SANTA CRUZ BIOTECHNOLOGY, INC.

LSm1 (A-4): sc-398623

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Sm and Sm-like (LSm) proteins form donut-shaped heptameric complexes that are involved in various steps of RNA metabolism. LSm proteins facilitate RNA protein interactions and structural changes that are required during ribosomal subunit assembly. LSm1, also designated U6 snRNA-associated Sm-like protein or small nuclear ribonuclear CaSm, binds specifically to the 3'-terminal U-tract of U6 snRNA. Human LSm1 localizes to the cytoplasm in small, discrete foci. These foci are also the localization site for the mRNA decapping enzyme Dcp1/2 and the exonuclease Xm1. LSm1 is naturally overexpressed in pancreatic cancer as well as in certain breast cancer cell lines. The down-regulation of LSm1 is involved in the progression of prostate cancer.

REFERENCES

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2. Takahashi, S., et al. 2002. Downregulation of LSm1 is involved in human prostate cancer progression. Br. J. Cancer 86: 940-946.
3. Ingelfinger, D., et al. 2002. The human LSm1-7 proteins colocalize with the mRNA-degrading enzymes Dcp1/2 and Xrnl in distinct cytoplasmic foci. RNA 8: 1489-1501.
4. Noueiry, A.O., et al. 2003. Yeast LSm1p-7p/Pat1p deadenylation-dependent mRNA-decapping factors are required for brome mosaic virus genomic RNA translation. Mol. Cell. Biol. 23: 4094-4106.
5. Kufel, J., et al. 2003. LSm proteins are required for normal processing and stability of ribosomal RNAs. J. Biol. Chem. 278: 2147-2156.
6. Chu, C.Y. and Rana, T.M. 2006. Translation repression in human cells by microRNA-induced gene silencing requires RCK/p54. PLoS Biol. 4: e210.
7. Elsheikha, H.M., et al. 2006. Molecular and microscopic techniques for detection of *Sarcocystis neurona* sporocysts in fecal samples. J. Eygpt. Soc. Parasitol. 36: 713-725.
8. Streicher, K.L., et al. 2007. Transforming function of the LSm1 oncogene in human breast cancers with the 8p11-12 amplicon. Oncogene 26: 2104-2114.

CHROMOSOMAL LOCATION

Genetic locus: LSM1 (human) mapping to 8p11.23; Lsm1 (mouse) mapping to 8 A2.

SOURCE

LSm1 (A-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 108-133 at the C-terminus of LSm1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398623 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

LSm1 (A-4) is recommended for detection of LSm1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for LSm1 siRNA (h): sc-72335, LSm1 siRNA (m): sc-72336, LSm1 shRNA Plasmid (h): sc-72335-SH, LSm1 shRNA Plasmid (m): sc-72336-SH, LSm1 shRNA (h) Lentiviral Particles: sc-72335-V and LSm1 shRNA (m) Lentiviral Particles: sc-72336-V.

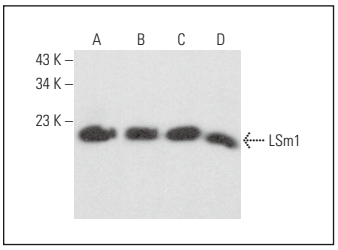
Molecular Weight of LSm1: 15 kDa.

Positive Controls: RT-4 whole cell lysate: sc-364257, K-562 whole cell lysate: sc-2203 or human liver extract: sc-363766.

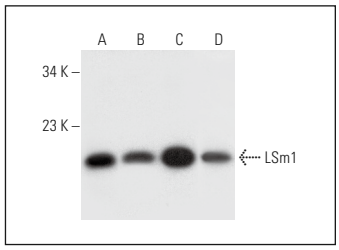
RECOMMENDED SUPPORT REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



LSm1 (A-4): sc-398623. Western blot analysis of LSm1 expression in NIH/3T3 (**A**), Caki-1 (**B**), C6 (**C**) and Neuro-2A (**D**) whole cell lysates.



LSm1 (A-4): sc-398623. Western blot analysis of LSm1 expression in RT-4 (**A**), U-251-MG (**B**) and K-562 (**C**) whole cell lysates and human liver tissue extract (**D**).

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.