

## TFB1M siRNA (h): sc-95185

### 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 6q25.3, which contains 170 million base pairs and comprises nearly 6% of the human genome.

### REFERENCES

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### CHROMOSOMAL LOCATION

Genetic locus: TFB1M (human) mapping to 6q25.3.

### PRODUCT

TFB1M 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 TFB1M shRNA Plasmid (h): sc-95185-SH and TFB1M shRNA (h) Lentiviral Particles: sc-95185-V as alternate gene silencing products.

For independent verification of TFB1M (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-95185A, sc-95185B and sc-95185C.

### 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

TFB1M siRNA (h) is recommended for the inhibition of TFB1M 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 TFB1M gene expression knockdown using RT-PCR Primer: TFB1M (h)-PR: sc-95185-PR (20  $\mu$ l). 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](http://www.scbt.com) for detailed protocols and support products.