SANTA CRUZ BIOTECHNOLOGY, INC.

Sox-30 siRNA (h): sc-36529

BACKGROUND

Sox-30 (SRY (sex determining region Y)-box 30) encodes a member of the Sox (SRY-related HMG-box) family of transcription factors involved in the regulation of embryonic development and in the determination of the cell fate. Sox-30 is expressed in testis and may act as a transcriptional regulator after forming a protein complex with other proteins. Sox-30 may be involved in the differentiation of developing male germ cells. Two transcript variants encoding distinct isoforms have been identified for the human Sox-30 gene. Sox family transcription factors influence cell differentiation, development and sex determination. Sox-30 contains a unique DNA binding domain, known as the high mobility group (HMG) box, that is related to that of the testis determining gene, SRY. The highly complex group of Sox genes cluster at a minimum of 40 different loci that rapidly diverged in various animal lineages. Several Sox genes have been identified, and members of this family have been shown to be conserved during evolution and to play key roles during animal development.

REFERENCES

1. Laudet, V., et al. 1993. Ancestry and diversity of the HMG box superfamily. Nucleic Acids Res. 21: 2493-2501.
2. Kuhlbrodt, K., et al. 1998. Sox-10, a novel transcriptional modulator in glial cells. J. Neurosci. 18: 237-250.
3. Arsic, N., et al. 1998. Characterisation and mapping of the human SOX14 gene. Cytogenet. Cell Genet. 83: 139-146.
4. Osaki, E., et al. 1999. Identification of a novel Sry-related gene and its germ cell-specific expression. Nucleic Acids Res. 27: 2503-2510.
5. De Martino, S.P., et al. 1999. Sox-30: a novel zebrafish Sox gene expressed in a restricted manner at the midbrain-hindbrain boundary during neurogenesis. Dev. Genes Evol. 209: 357-362.
6. Bullejos, M., et al. 2000. HMG-box sequences from microbats homologous to the human Sox-30 HMG-box. Genetica 110: 157-162.
7. Sasai, Y. 2001. Roles of Sox factors in neural determination: conserved signaling in evolution? Int. J. Dev. Biol. 45: 321-326.
8. Lioubinski, O., et al. 2003. Expression of Sox transcription factors in the developing mouse pancreas. Dev. Dyn. 227: 402-408.

CHROMOSOMAL LOCATION

Genetic locus: SOX30 (human) mapping to 5q33.3.

PRODUCT

Sox-30 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 Sox-30 shRNA Plasmid (h): sc-36529-SH and Sox-30 shRNA (h) Lentiviral Particles: sc-36529-V as alternate gene silencing products.

For independent verification of Sox-30 (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-36529A, sc-36529B and sc-36529C.

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

Sox-30 siRNA (h) is recommended for the inhibition of Sox-30 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.

GENE EXPRESSION MONITORING

Sox-30 (G-1): sc-390333 is recommended as a control antibody for monitoring of Sox-30 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 Sox-30 gene expression knockdown using RT-PCR Primer: Sox-30 (h)-PR: sc-36529-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.