SANTA CRUZ BIOTECHNOLOGY, INC.

Tim17B siRNA (h): sc-106613

BACKGROUND

Tim17B, also known as Timm17b (mitochondrial import inner membrane translocase subunit Tim17B), is a 172 amino acid multi-pass membrane protein that belongs to the Tim17/Tim22/Tim23 family. Tim17B is an essential component of the Tim23 complex, a complex that mediates the translocation of transit peptide-containing proteins across the mitochondrial inner membrane. The complex is composed of at least Tim23, Tim17 (Tim17A or Tim17B) and Tim50, and it interacts with the Tim44 component of the PAM complex. Tim17B expression is abundant in heart and skeletal muscle, intermediate in brain, and weak in pancreas, placenta, kidney and liver. The gene that encodes Tim17B maps to human chromosome Xp11.23. Human chromosome X consists of about 153 million base pairs and nearly 1,000 genes. Color blindness, hemophilia and Duchenne muscular dystrophy are well known X chromosome-linked conditions which affect males more frequently, as males carry a single X chromosome.

REFERENCES

1. Bauer, M.F., Gempel, K., Reichert, A.S., Rappold, G.A., Lichtner, P., Gerbitz, K.D., Neupert, W., Brunner, M. and Hofmann, S. 1999. Genetic and structural characterization of the human mitochondrial inner membrane translocase. J. Mol. Biol. 289: 69-82.
2. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 300249. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Gianfrancesco, F., Sanges, R., Esposito, T., Tempesta, S., Rao, E., Rappold, G., Archidiacono, N., Graves, J.A., Forabosco, A. and D'Urso, M. 2001. Differential divergence of three human pseudoautosomal genes and their mouse homologs: implications for sex chromosome evolution. Genome Res. 11: 2095-2100.
4. Bernardino-Sgherri, J., Flagiello, D. and Dutrillaux, B. 2002. Overall DNA methylation and chromatin structure of normal and abnormal X chromosomes. Cytogenet. Genome Res. 99: 85-91.
5. Deeb, S.S. 2005. The molecular basis of variation in human color vision. Clin. Genet. 67: 369-377.

CHROMOSOMAL LOCATION

Genetic locus: TIMM17B (human) mapping to Xp11.23.

PRODUCT

Tim17B siRNA (h) is a pool of 2 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 Tim17B shRNA Plasmid (h): sc-106613-SH and Tim17B shRNA (h) Lentiviral Particles: sc-106613-V as alternate gene silencing products.

For independent verification of Tim17B (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-106613A and sc-106613B.

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

Tim17B siRNA (h) is recommended for the inhibition of Tim17B 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 Tim17B gene expression knockdown using RT-PCR Primer: Tim17B (h)-PR: sc-106613-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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.