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# promethin siRNA (m): sc-152479

## BACKGROUND

Peroxisome proliferator-activated receptor (PPAR) isoforms,  $\alpha$ ,  $\gamma$  and  $\beta/\delta$ , function as important lipid sensors and act as key regulators of energy homeostasis. PPAR $\gamma$  plays a role in adipogenesis regulation and lipid storage. Promethin, also known as TMEM159 (transmembrane protein 159), is a 161 amino acid multi-pass membrane protein that belongs to the TMEM159 family. A novel PPAR $\gamma$ -target gene, human promethin shares 70% identity with its mouse homolog. Promethin is expressed at high levels in heart and skeletal muscle, and at low levels in kidney, small intestine, lung and liver. However, promethin expression is not increased in fatty livers induced by either fasting or choline deficiency. Promethin is a candidate for providing a basic understanding of molecular mechanisms that underlie energy storage and lipid homeostasis. Conserved in chimpanzee, canine and mouse, the gene that encodes promethin maps to human chromosome 16p12.2.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: Tmem159 (mouse) mapping to 7 F2.

## PROTOCOLS

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

## PRODUCT

promethin 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see promethin shRNA Plasmid (m): sc-152479-SH and promethin shRNA (m) Lentiviral Particles: sc-152479-V as alternate gene silencing products.

For independent verification of promethin (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-152479A, sc-152479B and sc-152479C.

## 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

promethin siRNA (m) is recommended for the inhibition of promethin 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  $\mu$ 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 promethin gene expression knockdown using RT-PCR Primer: promethin (m)-PR: sc-152479-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.