SANTA CRUZ BIOTECHNOLOGY, INC.

SDR39U1 siRNA (h): sc-92338

BACKGROUND

SDR39U1 (short chain dehydrogenase/reductase family 39U, member 1) is a 319 amino acid protein that belongs to the sugar epimerase family and the SDR39U1 subfamily. The short-chain dehydrogenase/reductase (SDR) superfamily now has over 47,000 members, most of which are distantly related, with typically 20-30% residue identity in pairwise comparisons, making it difficult to obtain an overview of this superfamily. The SDR enzymes are present in virtually all genomes investigated, and in humans over 70 SDR genes have been identified. Despite its name, SDR39U1 shares more sequence similarity with the sugar epimerase family than with the SDR family. The SDR39U1 protein is expressed in adrenal gland. Existing as three alternatively spliced isoforms, the SDR39U1 gene is conserved in canine, bovine, mouse, rat, zebrafish, fruit fly, mosquito, A.thaliana and rice, and maps to human chromosome 14q12. Chromosome 14 contains about 700 genes, 106 million base pairs and makes up about 3.5% of human cellular DNA.

REFERENCES

1. Jörnvall, H., et al. 1995. Short-chain dehydrogenases/reductases (SDR). Biochemistry 34: 6003-6013.
2. Oppermann, U.C., et al. 2001. Forms and functions of human SDR enzymes. Chem. Biol. Interact. 130-132: 699-705.
3. Kallberg, Y., et al. 2002. Short-chain dehydrogenase/reductase (SDR) relationships: a large family with eight clusters common to human, animal, and plant genomes. Protein Sci. 11: 636-641.
4. Oppermann, U., et al. 2003. Short-chain dehydrogenases/reductases (SDR): the 2002 update. Chem. Biol. Interact. 143-144: 247-253.
5. Heilig, R., et al. 2003. The DNA sequence and analysis of human chromosome 14. Nature 421: 601-607.
6. Persson, B., et al. 2009. The SDR (short-chain dehydrogenase/reductase and related enzymes) nomenclature initiative. Chem. Biol. Interact. 178: 94-98.
7. Kallberg, Y., et al. 2010. Classification of the short-chain dehydrogenase/reductase superfamily using hidden Markov models. FEBS J. 277: 2375-2386.

CHROMOSOMAL LOCATION

Genetic locus: SDR39U1 (human) mapping to 14q12.

PRODUCT

SDR39U1 siRNA (h) 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 SDR39U1 shRNA Plasmid (h): sc-92338-SH and SDR39U1 shRNA (h) Lentiviral Particles: sc-92338-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

SDR39U1 siRNA (h) is recommended for the inhibition of SDR39U1 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 SDR39U1 gene expression knockdown using RT-PCR Primer: SDR39U1 (h)-PR: sc-92338-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.