SANTA CRUZ BIOTECHNOLOGY, INC.

PLEKHG3 siRNA (h): sc-92185

BACKGROUND

PLEKHG3 (pleckstrin homology domain containing, family G (with RhoGef domain) member 3), also known as ARHGEF43, is a 1,219 amino acid protein that contains one DH (DBL-homology) domain and one PH (pleckstrin homology) domain. Encoded by a gene that maps to human chromosome 14q23.3, PLEKHG3 exists as three alternatively spliced isoforms and functions as a guanide nucleotide exchange factor for Rho GTPases. Upregulated in cardiac hypertrophy, PLEKHG3 associates with an RE1 (repressor element 1) site, although it is unclear if PLEKHG3 is regulated by NRSF (RE1-silencing transcription factor), a key factor in repressing the fetal cardiac gene program in adult heart. A 14q23 deletion, which includes PLEKHG3, is linked to spherocytosis, learning difficulties and mild mental retardation.

REFERENCES

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3. Lybaek, H., et al. 2008. A 2.1 Mb deletion adjacent but distal to a 14q21q23 paracentric inversion in a family with spherocytosis and severe learning difficulties. Clin. Genet. 74: 553-559.
4. Huang, W. and Li, M.D. 2009. Nicotine modulates expression of miR-140*, which targets the 3'-untranslated region of dynamin 1 gene (Dnm1). Int. J. Neuropsychopharmacol. 12: 537-546.
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CHROMOSOMAL LOCATION

Genetic locus: PLEKHG3 (human) mapping to 14q23.3.

PRODUCT

PLEKHG3 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 PLEKHG3 shRNA Plasmid (h): sc-92185-SH and PLEKHG3 shRNA (h) Lentiviral Particles: sc-92185-V as alternate gene silencing products.

For independent verification of PLEKHG3 (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-92185A, sc-92185B and sc-92185C.

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

PLEKHG3 siRNA (h) is recommended for the inhibition of PLEKHG3 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 PLEKHG3 gene expression knockdown using RT-PCR Primer: PLEKHG3 (h)-PR: sc-92185-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.