



NDUFA6 siRNA (h): sc-75889

BACKGROUND

NDUFA6 (NADH dehydrogenase (ubiquinone) 1 α subcomplex, 6), also known as LYRM6 (LYR motif-containing protein 6), NADHB14 or B14, is a 128 amino acid protein that localizes to the matrix side of the mitochondrial membrane and belongs to the complex I LYR family. Existing as a subunit of the multi-protein membrane respiratory chain NADH dehydrogenase complex (complex I), NDUFA6 functions as an accessory protein that facilitates the transfer of electrons from NADH to the respiratory chain. The gene encoding NDUFA6 maps to human chromosome 22, which houses over 500 genes and is the second smallest human chromosome. Mutations in several of the genes that map to chromosome 22 are involved in the development of Phelan-McDermid syndrome, neurofibromatosis type 2, autism and schizophrenia.

REFERENCES

1. Ton, C., et al. 1997. Identification and primary structure of five human NADH-ubiquinone oxidoreductase subunits. *Biochem. Biophys. Res. Commun.* 241: 589-594.
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3. Loeffen, J.L., et al. 1998. cDNA of eight nuclear encoded subunits of NADH:ubiquinone oxidoreductase: human complex I cDNA characterization completed. *Biochem. Biophys. Res. Commun.* 253: 415-422.
4. Emahazion, T., et al. 1998. Mapping of the NDUFA2, NDUFA6, NDUFA7, NDUFB8, and NDUF8S electron transport chain genes by intron based radiation hybrid mapping. *Cytogenet. Cell Genet.* 82: 114.
5. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 602138. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Murray, J., et al. 2003. Oxidative damage to mitochondrial complex I due to peroxynitrite: identification of reactive tyrosines by mass spectrometry. *J. Biol. Chem.* 278: 37223-37230.

CHROMOSOMAL LOCATION

Genetic locus: NDUFA6 (human) mapping to 22q13.2.

PRODUCT

NDUFA6 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 NDUFA6 shRNA Plasmid (h): sc-75889-SH and NDUFA6 shRNA (h) Lentiviral Particles: sc-75889-V as alternate gene silencing products.

For independent verification of NDUFA6 (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-75889A, sc-75889B and sc-75889C.

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 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

NDUFA6 siRNA (h) is recommended for the inhibition of NDUFA6 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 NDUFA6 gene expression knockdown using RT-PCR Primer: NDUFA6 (h)-PR: sc-75889-PR (20 μ l). 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.