SANTA CRUZ BIOTECHNOLOGY, INC.

LSm8 siRNA (h): sc-75715

BACKGROUND

Sm and Sm-like (LSm) proteins form donut-shaped heptameric complexes that are involved in various steps of RNA metabolism. LSm proteins are ubiquitously expressed and facilitate RNA-protein interactions and structural changes that are required during ribosomal subunit assembly. LSm8, also known as YJR022W, is a member of the snRNP Sm proteins family. It is a component of the LSm2-8 complex which plays a role in the processing of pre-snoRNAs, pre-tRNAs and pre-rRNAs, as well as the turnover of pre-mRNAs. The LSm2-8 complex is also essential for the nuclear localization of the U6 snRNA. LSm8 localizes to the nucleus and specifically binds the U6 snRNA 3'-terminal U-tract.

REFERENCES

1. Pannone, B.K., et al. 1999. A role for the yeast La protein in U6 snRNP assembly: evidence that the La protein is a molecular chaperone for RNA polymerase III transcripts. EMBO J. 17: 7442-7453.
2. Pannone, B.K., et al. 2001. Multiple functional interactions between components of the Lsm2-Lsm8 complex, U6 snRNA, and the yeast La protein. Genetics 158: 187-196.
3. Tomasevic, N. and Peculis, B.A. 2002. *Xenopus* LSm proteins bind U8 snoRNA via an internal evolutionarily conserved octamer sequence. Mol. Cell. Biol. 22: 4101-4112.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607288. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Ingelfinger, D., et al. 2003. The human LSm1-7 proteins colocalize with the mRNA-degrading enzymes Dcp1/2 and Xrnl in distinct cytoplasmic foci. RNA 8: 1489-1501.
6. Kufel, J., et al. 2003. Lsm Proteins are required for normal processing and stability of ribosomal RNAs. J. Biol. Chem. 278: 2147-2156.
7. Kufel, J., et al. 2004. Nuclear pre-mRNA decapping and 5' degradation in yeast require the Lsm2-8p complex. Mol. Cell. Biol. 24: 9646-9657.
8. Fernandez, C.F., et al. 2004. An Lsm2-Lsm7 complex in *Saccharomyces cerevisiae* associates with the small nucleolar RNA snR5. Mol. Biol. Cell 15: 2842-2852.

CHROMOSOMAL LOCATION

Genetic locus: NAA38 (human) mapping to 7q31.31.

PRODUCT

LSm8 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 LSm8 shRNA Plasmid (h): sc-75715-SH and LSm8 shRNA (h) Lentiviral Particles: sc-75715-V as alternate gene silencing products.

For independent verification of LSm8 (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-75715A, sc-75715B and sc-75715C.

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

LSm8 siRNA (h) is recommended for the inhibition of LSm8 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

LSm8 (F-8): sc-390542 is recommended as a control antibody for monitoring of LSm8 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 LSm8 gene expression knockdown using RT-PCR Primer: LSm8 (h)-PR: sc-75715-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.