



NDUFB10 siRNA (m): sc-149877

BACKGROUND

NDUFB10 (NADH dehydrogenase (ubiquinone) 1 β subcomplex subunit 10), also known as CI-PDSW (complex I-PDSW) or NADH-ubiquinone oxidoreductase PDSW subunit, is a 172 amino acid peripheral membrane protein that localizes to the matrix side of the mitochondrial membrane. A member of the complex I NDUFB10 subunit family, NDUFB10 is encoded by a gene that maps to human chromosome 16p13.3. Chromosome 16 encodes over 900 genes and comprises nearly 3% of the human genome. The GAN gene is located on chromosome 16 and, with mutation, may lead to giant axonal neuropathy, a nervous system disorder characterized by increasing malfunction with growth. The rare disorder Rubinstein-Taybi syndrome is also associated with chromosome 16, as is Crohn's disease, which is a gastrointestinal inflammatory condition.

REFERENCES

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4. Smeitink, J. and van den Heuvel, L. 1999. Human mitochondrial complex I in health and disease. *Am. J. Hum. Genet.* 64: 1505-1510.
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6. Kühlenbäumer, G., et al. 2002. Giant axonal neuropathy (GAN): case report and two novel mutations in the gigaxonin gene. *Neurology* 58: 1273-1276.
7. Murray, J., et al. 2003. The subunit composition of the human NADH dehydrogenase obtained by rapid one-step immunopurification. *J. Biol. Chem.* 278: 13619-13622.
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CHROMOSOMAL LOCATION

Genetic locus: *Ndufb10* (mouse) mapping to 17 A3.3.

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.

PRODUCT

NDUFB10 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NDUFB10 shRNA Plasmid (m): sc-149877-SH and NDUFB10 shRNA (m) Lentiviral Particles: sc-149877-V as alternate gene silencing products.

For independent verification of NDUFB10 (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-149877A and sc-149877B.

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

NDUFB10 siRNA (m) is recommended for the inhibition of NDUFB10 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 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 NDUFB10 gene expression knockdown using RT-PCR Primer: NDUFB10 (m)-PR: sc-149877-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.