SANTA CRUZ BIOTECHNOLOGY, INC.

COX6a1 siRNA (h): sc-96108

BACKGROUND

Members of 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. COX6a1 (cytochrome c oxidase subunit VIa polypeptide 1), also known as COX6AL (cytochrome c oxidase polypeptide VIa-liver) or COX6A, is a 109 amino acid protein that localizes to mitochondrial inner membrane and belongs to the cytochrome c oxidase subunit 6A family. COX6a1 is one of multiple terminal oxidases in mitochondrial electron transport and is encoded by a gene that maps to human chromosome 12q24.31.

REFERENCES

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4. Merante, F., et al. 1997. Cloning, characterization, and chromosomal localization of human liver form cytochrome c oxidase subunit VIa related genes. Genome 40: 325-331.
5. Wong-Riley, M., et al. 2000. Human COX6A1 gene: promoter analysis, cDNA isolation and expression in the monkey brain. Gene 247: 63-75.
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7. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 602072. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
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CHROMOSOMAL LOCATION

Genetic locus: COX6A1 (human) mapping to 12q24.31.

PRODUCT

COX6a1 siRNA (h) 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 COX6a1 shRNA Plasmid (h): sc-96108-SH and COX6a1 shRNA (h) Lentiviral Particles: sc-96108-V as alternate gene silencing products.

For independent verification of COX6a1 (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-96108A and sc-96108B.

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

COX6a1 siRNA (h) is recommended for the inhibition of COX6a1 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 COX6a1 gene expression knockdown using RT-PCR Primer: COX6a1 (h)-PR: sc-96108-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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.