SANTA CRUZ BIOTECHNOLOGY, INC.

CHCHD1 siRNA (m): sc-142313

BACKGROUND

CHCHD1 (Coiled-coil-helix-coiled-coil-helix domain-containing protein 1), also known as Nuclear protein C2360, is a 118 amino acid nuclear protein that contains one CHCH domain. CHCHD1 is expressed in first-trimester proliferative trophoblasts of the proximal column. The CHCHD1 gene was studied to determine if it played any role in the pathogenesis of a mitochondrial disorder that led to the development of oxidative phosphorylation system deficiencies, though it was determined that no mutation in the CHCHD1 gene could account for the disorder. The gene encoding CHCHD1 maps to human chromosome 10, which houses over 1,200 genes and comprises nearly 4.5% of the human genome. Defects in some genes that map to chromosome 10 are associated with Charcot-Marie Tooth disease, Jackson-Weiss syndrome, Usher syndrome, nonsyndromatic deafness, Wolman's syndrome, Cowden syndrome, multiple endocrine neoplasia type 2 and porphyria.

REFERENCES

1. Alimova-Kost, M.V., et al. 1998. Assignment1 of phosphotriesterase-related gene (PTER) to human chromosome band 10p12 by *in situ* hybridization. Cytogenet. Cell Genet. 83: 16-17.
2. Berger, P., et al. 2002. Molecular cell biology of Charcot-Marie-Tooth disease. Neurogenetics 4: 1-15.
3. Nonneman, D. et al. 2004. Comparative mapping of human chromosome 10 to pig chromosomes 10 and 14. Anim. Genet. 35: 338-343.
4. Deloukas, P., et al. 2004. The DNA sequence and comparative analysis of human chromosome 10. Nature 429: 375-381.
5. Westerman, B.A., et al. 2004. C2360, a nuclear protein expressed in human proliferative cytotrophoblasts, is a representative member of a novel protein family with a conserved coiled coil-helix-coiled coil-helix domain. Genomics 83: 1094-1104.
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CHROMOSOMAL LOCATION

Genetic locus: Chchd1 (mouse) mapping to 14 A3.

PRODUCT

CHCHD1 siRNA (m) 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 CHCHD1 shRNA Plasmid (m): sc-142313-SH and CHCHD1 shRNA (m) Lentiviral Particles: sc-142313-V as alternate gene silencing products.

For independent verification of CHCHD1 (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-142313A and sc-142313B.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

CHCHD1 siRNA (m) is recommended for the inhibition of CHCHD1 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 CHCHD1 gene expression knockdown using RT-PCR Primer: CHCHD1 (m)-PR: sc-142313-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.