

# FOXR1 siRNA (m): sc-145229

## BACKGROUND

The forkhead-box (FOX) genes comprise a superfamily of at least 43 members that express proteins which are involved in transcriptional regulation and may be associated with the pathogenesis of various cancers. FOX family members are monomeric, helix-turn-helix proteins with a core DNA-binding domain of approximately 110 amino acids. FOX transcription factors play roles in determining cell fate during early development. FOXR1 (forkhead box protein R1), also known as FOXN5 (forkhead box protein N5) or DLNB13, is a 292 amino acid nuclear protein that belongs to the FOX family and contains one forkhead DNA-binding domain. Through chromosomal aberrations such as retroviral integration, gene amplification or translocation, FOXR1 may be involved in the development of certain invasive carcinomas.

## REFERENCES

1. Katoh, M. and Katoh, M. 2004. Identification and characterization of human FOXK1 gene in silico. *Int. J. Mol. Med.* 14: 127-132.
2. Katoh, M. and Katoh, M. 2004. Germ-line mutation of Foxn5 gene in mouse lineage. *Int. J. Mol. Med.* 14: 463-467.
3. Katoh, M. and Katoh, M. 2004. Characterization of human FOXN4 gene in silico. *Int. J. Mol. Med.* 14: 949-953.
4. Katoh, M. and Katoh, M. 2004. Identification and characterization of human FOXN5 and rat Foxn5 genes in silico. *Int. J. Oncol.* 24: 1339-1344.
5. Katoh, M. and Katoh, M. 2004. Identification and characterization of human FOXN6, mouse Foxn6, and rat Foxn6 genes in silico. *Int. J. Oncol.* 25: 219-223.
6. Katoh, M. and Katoh, M. 2004. Human FOX gene family (review). *Int. J. Oncol.* 25: 1495-1500.
7. Schuff, M., Rössner, A., Donow, C. and Knöchel, W. 2006. Temporal and spatial expression patterns of FoxN genes in *Xenopus laevis* embryos. *Int. J. Dev. Biol.* 50: 429-434.

## CHROMOSOMAL LOCATION

Genetic locus: Foxr1 (mouse) mapping to 9 A5.2.

## PRODUCT

FOXR1 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see FOXR1 shRNA Plasmid (m): sc-145229-SH and FOXR1 shRNA (m) Lentiviral Particles: sc-145229-V as alternate gene silencing products.

For independent verification of FOXR1 (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-145229A, sc-145229B and sc-145229C.

## PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ 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

FOXR1 siRNA (m) is recommended for the inhibition of FOXR1 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  $\mu$ 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 FOXR1 gene expression knockdown using RT-PCR Primer: FOXR1 (m)-PR: sc-145229-PR (20  $\mu$ l). 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.