

## 3 $\beta$ -HSD7 siRNA (h): sc-72402

### BACKGROUND

3 $\beta$ -hydroxysteroid dehydrogenase (3 $\beta$ -HSD), also known as HSD3B1 or HSD3B3, is a bifunctional enzyme that plays a crucial role in the synthesis of all classes of hormonal steroids. 3 $\beta$ -hydroxysteroid dehydrogenase type 7 (3 $\beta$ -HSD7) is a 369 amino acid protein belonging to the 3 $\beta$ -HSD family. Localized to the membrane of the endoplasmic reticulum, 3 $\beta$ -HSD7 plays an active role in the initial stages of bile synthesis from cholesterol. 3 $\beta$ -HSD7 catalyzes the oxidative conversion of  $\delta$ 5-ene-3 $\beta$ -hydroxy steroid and is active against 7 $\alpha$  hydroxylated sterol substrates. Mutations in the gene encoding 3 $\beta$ -HSD7 are associated with congenital bile acid synthesis defect, which leads to neonatal cholestasis.

### REFERENCES

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### CHROMOSOMAL LOCATION

Genetic locus: HSD3B7 (human) mapping to 16p11.2.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

### PRODUCT

3 $\beta$ -HSD7 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see 3 $\beta$ -HSD7 shRNA Plasmid (h): sc-72402-SH and 3 $\beta$ -HSD7 shRNA (h) Lentiviral Particles: sc-72402-V as alternate gene silencing products.

For independent verification of 3 $\beta$ -HSD7 (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-72402A, sc-72402B and sc-72402C.

### 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

### APPLICATIONS

3 $\beta$ -HSD7 siRNA (h) is recommended for the inhibition of 3 $\beta$ -HSD7 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  $\mu$ M in 66  $\mu$ 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 3 $\beta$ -HSD7 gene expression knockdown using RT-PCR Primer: 3 $\beta$ -HSD7 (h)-PR: sc-72402-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60 $^{\circ}$  C and the extension temperature should be 68-72 $^{\circ}$  C.

### RESEARCH USE

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