SANTA CRUZ BIOTECHNOLOGY, INC.

COX6b2 siRNA (h): sc-72984

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. Localized to the intermembrane space, COX6b2 (cytochrome c oxidase subunit 6B2), also known as cytochrome c oxidase subunit VIb isoform 2 and cancer/testis antigen 59, is a 88 amino acid mitochondrial protein that is responsible for joining the two COX monomers to form the COX dimer. COX6b2 is specifically expressed in testis and is found to be upregulated in certain cancer cell lines.

REFERENCES

1. Taanman, J.W., et al. 1989. Nucleotide sequence of cDNA encoding subunit VIb of human cytochrome c oxidase. Nucleic Acids Res. 17: 1766-1766.
2. Carrero-Valenzuela, R.D., et al. 1991. Human cytochrome c oxidase subunit VIb: characterization and mapping of a multigene family. Gene 102: 229-236.
3. Taanman, J.W., et al. 1991. Identification of three human pseudogenes for subunit VIb of cytochrome c oxidase: a molecular record of gene evolution. Gene 102: 237-244.
4. Grossman, L.I., et al. 1997. Nuclear genes for cytochrome c oxidase. Biochim. Biophys. Acta 1352: 174-192.
5. Ohtsu, K., et al. 2001. Characterization and expression of the genes for cytochrome c oxidase subunit VIb (COX6b) from rice and *Arabidopsis thaliana*. Gene 264: 233-239.
6. Da Cruz, S., et al. 2003. Proteomic analysis of the mouse liver mitochondrial inner membrane. J. Biol. Chem. 278: 41566-41571.

CHROMOSOMAL LOCATION

Genetic locus: COX6B2 (human) mapping to 19q13.42.

PRODUCT

COX6b2 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see COX6b2 shRNA Plasmid (h): sc-72984-SH and COX6b2 shRNA (h) Lentiviral Particles: sc-72984-V as alternate gene silencing products.

For independent verification of COX6b2 (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-72984A, sc-72984B and sc-72984C.

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

COX6b2 siRNA (h) is recommended for the inhibition of COX6b2 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 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 COX6b2 gene expression knockdown using RT-PCR Primer: COX6b2 (h)-PR: sc-72984-PR (20 µl). 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.