SANTA CRUZ BIOTECHNOLOGY, INC.

DHRS4 siRNA (m): sc-143031

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The Power to Question

BACKGROUND

DHRS4 (dehydrogenase/reductase (SDR family) member 4), also known as PSCD (peroxisomal short-chain alcohol dehydrogenase), PHCR (NADPH-dependent carbonyl reductase/NADP-retinol dehydrogenase), SDR-SRL, NRDR (NADPH-dependent retinol dehydrogenase/reductase) or SCAD-SRL, is a 260 amino acid peroxisomal homotetramer belonging to the short-chain dehydrogenases/reductases (SDR) family. DHRS4 reduces *all-trans*-retinal, 9-*cis* retinal, alkyl phenyl ketones and α-dicarbonyl compounds with aromatic rings, and exists as seven alternatively spliced isoforms. DHRS4 isoform 1 is expressed in normal cervix, whereas isoforms 4, 5 and 6 have been is found in neoplastic cervical tissues but not normal cervix. The gene encoding DHRS4 maps to human chromosome 14q11.2 and mouse chromosome 14 C3.

REFERENCES

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2. Du, J., et al. 2004. CDNA cloning of a short isoform of human liver NADP (H) -dependent retinol dehydrogenase/reductase and analysis of its characteristics. Yi Chuan Xue Bao 31: 661-667.
3. Song, X.H., et al. 2007. Expression of a novel alternatively spliced variant of NADP(H)-dependent retinol dehydrogenase/reductase with deletion of exon 3 in cervical squamous carcinoma. Int. J. Cancer 120: 1618-1626.
4. Matsunaga, T., et al. 2008. Characterization of human DHRS4: an inducible short-chain dehydrogenase/reductase enzyme with 3β-hydroxysteroid dehydrogenase activity. Arch. Biochem. Biophys. 477: 339-347.
5. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 611596. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Zhang, Q., et al. 2009. Alternative transcription initiation and splicing variants of the DHRS4 gene cluster. Biosci. Rep. 29: 47-56.
7. Persson, B., et al. 2009. The SDR (short-chain dehydrogenase/reductase and related enzymes) nomenclature initiative. Chem. Biol. Interact. 178: 94-98.

CHROMOSOMAL LOCATION

Genetic locus: Dhrs4 (mouse) mapping to 14 C3.

PRODUCT

DHRS4 siRNA (m) is a target-specific 19-25 nt siRNA 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 DHRS4 shRNA Plasmid (m): sc-143031-SH and DHRS4 shRNA (m) Lentiviral Particles: sc-143031-V as alternate gene silencing 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.

RAPPLICATIONS

DHRS4 siRNA (m) is recommended for the inhibition of DHRS4 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 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 DHRS4 gene expression knockdown using RT-PCR Primer: DHRS4 (m)-PR: sc-143031-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

ESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.