SANTA CRUZ BIOTECHNOLOGY, INC.

SRY siRNA (m): sc-38444

BACKGROUND

SRY (sex-determining region Y protein) is a transcriptional activator required for male sex determination in mammals. This protein, also referred to as testis-determining factor (TDF), is an HMG box protein that initiates the formation of testis from undifferentiated gonad. The DNA-binding activity of SRY is required for normal testis formation. This DNA-binding activity is thought to be regulated by PKA, which phosphorylates SRY *in vivo*. Mutations in SRY have been associated with 46,XY gonadal dysgenesis, in which the gonads fail to develop in XY phenotypic females.

REFERENCES

1. Clepet, C., et al. 1993. The human SRY transcript. Hum. Mol. Genet. 2: 2007-2012.
2. Harley, V.R., et al. 1994. The biochemical role of SRY in sex determination. Mol. Reprod. Dev. 39: 184-193.
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4. Tsutsumi, O., et al. 1996. Analysis of the testis-determining gene SRY in patients with gonadal dysgenesis. Horm. Res. 46: 6-10.
5. Graves, J.A. 1998. Evolution of the mammalian Y chromosome and sex-determining genes. J. Exp. Zool. 281: 472-481.
6. Desclozeaux, M., et al. 1998. Phosphorylation of an N-terminal motif enhances DNA-binding activity of the human SRY protein. J. Biol. Chem. 273: 7988-7995.
7. Forwood, J.K., et al. 2001. The C-terminal nuclear localization signal of the sex-determining region Y (SRY) high mobility group domain mediates nuclear import through importin β 1. J. Biol. Chem. 276: 46575-46582.
8. Baud, S., et al. 2002. Equilibrium binding assays reveal the elevated stoichiometry and salt dependence of the interaction between full-length human sex-determining region on the Y chromosome (SRY) and DNA. J. Biol. Chem. 277: 18404-18410.
9. Morrison, L.S., et al. 2003. Thimet oligopeptidase expression is differentially regulated in neuroendocrine and spermatid cell lines by transcription factor binding to SRY (sex-determining region Y), CAAT and CREB (cAMP-response-element-binding protein) promoter consensus sequences. Biochem. J. 376: 189-197.

CHROMOSOMAL LOCATION

Genetic locus: Sry (mouse) mapping to Y A1.

PRODUCT

SRY siRNA (m) is a target-specific 19-25 nt siRNA 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 SRY shRNA Plasmid (m): sc-38444-SH and SRY shRNA (m) Lentiviral Particles: sc-38444-V as alternate gene silencing 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

SRY siRNA (m) is recommended for the inhibition of SRY 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

SRY (D-11): sc-398567 is recommended as a control antibody for monitoring of SRY 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 SRY gene expression knockdown using RT-PCR Primer: SRY (m)-PR: sc-38444-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.

PROTOCOLS

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