SANTA CRUZ BIOTECHNOLOGY, INC.

FOXJ2 siRNA (m): sc-62338

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The Power to Question

BACKGROUND

FOXJ2, forkhead box protein J2, is a 574 amino acid protein encoded by the human gene FOXJ2. FOXJ2 is a novel forkhead factor, belonging to the forkhead family, with a dual DNA binding specificity. The HNF3/forkhead family includes a large number of transcription factors that share a structurally related DNA binding domain. Forkhead factors are known to play important roles both during development and in adults. In the testis, FOXJ2 is expressed from pachytene spermatocytes to round spermatids, but not in spermatogonia. In addition to the germ lineage, only Sertoli cells of the testis showed expression of FOXJ2. In the ovary, only granulosa cells of the follicles express the factor. Neither mature spermatozoa nor oocytes have been found to express FOXJ2. However, both the trophectoderm (TE) and the inner cell mass (ICM) cell layers of the blastocyst express FOXJ2.

REFERENCES

1. Perez-Sánchez, C., et al. 2000. FHX, a novel forkhead factor with a dual DNA binding specificity. J. Biol. Chem. 275: 12909-12916.
2. Perez-Sánchez, C., et al. 2000. FHX.L and FHX.S, two isoforms of the human forkhead factor FHX (FOXJ2) with differential activity. J. Mol. Biol. 301: 795-806.
3. Gómez-Ferrería, M.A. and Rey-Campos, J. 2003. Functional domains of FOXJ2. J. Mol. Biol. 329: 631-644.
4. Katoh, M. and Katoh, M. 2004. Human FOX gene family (Review). Int. J. Oncol. 25: 1495-1500.
5. Tu, Q., et al. 2006. Sea urchin forkhead gene family: phylogeny and embryonic expression. Dev. Biol. 300: 49-62.
6. Wijchers, P.J., et al. 2006. Identification of forkhead transcription factors in cortical and dopaminergic areas of the adult murine brain. Brain Res. 1068: 23-33.
7. Choi, V.M., et al. 2006. Developmental expression of FOXJ1.2, FOXJ2, and FOXQ1 in *Xenopus tropicalis*. Gene Expr. Patterns 6: 443-447.

CHROMOSOMAL LOCATION

Genetic locus: Foxj2 (mouse) mapping to 6 F2.

PRODUCT

FOXJ2 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see FOXJ2 shRNA Plasmid (m): sc-62338-SH and FOXJ2 shRNA (m) Lentiviral Particles: sc-62338-V as alternate gene silencing products.

For independent verification of FOXJ2 (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-62338A, sc-62338B and sc-62338C.

PROTOCOLS

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

FOXJ2 siRNA (m) is recommended for the inhibition of FOXJ2 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

FOXJ2 (G-9): sc-514265 is recommended as a control antibody for monitoring of FOXJ2 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 FOXJ2 gene expression knockdown using RT-PCR Primer: FOXJ2 (m)-PR: sc-62338-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.