



## RmlB siRNA (h): sc-76409

### BACKGROUND

RmlB, also known as TGDS (TDP-glucose 4,6-dehydratase), TDPGD or SDR2E1, is a 350 amino acid protein belonging to the dTDP-glucose dehydratase subfamily of the sugar epimerase family. RmlB utilizes NAD as a cofactor and is encoded by a gene located on human chromosome 13q32.1, which houses over 400 genes, such as BRCA2 and RB1, and comprises nearly 4% of the human genome. As with most chromosomes, polysomy of part or all of chromosome 13 is deleterious to development and decreases the odds of survival. Trisomy 13, also known as Patau syndrome, is deadly and the few who survive past one year suffer from permanent neurologic defects, difficulty eating and vulnerability to serious respiratory infections.

### REFERENCES

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3. Giacinti, C. and Giordano, A. 2006. RB and cell cycle progression. *Oncogene* 25: 5220-5227.
4. Takahashi, H., et al. 2006. A two-stage one-pot enzymatic synthesis of TDP-L-mycarose from thymidine and glucose-1-phosphate. *J. Am. Chem. Soc.* 128: 1432-1433.
5. Grados, M.A. and Walkup, J.T. 2006. A new gene for Tourette's syndrome: a window into causal mechanisms? *Trends Genet.* 22: 291-293.
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7. Pageni, B.B., et al. 2008. Genetically engineered biosynthesis of macrolide derivatives including 4-amino-4,6-dideoxy-L-glucose from *Streptomyces venezuelae* YJ003-OTBP3. *J. Microbiol. Biotechnol.* 18: 88-94.

### CHROMOSOMAL LOCATION

Genetic locus: TGDS (human) mapping to 13q32.1.

### PRODUCT

RmlB 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 RmlB shRNA Plasmid (h): sc-76409-SH and RmlB shRNA (h) Lentiviral Particles: sc-76409-V as alternate gene silencing products.

For independent verification of RmlB (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-76409A, sc-76409B and sc-76409C.

### PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ 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

RmlB siRNA (h) is recommended for the inhibition of RmlB 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 RmlB gene expression knockdown using RT-PCR Primer: RmlB (h)-PR: sc-76409-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.