SANTA CRUZ BIOTECHNOLOGY, INC.

LSm7 (D-20): sc-82653

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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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2. Achsel, T., Brahms, H., Kastner, B., Bachi, A., Wilm, M. and Lührmann, R. 1999. A doughnut-shaped heteromer of human Sm-like proteins binds to the 3'-end of U6 snRNA, thereby facilitating U4/U6 duplex formation *in vitro*. EMBO J. 18: 5789-5802.
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.
4. Conte, N., Charafe-Jauffret, E., Delaval, B., Adelaïde, J., Ginestier, C., Geneix, J., Isnardon, D., Jacquemier, J. and Birnbaum, D. 2002. Carcinogenesis and translational controls: TACC1 is down-regulated in human cancers and associates with mRNA regulators. Oncogene 21: 5619-5630.
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.

CHROMOSOMAL LOCATION

Genetic locus: LSM7 (human) mapping to 19p13.3; Lsm7 (mouse) mapping to 10 C1.

SOURCE

LSm7 (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of LSm7 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-82653 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-82653 X, 200 µg/0.1 ml.

APPLICATIONS

LSm7 (D-20) is recommended for detection of LSm7 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other LSm family members.

Suitable for use as control antibody for LSm7 siRNA (h): sc-75713, LSm7 siRNA (m): sc-75714, LSm7 shRNA Plasmid (h): sc-75713-SH, LSm7 shRNA Plasmid (m): sc-75714-SH, LSm7 shRNA (h) Lentiviral Particles: sc-75713-V and LSm7 shRNA (m) Lentiviral Particles: sc-75714-V.

LSm7 (D-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

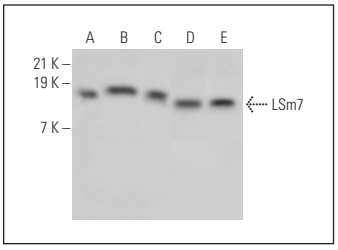
Molecular Weight of LSm7: 12 kDa.

Positive Controls: F9 cell lysate: sc-2245, SUP-T1 whole cell lysate: sc-364796 or MOLT-4 nuclear extract: sc-2151.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



LSm7 (D-20): sc-82653. Western blot analysis of LSm7 expression in MOLT-4 nuclear extract (**A**) and CCRF-CEM (**B**), SUP-T1 (**C**), Daudi (**D**) and F9 (**E**) whole cell lysates.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.