

17 β -HSD12 siRNA (h): sc-96987

BACKGROUND

17 β -HSD12 (hydroxysteroid (17 β) dehydrogenase 12), also known as KAR or SDR12C1, is a 312 amino acid multi-pass membrane protein that localizes to the endoplasmic reticulum and is a member of the short-chain dehydrogenases/reductases (SDR) family. Highly expressed in ovary and mammary glands, 17 β -HSD12 catalyzes the transformation of estrone (E1) into estradiol (E2), suggesting a central role in estrogen formation. 17 β -HSD12 may also play a role in long fatty acid elongation by reducing both long chain 3-ketoacyl-CoAs and long chain fatty acyl-CoAs. 17 β -HSD12 is transcriptionally regulated by SREBP-1 (sterol regulatory element binding protein 1), and is encoded by a gene that maps to human chromosome 11p11.2.

REFERENCES

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- Liu, H., et al. 2007. Expression and localization of estrogenic type 12 17 β -hydroxysteroid dehydrogenase in the cynomolgus monkey. BMC Biochem. 8: 2.
- Blanchard, P.G. and Luu-The, V. 2007. Differential androgen and estrogen substrates specificity in the mouse and primates type 12 17 β -hydroxysteroid dehydrogenase. J. Endocrinol. 194: 449-455.
- Desnoyers, S., et al. 2007. Caenorhabditis elegans LET-767 is able to metabolize androgens and estrogens and likely shares common ancestor with human types 3 and 12 17 β -hydroxysteroid dehydrogenases. J. Endocrinol. 195: 271-279.
- Day, J.M., et al. 2008. 17 β -hydroxysteroid dehydrogenase type 1, and not type 12, is a target for endocrine therapy of hormone-dependent breast cancer. Int. J. Cancer 122: 1931-1940.

CHROMOSOMAL LOCATION

Genetic locus: HSD17B12 (human) mapping to 11p11.2.

PRODUCT

17 β -HSD12 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 -HSD12 shRNA Plasmid (h): sc-96987-SH and 17 β -HSD12 shRNA (h) Lentiviral Particles: sc-96987-V as alternate gene silencing products.

For independent verification of 17 β -HSD12 (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-96987A, sc-96987B and sc-96987C.

RESEARCH USE

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

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 -HSD12 siRNA (h) is recommended for the inhibition of 17 β -HSD12 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 -HSD12 gene expression knockdown using RT-PCR Primer: 17 β -HSD12 (h)-PR: sc-96987-PR (20 μ l, 553 bp). Annealing temperature for the primers should be 55-60 $^{\circ}$ C and the extension temperature should be 68-72 $^{\circ}$ C.

SELECT PRODUCT CITATIONS

- Visus, C., et al. 2011. Identification of Hydroxysteroid (17 β) dehydrogenase type 12 (HSD17B12) as a CD8 $^{+}$ T-cell-defined human tumor antigen of human carcinomas. Cancer Immunol. Immunother. 60: 919-929.

PROTOCOLS

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