

# RNF141 siRNA (m): sc-76414

## BACKGROUND

The RING-type zinc finger motif is present in a number of viral and eukaryotic proteins and is made of a conserved cysteine-rich domain that is able to bind two zinc atoms. Proteins that contain this conserved domain are generally involved in the ubiquitination pathway of protein degradation. RNF141 (RING finger protein 141), also known as ZFP26 or ZNF230, is a 230 amino acid protein that contains one RING-type zinc finger. Expressed as two isoforms (isoform 1 and isoform 2) due to alternative splicing events, RNF141 is thought to function as a transcription factor during spermatogenesis. While isoform 2 is expressed in brain, heart, pancreas, kidney and skeletal muscle, isoform 1 is expressed primarily in testis, suggesting that isoform 1 functions during spermatogenesis. In addition, RNF141 is not expressed in azoospermic (infertile) men, further implicating an important role for RNF141 in testis development and male fertility.

## REFERENCES

1. Borden, K.L. and Freemont, P.S. 1996. The RING finger domain: a recent example of a sequence-structure family. *Curr. Opin. Struct. Biol.* 6: 395-401.
2. Lorick, K.L., et al. 1999. RING fingers mediate ubiquitin-conjugating enzyme (E2)-dependent ubiquitination. *Proc. Natl. Acad. Sci. USA* 96: 11364-11369.
3. Zhang, S., et al. 2001. The shorter zinc finger protein ZNF230 gene message is transcribed in fertile male testes and may be related to human spermatogenesis. *Biochem. J.* 359: 721-727.
4. Qiu, W., et al. 2003. Molecular cloning and characterization of a mouse spermatogenesis-related RING finger gene znf230. *Biochem. Biophys. Res. Commun.* 306: 347-353.
5. Xu, W.M., et al. 2004. Construction of recombinant ZNF230/GFP fused plasmids and their expression and cellular localization. *Yi Chuan* 26: 451-454.

## CHROMOSOMAL LOCATION

Genetic locus: Rnf141 (mouse) mapping to 7 F1.

## PRODUCT

RNF141 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 RNF141 shRNA Plasmid (m): sc-76414-SH and RNF141 shRNA (m) Lentiviral Particles: sc-76414-V as alternate gene silencing products.

For independent verification of RNF141 (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-76414A, sc-76414B and sc-76414C.

## 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

RNF141 siRNA (m) is recommended for the inhibition of RNF141 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.

## GENE EXPRESSION MONITORING

RNF141 (J-23): sc-101119 is recommended as a control antibody for monitoring of RNF141 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-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 RNF141 gene expression knockdown using RT-PCR Primer: RNF141 (m)-PR: sc-76414-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.