity, ARHGAP11B is implicated in cognition and possibly in mental retardation. Conserved in chimpanzee, canine, bovine, mouse, rat, chicken and zebrafish, ARHGAP11B is encoded by a gene that maps to human chromosome 15q13.1. A homozygous 15q13 microdeletion, which includes ARHGAP11B, is linked to a neurodevelopmental disorder characterized by significant visual impairment, hypotonia, severe intellectual disability and refractory epilepsy. Increased adoption instances, as well as increased autism, bipolar disorder and schizophrenia frequencies, also exist in individuals with the 15q13 deletion.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: ARHGAP11B (human) mapping to 15q13.2.

PRODUCT

ARHGAP11B siRNA (h) is a pool of 2 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 ARHGAP11B shRNA Plasmid (h): sc-89994-SH and ARHGAP11B shRNA (h) Lentiviral Particles: sc-89994-V as alternate gene silencing products.

For independent verification of ARHGAP11B (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-89994A and sc-89994B.

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

ARHGAP11B siRNA (h) is recommended for the inhibition of ARHGAP11B 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 ARHGAP11B gene expression knockdown using RT-PCR Primer: ARHGAP11B (h)-PR: sc-89994-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.