SANTA CRUZ BIOTECHNOLOGY, INC.

RNF4 siRNA (m): sc-38237

BACKGROUND

The RING finger motif is a specialized DNA-binding zinc finger domain found in many transcriptional regulatory proteins. The ring finger protein (RNF) family includes any protein containing the signature RING finger motif. RNF4, also known as SNURF, is abundantly expressed in human testis and mouse embryo. RNF4 contains a C-terminal RING finger motif and binds linear, super-coiled and four-way junction DNA. RNF4 also interacts with nucleosomes and may promote the assembly of nucleoprotein structures. Ectopically expressed, RNF4 inhibits cell proliferation of germ cell tumor-derived cells, but cysteine-directed mutations in the RING finger motif abolished this growth inhibition activity. RNF4 may act as a transcription activator or a repressor. As a transcriptional activator, RNF4 mediates androgen receptor activity. RNF4 also associates with POZ-AT hook-zinc finger protein (PATZ), and the RNF4/PATZ complex acts as a transcriptional repressor. The gene encoding human RNF4 maps to chromosome 4p16.3.

REFERENCES

1. Lovering, R., et al. 1993. Identification and preliminary characterization of a protein motif related to the zinc finger. Proc. Natl. Acad. Sci. USA 90: 2112-2116.
2. Chiariotti, L., et al. 1998. Identification and characterization of a novel RING-finger gene (RNF4) mapping at 4p16.3. Genomics 47: 258-265.
3. Fedel, M., et al. 2000. A novel member of the BTB/POZ family, PATZ, associates with the RNF4 RING finger protein and acts as a transcriptional repressor. J. Biol. Chem. 275: 7894-7901.
4. Hakli, M., et al. 2001. The RING finger protein SNURF is a bifunctional protein possessing DNA binding activity. J. Biol. Chem. 276: 23653-23660.
5. Pero, R., et al. 2001. RNF4 is a growth inhibitor expressed in germ cells but not in human testicular tumors. Am. J. Pathol. 159: 1225-1230.

CHROMOSOMAL LOCATION

Genetic locus: Rnf4 (mouse) mapping to 5 B1.

PRODUCT

RNF4 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 RNF4 shRNA Plasmid (m): sc-38237-SH and RNF4 shRNA (m) Lentiviral Particles: sc-38237-V as alternate gene silencing products.

For independent verification of RNF4 (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-38237A, sc-38237B and sc-38237C.

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

RNF4 siRNA (m) is recommended for the inhibition of RNF4 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor RNF4 gene expression knockdown using RT-PCR Primer: RNF4 (m)-PR: sc-38237-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.