SANTA CRUZ BIOTECHNOLOGY, INC.

SF-1 siRNA (h): sc-37901

BACKGROUND

Steroidogenic factor-1 (SF-1), also known as NR5A1, regulates multiple genes involved in the adrenal and gonadal development and in the biosynthesis of a variety of hormones, including adrenal and gonadal steroids, anti-Mullerian hormone (AMH), and gonadotropins. SF-1 belongs to the fushi tarazu factor-1 (FTZ-F1) subfamily of orphan nuclear receptors. In the adult ovary, SF-1 localizes to theca/interstitial cells.

CHROMOSOMAL LOCATION

Genetic locus: NR5A1 (human) mapping to 9q33.3.

PRODUCT

SF-1 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SF-1 shRNA Plasmid (h): sc-37901-SH and SF-1 shRNA (h) Lentiviral Particles: sc-37901-V as alternate gene silencing products.

For independent verification of SF-1 (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-37901A, sc-37901B and sc-37901C.

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

SF-1 siRNA (h) is recommended for the inhibition of SF-1 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 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.

PROTOCOLS

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

GENE EXPRESSION MONITORING

SF-1 (A-1): sc-393592 is recommended as a control antibody for monitoring of SF-1 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 SF-1 gene expression knockdown using RT-PCR Primer: SF-1 (h)-PR: sc-37901-PR (20 µl, 577 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Fan, W., et al. 2007. Herbicide atrazine activates SF-1 by direct affinity and concomitant co-activators recruitments to induce aromatase expression via promoter II. Biochem. Biophys. Res. Commun. 355: 1012-1018.
2. Mizutani, T., et al. 2010. Identification of a novel distal control region upstream of the human steroidogenic acute regulatory protein (StAR) gene that participates in SF-1-dependent chromatin architecture. J. Biol. Chem. 285: 28240-28251.
3. Ju, Y., et al. 2012. Nuclear receptor 5A (NR5A) family regulates 5-aminolevulinic acid synthase 1 (ALAS1) gene expression in steroidogenic cells. Endocrinology 153: 5522-5534.
4. Kawabe, S., et al. 2013. A novel isoform of liver receptor homolog-1 is regulated by steroidogenic factor-1 and the specificity protein family in ovarian granulosa cells. Endocrinology 154: 1648-1660.
5. Mizutani, T., et al. 2014. C/EBPβ (CCAAT/enhancer-binding protein β) mediates progesterone production through transcriptional regulation in co-operation with SF-1 (steroidogenic factor-1). Biochem. J. 460: 459-471.
6. Imamichi, Y., et al. 2014. Transcriptional regulation of human ferredoxin reductase through an intronic enhancer in steroidogenic cells. Biochim. Biophys. Acta 1839: 33-42.

RESEARCH USE

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