SANTA CRUZ BIOTECHNOLOGY, INC.

17β-HSD7 siRNA (m): sc-108266

BACKGROUND

17β-HSD7 (17β hydroxysteroid dehydrogenase type 7), also designated 3-keto-steroid reductase, belongs to the 17β-HSD family of proteins, which regulate the availability of steroids within various tissues throughout the body. 17β-HSD7 is a 341 amino acid protein that converts estrone to Estradiol and is also involved in cholesterol biosynthesis. 17β-HSD7 is highly expressed in adrenal gland, liver, lung and thymus. It is also expressed in the corpus luteum, where it is thought to play a role in fetal development. Single nucleotide polymorphisms in the gene encoding 17β-HSD7 have been shown to affect its level of transcription in LNCaP and DU145 cells, which may modulate an adverse reaction induced by estramustine phosphate sodium.

REFERENCES

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3. Risk, M., Shehu, A., Mao, J., Stocco, C.O., Goldsmith, L.T., Bowen-Shauver, J.M. and Gibori, G. 2005. Cloning and characterization of a 5' regulatory region of the Prolactin receptor-associated protein/17β hydroxysteroid dehydrogenase 7 gene. Endocrinology 146: 2807-2816.
4. Seth, G., McIvor, R.S. and Hu, W.S. 2006. 17β-hydroxysteroid dehydrogenase type 7 (Hsd17b7) reverts cholesterol auxotrophy in NS0 cells. J. Biotechnol. 121: 241-252.
5. Ohnesorg, T., Keller, B., Hrabé de Angelis, M. and Adamski, J. 2006. Transcriptional regulation of human and murine 17β-hydroxysteroid dehydrogenase type-7 confers its participation in cholesterol biosynthesis. J. Mol. Endocrinol. 37: 185-197.

CHROMOSOMAL LOCATION

Genetic locus: Hsd17b7 (mouse) mapping to 1 H3.

PRODUCT

17β-HSD7 siRNA (m) 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see 17β-HSD7 shRNA Plasmid (m): sc-108266-SH and 17β-HSD7 shRNA (m) Lentiviral Particles: sc-108266-V as alternate gene silencing products.

For independent verification of 17β-HSD7 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-108266A, sc-108266B and sc-108266C.

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

17β-HSD7 siRNA (m) is recommended for the inhibition of 17β-HSD7 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.

GENE EXPRESSION MONITORING

17β-HSD7 (F-4): sc-393936 is recommended as a control antibody for monitoring of 17β-HSD7 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor 17β-HSD7 gene expression knockdown using RT-PCR Primer: 17β-HSD7 (m)-PR: sc-108266-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.