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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

SANTA CRUZ BIOTECHNOLOGY, INC.

TFB1M siRNA (m): sc-154228

BACKGROUND

TFB1M (transcription factor B1, mitochondrial), also known as CGI75, mtTFB or CGI-75, is a 346 amino acid mitochondrial protein that, along with mtTFA and MtRPOL, is required for the transcription of genes from mitochondrial DNA. Expressed ubiquitously, TFB1M functions as an S-adenosyl-L-methionine-dependent methyltransferase that specifically dimethylates mitochondrial 12S rRNA at the conserved stem loop and is required for mitochondrial DNA transcription. Variations in the gene encoding TFB1M are thought to influence the pathogenesis of aminoglycoside-induced deafness (AID), a disorder that is characterized by hearing loss and is caused by irregular methylation of 12S rRNA. The gene encoding TFB1M maps to human chromosome 6, which contains 170 million base pairs and comprises nearly 6% of the human genome.

REFERENCES

1. McCulloch, V., Seidel-Rogol, B.L. and Shadel, G.S. 2002. A human mitochondrial transcription factor is related to RNA adenine methyltransferases and binds S-adenosylmethionine. Mol. Cell. Biol. 22: 1116-1125.
2. Falkenberg, M., Gaspari, M., Rantanen, A., Trifunovic, A., Larsson, N.G. and Gustafsson, C.M. 2002. Mitochondrial transcription factors B1 and B2 activate transcription of human mtDNA. Nat. Genet. 31: 289-294.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607033. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Rantanen, A., Gaspari, M., Falkenberg, M., Gustafsson, C.M. and Larsson, N.G. 2003. Characterization of the mouse genes for mitochondrial transcription factors B1 and B2. Mamm. Genome 14: 1-6.
5. McCulloch, V. and Shadel, G.S. 2003. Human mitochondrial transcription factor B1 interacts with the C-terminal activation region of h-mtTFA and stimulates transcription independently of its RNA methyltransferase activity. Mol. Cell. Biol. 23: 5816-5824.
6. Seidel-Rogol, B.L., McCulloch, V. and Shadel, G.S. 2003. Human mitochondrial transcription factor B1 methylates ribosomal RNA at a conserved stem-loop. Nat. Genet. 33: 23-24.
7. Bykhovskaya, Y., Mengesha, E., Wang, D., Yang, H., Estivill, X., Shohat, M. and Fischel-Ghodsian, N. 2004. Human mitochondrial transcription factor B1 as a modifier gene for hearing loss associated with the mitochondrial A1555G mutation. Mol. Genet. Metab. 82: 27-32.
8. Gleyzer, N., Vercauteren, K. and Scarpulla, R.C. 2005. Control of mitochondrial transcription specificity factors (TFB1M and TFB2M) by nuclear respiratory factors (NRF-1 and NRF-2) and PGC-1 family coactivators. Mol. Cell. Biol. 25: 1354-1366.
9. Cotney, J., Wang, Z. and Shadel, G.S. 2007. Relative abundance of the human mitochondrial transcription system and distinct roles for h-mtTFB1 and h-mtTFB2 in mitochondrial biogenesis and gene expression. Nucleic Acids Res. 35: 4042-4054.

CHROMOSOMAL LOCATION

Genetic locus: Tfb1m (mouse) mapping to 17 A1.

PRODUCT

TFB1M 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TFB1M shRNA Plasmid (m): sc-154228-SH and TFB1M shRNA (m) Lentiviral Particles: sc-154228-V as alternate gene silencing products.

For independent verification of TFB1M (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-154228A, sc-154228B and sc-154228C.

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

TFB1M siRNA (m) is recommended for the inhibition of TFB1M 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 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 TFB1M gene expression knockdown using RT-PCR Primer: TFB1M (m)-PR: sc-154228-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.