SANTA CRUZ BIOTECHNOLOGY, INC.

17β-HSD6 siRNA (m): sc-108265

BACKGROUND

17β-HSD6 (17β hydroxysteroid dehydrogenase type 6), also known as RODH (retinol dehydrogenase), oxidative 3-α-hydroxysteroid dehydrogenase or HSE (3-α-hydroxysteroid epimerase), belongs to the 17β-HSD family of proteins that regulate the availability of steroids within various tissues throughout the body. 17β-HSD6 is an NAD-dependent enzyme that is expressed in prostate and liver tissues. Localizing to the lumenal side of the microsome, 17β-HSD6 plays an important role in androgen and estrogen catabolism. 17β-HSD6 exhibits oxidoreductase activity, converting 3α-adiol to dihydrotestosterone, and epimerase activity, converting androsterone to epi-androsterone. Via its ability to inactivate androgens and estrogens, 17β-HSD6 negatively regulates the signaling activity that is mediated by these steroid hormones.

REFERENCES

1. Biswas, M.G. and Russell, D.W. 1997. Expression cloning and characterization of oxidative 17β- and 3α-hydroxysteroid dehydrogenases from rat and human prostate. J. Biol. Chem. 272: 15959-15966.
2. Su, J., Lin, M. and Napoli, J.L. 1999. Complementary deoxyribonucleic acid cloning and enzymatic characterization of a novel 17β/3α-hydroxysteroid/retinoid short chain dehydrogenase/reductase. Endocrinology 140: 5275-5284.
3. Huang, X.F. and Luu-The, V. 2000. Molecular characterization of a first human 3(α→β)-hydroxysteroid epimerase. J. Biol. Chem. 275: 29452-29457.
4. Huang, X.F. and Luu-The, V. 2001. Gene structure, chromosomal localization and analysis of 3-ketosteroid reductase activity of the human 3(α→β)-hydroxysteroid epimerase. Biochim. Biophys. Acta 1520: 124-130.
5. Napoli, J.L. 2001. 17β-Hydroxysteroid dehydrogenase type 9 and other short-chain dehydrogenases/reductases that catalyze retinoid, 17β- and 3α-hydroxysteroid metabolism. Mol. Cell. Endocrinol. 171: 103-109.

CHROMOSOMAL LOCATION

Genetic locus: Hsd17b6 (mouse) mapping to 10 D3.

PRODUCT

17β-HSD6 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-HSD6 shRNA Plasmid (m): sc-108265-SH and 17β-HSD6 shRNA (m) Lentiviral Particles: sc-108265-V as alternate gene silencing products.

For independent verification of 17β-HSD6 (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-108265A, sc-108265B and sc-108265C.

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-HSD6 siRNA (m) is recommended for the inhibition of 17β-HSD6 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 17β-HSD6 gene expression knockdown using RT-PCR Primer: 17β-HSD6 (m)-PR: sc-108265-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.