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# RDH16 siRNA (m): sc-152780

## BACKGROUND

RDH16 (retinol dehydrogenase 16) is a 317 amino acid single-pass type IV membrane protein that belongs to the short-chain dehydrogenases/reductases (SDR) family. Transiently up-regulated by retinoic acid, RDH16 is an oxidoreductase with a preference for NAD. RDH16 oxidizes 3- $\alpha$ -hydroxysteroids, as well as all-*trans*-retinol and 13-*cis*-retinol to the corresponding aldehydes. RDH16 also oxidizes androstanediol and androsterone to dihydrotestosterone and androstenedione, and can catalyze the reverse reaction as well. Inhibited by citral, perillyl alcohol, geraniol, farnesol and geranyl geraniol, RDH16 is highly expressed in adult liver at the protein level. Also detected in endometrium, liver and foreskin, RDH16 is expressed in the spinous layers of adult skin, and at lower levels in basal and granular skin layers. The RDH16 gene is conserved in chimpanzee, canine, bovine, mouse, rat and zebrafish, and maps to human chromosome 12q13.3.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: *Rdh16* (mouse) mapping to 10 D3.

## PROTOCOLS

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

## PRODUCT

RDH16 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 RDH16 shRNA Plasmid (m): sc-152780-SH and RDH16 shRNA (m) Lentiviral Particles: sc-152780-V as alternate gene silencing products.

For independent verification of RDH16 (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-152780A, sc-152780B and sc-152780C.

## 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

RDH16 siRNA (m) is recommended for the inhibition of RDH16 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 RDH16 gene expression knockdown using RT-PCR Primer: RDH16 (m)-PR: sc-152780-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.