

## Tim21L siRNA (h): sc-76668

### BACKGROUND

The majority of mitochondrial-directed proteins are encoded by the nuclear genome and are transported to the mitochondria via regulated processes involving the mitochondrial Tom and Tim proteins. The mitochondrial Tim protein family is comprised of a large group of evolutionarily conserved proteins that are found in most eukaryotes and are thought to play a role in health and development. Tim21L (Tim21-like protein, mitochondrial), also known as C18orf55, is a 248 amino acid single-pass membrane protein that is thought to play a role in the transport of transit peptide-containing proteins across the inner mitochondrial membrane. The gene encoding Tim21L maps to human chromosome 18, which houses over 300 protein-coding genes and contains nearly 76 million bases. There are a variety of diseases associated with defects in chromosome 18-localized genes, some of which include Trisomy 18 (also known as Edwards syndrome), Niemann-Pick disease, hereditary hemorrhagic telangiectasia, erythropoietic protoporphyria and follicular lymphomas.

### REFERENCES

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2. Esterling, L.E., et al. 1997. An integrated physical map of 18p11.2: a susceptibility region for bipolar disorder. *Mol. Psychiatry* 2: 501-504.
3. Petek, E., et al. 2003. Characterisation of a 19-year-old "long-term survivor" with Edwards syndrome. *Genet. Couns.* 14: 239-244.
4. Grosso, S., et al. 2005. Chromosome 18 aberrations and epilepsy: a review. *Am. J. Med. Genet. A* 134A: 88-94.
5. Nusbaum, C., et al. 2005. DNA sequence and analysis of human chromosome 18. *Nature* 437: 551-555.
6. Pickard, B.S., et al. 2005. Candidate psychiatric illness genes identified in patients with pericentric inversions of chromosome 18. *Psychiatr. Genet.* 15: 37-44.

### CHROMOSOMAL LOCATION

Genetic locus: TIMM21 (human) mapping to 18q22.3.

### PRODUCT

Tim21L 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Tim21L shRNA Plasmid (h): sc-76668-SH and Tim21L shRNA (h) Lentiviral Particles: sc-76668-V as alternate gene silencing products.

For independent verification of Tim21L (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-76668A, sc-76668B and sc-76668C.

### RESEARCH USE

For research use only, not for use in diagnostic procedures.

### 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

### APPLICATIONS

Tim21L siRNA (h) is recommended for the inhibition of Tim21L 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  $\mu$ M in 66  $\mu$ 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 Tim21L gene expression knockdown using RT-PCR Primer: Tim21L (h)-PR: sc-76668-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.