SANTA CRUZ BIOTECHNOLOGY, INC.

NDUFS6 siRNA (m): sc-149888

BACKGROUND

NDUFC1 (NADH-ubiquinone oxidoreductase iron-sulfur protein 6), also designated complex I-13kD-A, is one of 45 subunits comprising complex I of the oxidative phosphorylation electron transport chain. The multi-subunit NADH: ubiquinone oxidoreductase (complex I) is the first enzyme complex in the electron transport chain of the mitochondria. Complex I deficiency is the most common respiratory chain defect, resulting in various combinations of cardiac, hepatic, and renal disorders. Through use of chaotropic agents, complex I can be separated into three different fractions: a flavoprotein fraction, a hydrophobic protein (HP) fraction and an iron-sulfur protein (IP) fraction. NDUFS6 is a 124 amino acid protein that belongs to the iron-sulfur protein fraction. Mutations in the NDUFS6 gene may contribute to the deleterious effects of complex I deficiency.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Ndufs6 (mouse) mapping to 13 C1.

PRODUCT

NDUFS6 siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NDUFS6 shRNA Plasmid (m): sc-149888-SH and NDUFS6 shRNA (m) Lentiviral Particles: sc-149888-V as alternate gene silencing products.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

NDUFS6 siRNA (m) is recommended for the inhibition of NDUFS6 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 µM in 66 µl. 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 NDUFS6 gene expression knockdown using RT-PCR Primer: NDUFS6 (m)-PR: sc-149888-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Zhang, Y., et al. 2020. Adult mesenchymal stem cell ageing interplays with depressed mitochondrial NDUFS6. Cell Death Dis. 11: 1075.
2. Gao, M., et al. 2021. Mitoflash generated at the Qo site of mitochondrial Complex III. J. Cell. Physiol. 236: 2920-2933.

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.