SANTA CRUZ BIOTECHNOLOGY, INC.

NDUFA4L2 siRNA (m): sc-106287

BACKGROUND

The multisubunit NADH:ubiquinone oxidoreductase (complex I) is the first enzyme complex in the electron transport chain of the mitochondria. 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. NADH dehydrogenase (ubiquinone) 1 α subcomplex subunit 4-like 2 (NDUFA4L2), also known as NADH-ubiquinone oxidoreductase MLRQ subunit homolog (NUOMS), is an 87 amino acid protein belonging to the complex I NDUFA4 subunit family. NDUFA4L2 is thought to function as a mitochondrial marker.

REFERENCES

1. Duncan, A.M., et al. 1992. Localization of the human 75 kDa Fe-S protein of NADH-coenzyme Q reductase gene (NDUFS1) to 2q33-q34. Cytogenet. Cell Genet. 60: 212-213.
2. Man, P.Y., et al. 2002. NDUFA-1 is not a nuclear modifier gene in Leber hereditary optic neuropathy. Neurology 58: 1861-1862.
3. Smeitink, J.A., et al. 2004. Cell biological consequences of mitochondrial NADH: ubiquinone oxidoreductase deficiency. Curr. Neurovasc. Res. 1: 29-40.
4. Stojanovski, D., et al. 2004. Levels of human Fis1 at the mitochondrial outer membrane regulate mitochondrial morphology. J. Cell Sci. 117: 1201-1210.
5. Martín, M.A., et al. 2005. Leigh syndrome associated with mitochondrial complex I deficiency due to a novel mutation in the NDUFS1 gene. Arch. Neurol. 62: 659-661.
6. Karahan, O.I., et al. 2005. Ultrasound evaluation of peritoneal catheter tunnel in catheter related infections in CAPD. Int. Urol. Nephrol. 37: 363-366.

CHROMOSOMAL LOCATION

Genetic locus: Ndufa4l2 (mouse) mapping to 10 D3.

PRODUCT

NDUFA4L2 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NDUFA4L2 shRNA Plasmid (m): sc-106287-SH and NDUFA4L2 shRNA (m) Lentiviral Particles: sc-106287-V as alternate gene silencing products.

For independent verification of NDUFA4L2 (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-106287A and sc-106287B.

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.

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

NDUFA4L2 siRNA (m) is recommended for the inhibition of NDUFA4L2 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 NDUFA4L2 gene expression knockdown using RT-PCR Primer: NDUFA4L2 (m)-PR: sc-106287-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.