SANTA CRUZ BIOTECHNOLOGY, INC.

DHRS2 siRNA (m): sc-143030

BACKGROUND

DHRS2 (dehydrogenase/reductase (SDR family) member 2), also known as SDR25C1 or HEP27, is a 258 amino acid protein that localizes to the nucleus and belongs to the short-chain dehydrogenase/reductase (SDR) family. Functioning as an NADPH-dependent dicarbonyl reductase, DHRS2 is thought to inhibit cell replication by either converting cortisone in cortisol, or by catalyzing the oxidation of androgen and estrogen. The gene encoding DHRS2 maps to human chromosome 14, which houses over 700 genes and comprises nearly 3.5% of the human genome. Chromosome 14 encodes the presinilin 1 (PSEN1) gene, which is one of the three key genes associated with the development of Alzheimer's disease (AD). The SERPINA1 gene is also located on chromosome 14 and, when defective, leads to the genetic disorder α1-antitrypsin deficiency, which is characterized by severe lung complications and liver dysfunction.

REFERENCES

1. Donadel, G., et al. 1991. Identification of a novel nuclear protein synthesized in growth-arrested human hepatoblastoma HepG2 cells. Eur. J. Biochem. 195: 723-729.
2. Gabrielli, F., et al. 1995. A nuclear protein, synthesized in growth-arrested human hepatoblastoma cells, is a novel member of the short-chain alcohol dehydrogenase family. Eur. J. Biochem. 232: 473-477.
3. Pellegrini, S., et al. 2002. A human short-chain dehydrogenase/reductase gene: structure, chromosomal localization, tissue expression and subcellular localization of its product. Biochim. Biophys. Acta 1574: 215-222.
4. Heinz, S., et al. 2002. Genomic organization of the human gene HEP27: alternative promoter usage in HepG2 cells and monocyte-derived dendritic cells. Genomics 79: 608-615.
5. Shafqat, N., et al. 2006. Hep27, a member of the short-chain dehydrogenase/reductase family, is an NADPH-dependent dicarbonyl reductase expressed in vascular endothelial tissue. Cell. Mol. Life Sci. 63: 1205-1213.
6. 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: Dhrs2 (mouse) mapping to 14 C3.

PRODUCT

DHRS2 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 DHRS2 shRNA Plasmid (m): sc-143030-SH and DHRS2 shRNA (m) Lentiviral Particles: sc-143030-V as alternate gene silencing products.

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

DHRS2 siRNA (m) is recommended for the inhibition of DHRS2 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 DHRS2 gene expression knockdown using RT-PCR Primer: DHRS2 (m)-PR: sc-143030-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.