SANTA CRUZ BIOTECHNOLOGY, INC.

DHRS3 siRNA (h): sc-78624

BACKGROUND

DHRS3 (dehydrogenase/reductase (SDR family) member 3), also known as SDR1, retSDR1 (retinal short-chain dehydrogenase/reductase 1), RDH17, DD83.1, SDR16C1 or Rsdr1, is a 302 amino acid multi-pass membrane protein that catalyzes the oxidation and reduction of a variety of substrates such as steroids and retinoids. Specifically, in the presence of NADPH, DHRS3 catalyzes the reduction of all-*trans*-retinal to all-*trans*-retinol. DHRS3 expression is highest in fetal kidney, lung and liver, and adult kidney, liver, lung, placenta, pancreas, thyroid, testis, trachea, spinal cord and stomach, where it may be induced by retinoic acid. Existing as two alternatively spliced isoforms which belong to the short-chain dehydrogenases/reductases (SDR) family, DHRS3 is encoded by a gene that maps to human chromosome 1p36.22.

REFERENCES

1. Haeseleer, F., et al. 1998. Molecular characterization of a novel short-chain dehydrogenase/reductase that reduces all-*trans*-retinal. J. Biol. Chem. 273: 21790-21799.
2. Haeseleer, F. and Palczewski, K. 2000. Short-chain dehydrogenases/reductases in retina. Meth. Enzymol. 316: 372-383.
3. Cerignoli, F., et al. 2002. retSDR1, a short-chain retinol dehydrogenase/reductase, is retinoic acid-inducible and frequently deleted in human neuroblastoma cell lines. Cancer Res. 62: 1196-1204.
4. Haeseleer, F., et al. 2002. Dual-substrate specificity short chain retinol dehydrogenases from the vertebrate retina. J. Biol. Chem. 277: 45537-45546.
5. Roni, V., et al. 2007. Mapping of transcription start sites of human retina expressed genes. BMC Genomics 8: 42.
6. Persson, B., et al. 2009. The SDR (short-chain dehydrogenase/reductase and related enzymes) nomenclature initiative. Chem. Biol. Interact. 178: 94-98.
7. Online Mendelian Inheritance in Man, OMIM™. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 612830. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: DHRS3 (human) mapping to 1p36.22.

PRODUCT

DHRS3 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see DHRS3 shRNA Plasmid (h): sc-78624-SH and DHRS3 shRNA (h) Lentiviral Particles: sc-78624-V as alternate gene silencing products.

For independent verification of DHRS3 (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-78624A, sc-78624B and sc-78624C.

PROTOCOLS

See our web site at 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 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

DHRS3 siRNA (h) is recommended for the inhibition of DHRS3 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 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 DHRS3 gene expression knockdown using RT-PCR Primer: DHRS3 (h)-PR: sc-78624-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.