SANTA CRUZ BIOTECHNOLOGY, INC.

Tom40B siRNA (h): sc-88395

BACKGROUND

The mitochondrial preprotein translocases of the outer membrane (Tom) form a multisubunit complex that facilitates the import of nuclear-encoded precursor proteins across the mitochondrial outer membrane. The Tom machinery consists of import receptors for the initial binding of cytosolically synthesized preproteins, and a general import pore (GIP) for the membrane translocation of various preproteins into the mitochondrion. Tom40B (mitochondrial import receptor subunit TOM40B), also known as TOMM40L (translocase of outer mitochondrial membrane 40 homolog (yeast)-like), is a 308 amino acid multi-pass membrane protein that belongs to the Tom40 family and forms a preprotein translocase with Tom22, Tom40 and Tom70. Tom40B is encoded by a gene that maps to human chromosome 1q23.3 and mouse chromosome 1 H3.

REFERENCES

1. Yano, M., et al. 1998. Functional analysis of human mitochondrial receptor Tom20 for protein import into mitochondria. J. Biol. Chem. 273: 26844-26851.
2. Ahting, U., et al. 1999. The TOM core complex: the general protein import pore of the outer membrane of mitochondria. J. Cell. Biol. 147: 959-968.
3. Brix, J., et al. 1999. Distribution of binding sequences for the mitochondrial import receptors Tom20, Tom22, and Tom70 in a presequence-carrying preprotein and a non-cleavable preprotein. J. Biol. Chem. 274: 16522-16530.
4. van Wilpe, S., et al. 1999. Tom22 is a multifunctional organizer of the mitochondrial preprotein translocase. Nature 401: 485-489.
5. Ryan, M.T., et al. 2000. The transport machinery for the import of preproteins across the outer mitochondrial membrane. Int. J. Biochem. Cell Biol. 32: 13-21.

CHROMOSOMAL LOCATION

Genetic locus: TOMM40L (human) mapping to 1q23.3.

PRODUCT

Tom40B siRNA (h) 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 Tom40B shRNA Plasmid (h): sc-88395-SH and Tom40B shRNA (h) Lentiviral Particles: sc-88395-V as alternate gene silencing products.

For independent verification of Tom40B (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-88395A, sc-88395B and sc-88395C.

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 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

Tom40B siRNA (h) is recommended for the inhibition of Tom40B 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 Tom40B gene expression knockdown using RT-PCR Primer: Tom40B (h)-PR: sc-88395-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.