

NDUFB8 siRNA (h): sc-90752

BACKGROUND

NDUFB8 (NADH dehydrogenase (ubiquinone) 1 β subcomplex, 8), also known as ASH1 or CI-ASH1, is a 186 amino acid single-pass membrane protein. Localized to the matrix side of the inner mitochondrial membrane, NDUFB8 functions as an accessory subunit of the mitochondrial membrane respiratory chain NADH dehydrogenase complex I. Complex I plays an important role in the transfer of electrons from NADH to the respiratory chain, a process that is essential for cellular respiration. The gene encoding NDUFB8 maps to human chromosome 10q24.31, which houses over 1,200 genes and comprises nearly 4.5% of the human genome. Several protein-coding genes, including those that encode for chemokines, cadherins, excision repair proteins, early growth response factors (Egrs) and fibroblast growth receptors (FGFRs), are located on chromosome 10. Defects in some of the genes that map to chromosome 10 are associated with Charcot-Marie-Tooth disease, Jackson-Weiss syndrome, Usher syndrome, nonsyndromic deafness, Wolman's syndrome, Cowden syndrome, multiple endocrine neoplasia type 2 and porphyria.

REFERENCES

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3. Emahazion, T. and Brookes, A.J. 1998. Mapping of the NDUF2, NDUF6, NDUF7, NDUFB8, and NDUFS8 electron transport chain genes by intron based radiation hybrid mapping. *Cytogenet. Cell Genet.* 82: 114.
4. Online Mendelian Inheritance in Man, OMIM[™]. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 602140. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Deloukas, P., et al. 2000. Report of the third international workshop on human chromosome 10 mapping and sequencing 1999. *Cytogenet. Cell Genet.* 90: 1-12.
6. Nonneman, D. and Rohrer, G.A. 2004. Comparative mapping of human chromosome 10 to pig chromosomes 10 and 14. *Anim. Genet.* 35: 338-343.

CHROMOSOMAL LOCATION

Genetic locus: NDUFB8 (human) mapping to 10q24.31.

PRODUCT

NDUFB8 siRNA (h) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NDUFB8 shRNA Plasmid (h): sc-90752-SH and NDUFB8 shRNA (h) Lentiviral Particles: sc-90752-V as alternate gene silencing products.

For independent verification of NDUFB8 (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-90752A and sc-90752B.

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

NDUFB8 siRNA (h) is recommended for the inhibition of NDUFB8 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 NDUFB8 gene expression knockdown using RT-PCR Primer: NDUFB8 (h)-PR: sc-90752-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Davis, C.W., et al. 2010. Nitration of the mitochondrial complex I subunit NDUFB8 elicits RIP1- and RIP3-mediated necrosis. *Free Radic. Biol. Med.* 48: 306-317.

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.