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SCaMC-1 siRNA (m): sc-153242

BACKGROUND

SCaMC-1 (short calcium-binding mitochondrial carrier 1), also known as APC1 or SLC25A24 (solute carrier family 25, member 24), is a 477 amino acid multi-pass membrane protein belonging to the SLC25 family of mitochondrial carriers, which are responsible for transporting metabolites across the inner mitochondrial membrane. Expressed in a wide variety of tissues and localizing to the mitochondrial inner membrane, SCaMC-1 contains three Solcar repeats and four EF-hand domains and functions as a calcium-dependent mitochondrial solute carrier. SCaMC-1 may act as an ATP-Mg/Pi co-transporter, facilitating the transport of Mg-ATP in exchange for phosphate. Existing as two isoforms, SCaMC-1 is encoded by a gene located on human chromosome 1, which is the largest human chromosome spanning about 260 million base pairs and making up 8% of the human genome.

REFERENCES

1. Mashima, H., et al. 2003. A novel mitochondrial Ca²⁺-dependent solute carrier in the liver identified by mRNA differential display. *J. Biol. Chem.* 278: 9520-9527.
2. del Arco, A., et al. 2004. Identification of a novel human subfamily of mitochondrial carriers with calcium-binding domains. *J. Biol. Chem.* 279: 24701-24713.
3. Fiermonte, G., et al. 2004. Identification of the mitochondrial ATP-Mg/Pi transporter. Bacterial expression, reconstitution, functional characterization, and tissue distribution. *J. Biol. Chem.* 279: 30722-30730.
4. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608744. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Del Arco, A. 2005. Novel variants of human SCaMC-3, an isoform of the ATP-Mg/P(i) mitochondrial carrier, generated by alternative splicing from 3'-flanking transposable elements. *Biochem. J.* 389: 647-655.

CHROMOSOMAL LOCATION

Genetic locus: Slc25a24 (mouse) mapping to 3 F3.

PRODUCT

SCaMC-1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SCaMC-1 shRNA Plasmid (m): sc-153242-SH and SCaMC-1 shRNA (m) Lentiviral Particles: sc-153242-V as alternate gene silencing products.

For independent verification of SCaMC-1 (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-153242A, sc-153242B and sc-153242C.

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

SCaMC-1 siRNA (m) is recommended for the inhibition of SCaMC-1 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 SCaMC-1 gene expression knockdown using RT-PCR Primer: SCaMC-1 (m)-PR: sc-153242-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.