SANTA CRUZ BIOTECHNOLOGY, INC.

17β-HSD2 siRNA (m): sc-61915

BACKGROUND

17β-HSD2 (17β-hydroxysteroid dehydrogenase type 2) belongs to the 17β-HSD family of proteins that regulate the availability of steroids within a tissue. 17β-HSD2 converts active steroids to their inactive form through its oxidative activity. It is a key player in the inactivation of Estradiol and testosterone. Due to the affects that 17β-HSD2 has on the availability of estrogen, it has been extensively investigated for playing a possible role in breast tumor development, colon cancer development and the pathophysiology of endometriosis. 17β-HSD2 is predominantly expressed in the placenta, endometrium and prostate but can also be found in the liver, small intestine and kidney. 17β-HSD2 is a membrane bound protein. Tibolone, a treatment used for climacteric symptoms in menopausal women, functions in part by activating 17β-HSD2.

REFERENCES

1. Akinola, L.A., et al. 1996. Cloning of rat 17β-hydroxysteroid dehydrogenase type 2 and characterization of tissue distribution and catalytic activity of rat type 1 and type 2 enzymes. Endocrinology 137: 1572-1579.
2. Zeitoun, K., et al. 1998. Deficient 17β-hydroxysteroid dehydrogenase type 2 expression in endometriosis: failure to metabolize 17-β Estradiol. J. Clin. Endocrinol. Metab. 83: 4474-4480.
3. English, M.A., et al. 2001. Estrogen metabolism and malignancy: analysis of the expression and function of 17β-hydroxysteroid dehydrogenases in colonic cancer. Mol. Cell. Endocrinol. 171: 53-60.
4. Cheng, Y.H., et al. 2006. Sp1 and Sp3 mediate progesterone-dependent induction of the 17β-hydroxysteroid dehydrogenase type 2 gene in human endometrium. Biol. Reprod. 75: 605-614.
5. Day, J.M., et al. 2006. 17β-hydroxysteroid dehydrogenase type 1 and type 2: association between mRNA expression and activity in cell lines. Mol. Cell. Endocrinol. 248: 246-249.

CHROMOSOMAL LOCATION

Genetic locus: Hsd17b2 (mouse) mapping to 8 E1.

PRODUCT

17β-HSD2 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-HSD2 shRNA Plasmid (m): sc-61915-SH and 17β-HSD2 shRNA (m) Lentiviral Particles: sc-61915-V as alternate gene silencing products.

For independent verification of 17β-HSD2 (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-61915A, sc-61915B and sc-61915C.

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-HSD2 siRNA (m) is recommended for the inhibition of 17β-HSD2 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-HSD2 (E-7): sc-374150 is recommended as a control antibody for monitoring of 17β-HSD2 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-HSD2 gene expression knockdown using RT-PCR Primer: 17β-HSD2 (m)-PR: sc-61915-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.