SANTA CRUZ BIOTECHNOLOGY, INC.

SURF-6 siRNA (h): sc-92816

BACKGROUND

SURF-6 (Surfeit locus protein-6) is a 361 amino acid protein that localizes to granular components of the nucleolus. Expressed ubiquitously with expression levels regulated during the cell cycle, SURF-6 is thought to function as a housekeeping protein that binds both RNA and DNA *in vitro* and may be involved in ribosome assembly and biosynthesis. In mice, cells lacking SURF-6 are nonviable, further implicating a role for SURF-6 in ribosome biogenesis and, possibly, proper cell cycle progression. Human SURF-6 shares structural similarity with its fish and mouse orthologs, suggesting an evolutionary conserved role between species. SURF-6 is encoded by a gene that is located on chromosome 9q34.2 in the Surfeit gene locus, which is one of the tightest gene clusters in the human genome.

REFERENCES

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2. Magoulas, C., et al. 1998. The SURF-6 protein is a component of the nucleolar matrix and has a high binding capacity for nucleic acids *in vitro*. Eur. J. Cell Biol. 75: 174-183.
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5. Wolff, C.M., et al. 2002. Cloning and expression of the surfeit locus member Surf-6 during embryogenesis in *Xenopus laevis*. DNA Seq. 13: 149-152.
6. Polzikov, M., et al. 2005. Identification of an evolutionary conserved SURF-6 domain in a family of nucleolar proteins extending from human to yeast. Biochem. Biophys. Res. Commun. 327: 143-149.
7. Gurchenkov, V.V., et al. 2005. Properties and functions of a new nucleolar protein, Surf-6, in 3T3 mouse cells. Bioorg. Khim. 31: 578-585.
8. Romanova, L.G., et al. 2006. Implication of nucleolar protein SURF6 in ribosome biogenesis and preimplantation mouse development. Biol. Reprod. 75: 690-696.
9. Polzikov, M., et al. 2007. The nucleolar protein SURF-6 is essential for viability in mouse NIH/3T3 cells. Mol. Biol. Rep. 34: 155-160.

CHROMOSOMAL LOCATION

Genetic locus: SURF6 (human) mapping to 9q34.2.

PRODUCT

SURF-6 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 SURF-6 shRNA Plasmid (h): sc-92816-SH and SURF-6 shRNA (h) Lentiviral Particles: sc-92816-V as alternate gene silencing products.

For independent verification of SURF-6 (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-92816A, sc-92816B and sc-92816C.

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

SURF-6 siRNA (h) is recommended for the inhibition of SURF-6 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

SURF-6 (A-5): sc-515439 is recommended as a control antibody for monitoring of SURF-6 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 SURF-6 gene expression knockdown using RT-PCR Primer: SURF-6 (h)-PR: sc-92816-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.