SANTA CRUZ BIOTECHNOLOGY, INC.

LSm7 siRNA (m): sc-75714

BACKGROUND

Sm and Sm-like (LSm) proteins form donut-shaped, ubiquitously expressed heptameric complexes that are involved in various steps of RNA metabolism, including RNA-protein interactions and structural changes that are required during ribosomal subunit assembly. LSm7 is an 103 amino acid protein that localizes to the nucleus and belongs to the LSm subfamily of snRNP Sm proteins. Functioning as a component of the heptameric LSm1-LSm7 complex, LSm7 is involved in mRNA degradation, specifically by activating the decapping step in the 5'-to-3' mRNA decay pathway. LSm7 has been shown to bind to TACC1, which is down-regulated in breast cancer, suggesting a role for LSm7 in the pathogenesis of certain cancers.

REFERENCES

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3. Friesen, W.J. and Dreyfuss, G. 2000. Specific sequences of the Sm and Sm-like (Lsm) proteins mediate their interaction with the spinal muscular atrophy disease gene product (SMN). J. Biol. Chem. 275: 26370-26375.
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5. Ingelfinger, D., Arndt-Jovin, D.J., Lührmann, R. and Achsel, T. 2002. The human LSm1-7 proteins colocalize with the mRNA-degrading enzymes Dcp1/2 and Xrnl in distinct cytoplasmic foci. RNA 8: 1489-1501.
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7. Chowdhury, A., Mukhopadhyay, J. and Tharun, S. 2007. The decapping activator LSm1p-7p-Pat1p complex has the intrinsic ability to distinguish between oligoadenylated and polyadenylated RNAs. RNA 13: 998-1016.

CHROMOSOMAL LOCATION

Genetic locus: Lsm7 (mouse) mapping to 10 C1.

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.

PRODUCT

LSm7 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 LSm7 shRNA Plasmid (m): sc-75714-SH and LSm7 shRNA (m) Lentiviral Particles: sc-75714-V as alternate gene silencing products.

For independent verification of LSm7 (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-75714A, sc-75714B and sc-75714C.

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

LSm7 siRNA (m) is recommended for the inhibition of LSm7 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.