

17 β -HSD3 siRNA (m): sc-61917

BACKGROUND

17 β -HSD3 (17 β hydroxysteroid dehydrogenase type 3) belongs to the 17 β -HSD family of proteins that regulate the availability of steroids within various tissues throughout the body. 17 β -HSD3 is expressed predominantly in the testis. It is an NADPH-dependent, membrane-bound enzyme. 17 β -HSD3 converts inactive steroids to their active form through its reductive activity. More specifically, 17 β -HSD3 catalyzes the conversion of androstenedione to testosterone in the testis. The production of testosterone is necessary for male sex differentiation. Mutations in the gene that encodes this protein can result in an autosomal recessive male to female sex reversal. A deficiency of 17 β -HSD3 results in a defect in the biosynthesis of testosterone. 17 β -HSD3 inhibitors include 1,4-androstadiene-1,6,17-trione, androsterone 3 β -substituted derivatives, glycyrrhizin, glycyrrhetic acid, losulazine, amphetamine, Methotrexate and S-petasine.

REFERENCES

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3. Spires, T.E., et al. 2005. Identification of novel functional inhibitors of 17 β -hydroxysteroid dehydrogenase type III (17 β -HSD3). *Prostate* 65: 159-170.
4. Fink, B.E., et al. 2006. Identification of a novel series of tetrahydrodibenzazocines as inhibitors of 17 β -hydroxysteroid dehydrogenase type 3. *Bioorg. Med. Chem. Lett.* 16: 1532-1536.
5. Bertelloni, S., et al. 2006. 17 β -hydroxysteroid dehydrogenase-3 deficiency: a rare endocrine cause of male-to-female sex reversal. *Gynecol. Endocrinol.* 22: 488-494.
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CHROMOSOMAL LOCATION

Genetic locus: Hsd17b3 (mouse) mapping to 13 B3.

PRODUCT

17 β -HSD3 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see 17 β -HSD3 shRNA Plasmid (m): sc-61917-SH and 17 β -HSD3 shRNA (m) Lentiviral Particles: sc-61917-V as alternate gene silencing products.

For independent verification of 17 β -HSD3 (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-61917A, sc-61917B and sc-61917C.

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 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 -HSD3 siRNA (m) is recommended for the inhibition of 17 β -HSD3 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 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 -HSD3 gene expression knockdown using RT-PCR Primer: 17 β -HSD3 (m)-PR: sc-61917-PR (20 μ l). 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.

PROTOCOLS

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