



CHCHD2 siRNA (h): sc-89755

BACKGROUND

CHCHD2 (coiled-coil-helix-coiled-coil-helix domain containing 2), also known as C7orf17, is a 151 amino acid mitochondrial protein containing one CHCH domain and is encoded by a gene located on human chromosome 7. Chromosome 7 is approximately 158 million bases in length, encodes over 1,000 genes and makes up about 5% of the human genome. Chromosome 7 has been linked to osteogenesis imperfecta, Pendred syndrome, lissencephaly, citrullinemia and Shwachman-Diamond syndrome. The deletion of a portion of the q arm of chromosome 7 is associated with Williams-Beuren syndrome, a condition characterized by mild mental retardation, an unusual comfort and friendliness with strangers and an elfin appearance. Deletions of portions of the q arm of chromosome 7 are also seen in a number of myeloid disorders including cases of acute myelogenous leukemia and myelodysplasia.

REFERENCES

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3. Liang, H., et al. 1998. Molecular anatomy of chromosome 7q deletions in myeloid neoplasms: evidence for multiple critical loci. *Proc. Natl. Acad. Sci. USA* 95: 3781-3785.
4. Eckert, M.A., et al. 2006. The neurobiology of Williams syndrome: cascading influences of visual system impairment? *Cell. Mol. Life Sci.* 63: 1867-1875.
5. Osborne, L.R., et al. 2006. Williams-Beuren syndrome diagnosis using fluorescence *in situ* hybridization. *Methods Mol. Med.* 126: 113-128.
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7. Shimamura, A. 2006. Shwachman-Diamond syndrome. *Semin. Hematol.* 43: 178-188.
8. Brezinová, J., et al. 2007. Structural aberrations of chromosome 7 revealed by a combination of molecular cytogenetic techniques in myeloid malignancies. *Cancer Genet. Cytogenet.* 173: 10-16.
9. Leone, G., et al. 2007. Therapy-related leukemia and myelodysplasia: susceptibility and incidence. *Haematologica* 92: 1389-1398.

CHROMOSOMAL LOCATION

Genetic locus: CHCHD2 (human) mapping to 7p11.2.

PROTOCOLS

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

PRODUCT

CHCHD2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CHCHD2 shRNA Plasmid (h): sc-89755-SH and CHCHD2 shRNA (h) Lentiviral Particles: sc-89755-V as alternate gene silencing products.

For independent verification of CHCHD2 (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-89755A, sc-89755B and sc-89755C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

CHCHD2 siRNA (h) is recommended for the inhibition of CHCHD2 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 μ M in 66 μ l. 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 CHCHD2 gene expression knockdown using RT-PCR Primer: CHCHD2 (h)-PR: sc-89755-PR (20 μ l, 430 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Heppler, L.N., et al. 2022. The antimicrobial drug pyrimethamine inhibits STAT3 transcriptional activity by targeting the enzyme dihydrofolate reductase. *J. Biol. Chem.* 298: 101531.

RESEARCH USE

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