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Mitoferrin 2 siRNA (m): sc-149448

BACKGROUND

Mitoferrin 2, also known as MRS3/4 (mitochondrial RNA-splicing protein 3/4 homolog), mitochondrial iron transporter 2, NPD016, MRS4L or SLC25A28 (solute carrier family 25 member 28), is a 364 amino acid multi-pass membrane protein of the mitochondrial inner membrane that mediates iron uptake. Mitoferrin 2 is thought to play a role in heme synthesis of hemoproteins and iron-sulfur cluster assembly. Ubiquitously expressed, Mitoferrin 2 is found at high levels in skeletal muscle, heart, placenta, kidney, lung, liver, brain and pancreas. Mitoferrin 2 is a member of the mitochondrial carrier family and undergoes alternative splicing events to produce four isoforms. Mitoferrin 2 contains three solcar repeats and is encoded by a gene that maps to human chromosome 10q24.2.

REFERENCES

1. Li, F.Y., et al. 2001. Characterization of a novel human putative mitochondrial transporter homologous to the yeast mitochondrial RNA splicing proteins 3 and 4. *FEBS Lett.* 494: 79-84.
2. Wistow, G., et al. 2002. Expressed sequence tag analysis of adult human iris for the NEIBank Project: steroid-response factors and similarities with retinal pigment epithelium. *Mol. Vis.* 8: 185-195.
3. Deloukas, P., et al. 2004. The DNA sequence and comparative analysis of human chromosome 10. *Nature* 429: 375-381.
4. Grupe, A., et al. 2006. A scan of chromosome 10 identifies a novel locus showing strong association with late-onset Alzheimer disease. *Am. J. Hum. Genet.* 78: 78-88.
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CHROMOSOMAL LOCATION

Genetic locus: SLC25A28 (mouse) mapping to 19 C3.

PRODUCT

Mitoferrin 2 siRNA (m) is a target-specific 19-25 nt siRNA 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 Mitoferrin 2 shRNA Plasmid (m): sc-149448-SH and Mitoferrin 2 shRNA (m) Lentiviral Particles: sc-149448-V as alternate gene silencing products.

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 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

Mitoferrin 2 siRNA (m) is recommended for the inhibition of Mitoferrin 2 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 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 Mitoferrin 2 gene expression knockdown using RT-PCR Primer: Mitoferrin 2 (m)-PR: sc-149448-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.