

SLC25A42 siRNA (m): sc-153518

BACKGROUND

SLC25A42 (solute carrier family 25, member 42) is a 318 amino acid multi-pass membrane protein that belongs to the mitochondrial carrier family. SLC25A42 contains three Solcar repeats. Expression of SLC25A42 was found in all rat tissues examined, with highest expression in adipose, followed by hypothalamus and brain coronal sections containing corpus callosum, fornix, thalamus, hypothalamus, optic chiasm, pons, midbrain and cerebellum. The main physiological role of SLC25A42 is to import CoA into mitochondria in exchange for intramitochondrial (deoxy)adenine nucleotides and adenosine 3',5'-diphosphate. SLC25A42 exhibits a high transport affinity for CoA, dephospho-CoA, ADP and adenosine 3',5'-diphosphate. The SLC25A42 gene contains seven exons, is conserved in chimpanzee, canine, bovine, mouse, rat, chicken, zebrafish, fruit fly, mosquito, *C. elegans*, *S. pombe*, *S. cerevisiae*, *K. lactis*, *E. gossypii*, *M. grisea*, *N. crassa*, *A. thaliana* and rice, and maps to human chromosome 19p13.11. The mouse gene maps to chromosome 8.

REFERENCES

1. Grimwood, J., Gordon, L.A., Olsen, A., Terry, A., Schmutz, J., Lamerdin, J., Hellsten, U., Goodstein, D., Couronne, O., Tran-Gyamfi, M., Aerts, A., Altherr, M., Ashworth, L., et al. 2004. The DNA sequence and biology of human chromosome 19. *Nature* 428: 529-535.
2. Haitina, T., Lindblom, J., Renström, T. and Fredriksson, R. 2006. Fourteen novel human members of mitochondrial solute carrier family 25 (SLC25) widely expressed in the central nervous system. *Genomics* 88: 779-790.
3. Online Mendelian Inheritance in Man, OMIM[™]. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 610823. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Robinson, A.J., Overy, C. and Kunji, E.R. 2008. The mechanism of transport by mitochondrial carriers based on analysis of symmetry. *Proc. Natl. Acad. Sci. USA* 105: 17766-17771.
5. Fiermonte, G., Paradies, E., Todisco, S., Marobbio, C.M. and Palmieri, F. 2009. A novel member of solute carrier family 25 (SLC25A42) is a transporter of coenzyme A and adenosine 3',5'-diphosphate in human mitochondria. *J. Biol. Chem.* 284: 18152-18159.
6. Iacopetta, D., Carrisi, C., De Filippis, G., Calcagnile, V.M., Cappello, A.R., Chimento, A., Curcio, R., Santoro, A., Voza, A., Dolce, V., Palmieri, F. and Capobianco, L. 2010. The biochemical properties of the mitochondrial thiamine pyrophosphate carrier from *Drosophila melanogaster*. *FEBS J.* 277: 1172-1181.

CHROMOSOMAL LOCATION

Genetic locus: Slc25a42 (mouse) mapping to 8 B3.3.

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.

PRODUCT

SLC25A42 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 SLC25A42 shRNA Plasmid (m): sc-153518-SH and SLC25A42 shRNA (m) Lentiviral Particles: sc-153518-V as alternate gene silencing products.

For independent verification of SLC25A42 (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-153518A, sc-153518B and sc-153518C.

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

SLC25A42 siRNA (m) is recommended for the inhibition of SLC25A42 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 SLC25A42 gene expression knockdown using RT-PCR Primer: SLC25A42 (m)-PR: sc-153518-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.