

17 β -HSD11 siRNA (h): sc-89007

BACKGROUND

17 β -HSD11 (17 β hydroxysteroid dehydrogenase type 11), also designated dehydrogenase/reductase SDR family member 8 (DHRS8) or retinal short-chain dehydrogenase/reductase 2 (retSDR2), belongs to the 17 β -HSD family of proteins, which regulate the availability of steroids within various tissues throughout the body. 17 β -HSD11 is a 300 amino acid protein that converts androstan-3- α ,17- β -diol (3- α -diol) to androsterone, suggesting it may participate in androgen metabolism during steroidogenesis. 17 β -HSD11 is widely expressed with highest levels found in retina, pancreas, kidney, liver, lung, adrenal, small intestine, ovary and heart as well as in steroidogenic cells such as syncytiotrophoblasts, sebaceous gland, Leydig cells and granulosa cells of the dominant follicle and corpus luteum. 17-HSD11 localizes on the endoplasmic reticulum (ER) membrane under normal conditions and redistributes to lipid droplets (LDs) upon the induction of LD formation.

REFERENCES

1. Brereton, P., et al. 2001. Pan1b (17 β HSD11)-enzymatic activity and distribution in the lung. *Mol. Cell. Endocrinol.* 171: 111-117.
2. Chai, Z., et al. 2003. 17 β -hydroxy-steroid dehydrogenase type XI localizes to human steroidogenic cells. *Endocrinology* 144: 2084-2091.
3. Fujimoto, Y., et al. 2004. Identification of major proteins in the lipid droplet-enriched fraction isolated from the human hepatocyte cell line HuH7. *Biochim. Biophys. Acta* 1644: 47-59.
4. Horiguchi, Y., et al. 2008. Identification and characterization of the ER/lipid droplet-targeting sequence in 17 β -hydroxysteroid dehydrogenase type 11. *Arch. Biochem. Biophys.* 479: 121-130.
5. Poirier, D. 2009. Advances in development of inhibitors of 17 β hydroxysteroid dehydrogenases. *Anticancer Agents Med. Chem.* 9: 642-660.
6. Nakamura, Y., et al. 2009. 17 β -hydroxysteroid dehydrogenase type 11 (Pan1b) expression in human prostate cancer. *Neoplasma* 56: 317-320.

CHROMOSOMAL LOCATION

Genetic locus: HSD17B11 (human) mapping to 4q22.1.

PRODUCT

17 β -HSD11 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see 17 β -HSD11 shRNA Plasmid (h): sc-89007-SH and 17 β -HSD11 shRNA (h) Lentiviral Particles: sc-89007-V as alternate gene silencing products.

For independent verification of 17 β -HSD11 (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-89007A, sc-89007B and sc-89007C.

PROTOCOLS

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

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20 $^{\circ}$ C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20 $^{\circ}$ C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

17 β -HSD11 siRNA (h) is recommended for the inhibition of 17 β -HSD11 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 μ M in 66 μ 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 17 β -HSD11 gene expression knockdown using RT-PCR Primer: 17 β -HSD11 (h)-PR: sc-89007-PR (20 μ l). Annealing temperature for the primers should be 55-60 $^{\circ}$ C and the extension temperature should be 68-72 $^{\circ}$ C.

RESEARCH USE

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