



NDUFA9 siRNA (h): sc-72129

BACKGROUND

NDUFA9 (NADH-ubiquinone oxidoreductase a subunit 9) is one of about 45 subunits comprising complex I of the oxidative phosphorylation electron transport chain. The multisubunit NADH:ubiquinone oxidoreductase (complex I) is the first enzyme complex in the electron transport chain of the mitochondria. NDUFA9 is a subunit of the inner membrane of complex I. 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, which includes NDUF51-7 and NDUF5A. NDUFA9 is part of the hydrophobic protein fraction, although it is mostly hydrophilic. NDUFA9 is often used as a mitochondrial marker.

REFERENCES

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3. Stojanovski, D. et al. 2004. Levels of human Fis1 at the mitochondrial outer membrane regulate mitochondrial morphology. *J. Cell Sci.* 117: 1201-1210.
4. Karahan, O.I. et al. 2005. Ultrasound evaluation of peritoneal catheter tunnel in catheter related infections in CAPD. *Int. Urol. Nephrol.* 37: 363-366.
5. Martin, M.A. et al. 2005. Leigh syndrome associated with mitochondrial complex I deficiency due to a novel mutation in the NDUF51 gene. *Arch. Neurol.* 62: 659-661.
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CHROMOSOMAL LOCATION

Genetic locus: NDUFA9 (human) mapping to 12p13.32.

PRODUCT

NDUFA9 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 NDUFA9 shRNA Plasmid (h): sc-72129-SH and NDUFA9 shRNA (h) Lentiviral Particles: sc-72129-V as alternate gene silencing products.

For independent verification of NDUFA9 (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-72129A, sc-72129B and sc-72129C.

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

NDUFA9 siRNA (h) is recommended for the inhibition of NDUFA9 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 NDUFA9 gene expression knockdown using RT-PCR Primer: NDUFA9 (h)-PR: sc-72129-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.