

ECHDC2 siRNA (h): sc-78898

BACKGROUND

ECHDC2 (enoyl-CoA hydratase domain-containing protein 2) is a 292 amino acid mitochondrial protein that exists as two isoforms which are produced by alternative splicing events. The gene encoding ECHDC2 maps to chromosome 1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome. Chromosome 1 encodes a large number of disease-associated proteins, including Lamin A which, when expressed abnormally, can build up in the nucleus and cause nuclear blebs, a characteristic of the rare aging disease Hutchinson-Gilford progeria. Additionally, genes that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinsons disease, Gaucher disease, schizophrenia and Usher syndrome are all located on chromosome 1. Aberrations in chromosome 1 are found in a variety of cancers, including head and neck cancer, malignant melanoma and multiple myeloma.

REFERENCES

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3. Weise, A., Starke, H., Mrasek, K., Claussen, U. and Liehr, T. 2005. New insights into the evolution of chromosome 1. *Cytogenet. Genome Res.* 108: 217-222.
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CHROMOSOMAL LOCATION

Genetic locus: ECHDC2 (human) mapping to 1p32.3.

PRODUCT

ECHDC2 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 ECHDC2 shRNA Plasmid (h): sc-78898-SH and ECHDC2 shRNA (h) Lentiviral Particles: sc-78898-V as alternate gene silencing products.

For independent verification of ECHDC2 (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-78898A, sc-78898B and sc-78898C.

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

ECHDC2 siRNA (h) is recommended for the inhibition of ECHDC2 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 ECHDC2 gene expression knockdown using RT-PCR Primer: ECHDC2 (h)-PR: sc-78898-PR (20 μ l). 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.