SANTA CRUZ BIOTECHNOLOGY, INC.

COX16 siRNA (m): sc-108555

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 thirteen subunits, some of which are mitochondrial and some of which are nuclear. COX16 (COX16 cytochrome c oxidase assembly homolog), also known as HSPC203 or PTD019, is a 106 amino acid single-pass membrane protein that localizes to mitochondrial membrane and belongs to the COX16 family. The gene encoding COX16 maps to human chromosome 14, which houses over 700 genes and comprises nearly 3.5% of the human genome. Chromosome 14 encodes the Presenilin 1 gene, which is one of the three key genes associated with the development of Alzheimer's disease (AD). The SERPINA1 gene is also located on chromosome 14 and, when defective, leads to the genetic disorder α1-antitrypsin deficiency, which is characterized by severe lung complications and liver dysfunction.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Cox16 (mouse) mapping to 12 D1.

PROTOCOLS

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

PRODUCT

COX16 siRNA (m) 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 COX16 shRNA Plasmid (m): sc-108555-SH and COX16 shRNA (m) Lentiviral Particles: sc-108555-V as alternate gene silencing products.

For independent verification of COX16 (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-108555A, sc-108555B and sc-108555C.

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

COX16 siRNA (m) is recommended for the inhibition of COX16 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 COX16 gene expression knockdown using RT-PCR Primer: COX16 (m)-PR: sc-108555-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.