

COX7a2L siRNA (h): sc-94637

BACKGROUND

The cytochrome c oxidase (COX) family of proteins function as the final electron donor in the respiratory chain to drive a proton gradient across the inner mitochondrial membrane, ultimately resulting in the production of water. The mammalian COX apoenzyme is a dimer, with each monomer consisting of 13 subunits, some of which are mitochondrial and some of which are nuclear. COX7a2 (cytochrome c oxidase subunit VIIa polypeptide 2), also known as COX7AL or COX7AL1, is an 83 amino acid protein that localizes to the inner mitochondrial membrane and exists as a component of the COX complex, playing an important role in electron transport. COX7a2L (cytochrome c oxidase subunit 7A-related protein), also known as COX7AR or COX7RP, is an inner mitochondrial membrane protein that consists of 114 amino acids and is induced by estrogen.

REFERENCES

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3. Taanman, J.W., et al. 1993. Tissue distribution of cytochrome c oxidase isoforms in mammals. Characterization with monoclonal and polyclonal antibodies. *Biochim. Biophys. Acta* 1225: 95-100.
4. Merante, F., et al. 1997. Chromosomal localization of the human liver form cytochrome c oxidase subunit VIIa gene. *Genome* 40: 318-324.
5. Merante, F., et al. 1997. Cloning, characterization, and chromosomal localization of human liver form cytochrome c oxidase subunit VIIa related genes. *Genome* 40: 325-331.
6. Lenka, N., et al. 1998. Structural organization and transcription regulation of nuclear genes encoding the mammalian cytochrome c oxidase complex. *Prog. Nucleic Acid Res. Mol. Biol.* 61: 309-344.
7. Hüttemann, M., et al. 2000. Isolation and sequence of the human cytochrome c oxidase subunit VIIaL gene. *Biochim. Biophys. Acta* 1492: 252-258.

CHROMOSOMAL LOCATION

Genetic locus: COX7A2L (human) mapping to 2p21.

PRODUCT

COX7a2L 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 COX7a2L shRNA Plasmid (h): sc-94637-SH and COX7a2L shRNA (h) Lentiviral Particles: sc-94637-V as alternate gene silencing products.

For independent verification of COX7a2L (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-94637A, sc-94637B and sc-94637C.

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

COX7a2L siRNA (h) is recommended for the inhibition of COX7a2L 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 COX7a2L gene expression knockdown using RT-PCR Primer: COX7a2L (h)-PR: sc-94637-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.