

LSm1 (A-9): sc-373685

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 ribonucleic 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 Xrn1. 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

- Bouveret, E., et al. 2000. A Sm-like protein complex that participates in mRNA degradation. *EMBO J.* 19: 1661-1671.
- Takahashi, S., et al. 2002. Downregulation of LSm1 is involved in human prostate cancer progression. *Br. J. Cancer* 86: 940-946.
- Noeiry, 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.
- Kufel, J., et al. 2003. LSm proteins are required for normal processing and stability of ribosomal RNAs. *J. Biol. Chem.* 278: 2147-2156.
- Ingelfinger, D., et al. 2003. The human LSm1-7 proteins colocalize with the mRNA-degrading enzymes Dcp1/2 and Xrn1 in distinct cytoplasmic foci. *RNA* 8: 1489-1501.
- 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.

CHROMOSOMAL LOCATION

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

SOURCE

LSm1 (A-9) is a mouse monoclonal antibody raised against amino acids 1-133 representing full length LSm1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-373685 X, 200 µg/0.1 ml.

LSm1 (A-9) is available conjugated to agarose (sc-373685 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373685 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373685 PE), fluorescein (sc-373685 FITC), Alexa Fluor[®] 488 (sc-373685 AF488), Alexa Fluor[®] 546 (sc-373685 AF546), Alexa Fluor[®] 594 (sc-373685 AF594) or Alexa Fluor[®] 647 (sc-373685 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-373685 AF680) or Alexa Fluor[®] 790 (sc-373685 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

LSm1 (A-9) 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).

LSm1 (A-9) is also recommended for detection of LSm1 in additional species, including canine.

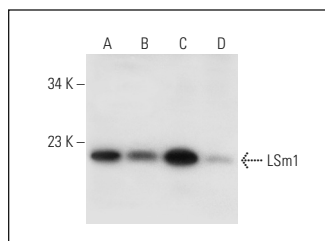
Suitable for use as control antibody for LSm1 siRNA (h): sc-72335, LSm1 siRNA (m): sc-72336, LSm1 shRNA Plasmid (h): sc-72335-SH, LSm1 shRNA Plasmid (m): sc-72336-SH, LSm1 shRNA (h) Lentiviral Particles: sc-72335-V and LSm1 shRNA (m) Lentiviral Particles: sc-72336-V.

LSm1 (A-9) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

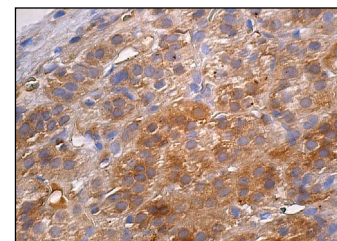
Molecular Weight of LSm1: 15 kDa.

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

DATA



LSm1 (A-9): sc-373685. 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).



LSm1 (A-9): sc-373685. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Mao, S., et al. 2021. A background assessable and correctable bimolecular fluorescence complementation system for nanoscopic single-molecule imaging of intracellular protein-protein interactions. *ACS Nano* 15: 14338-14346.

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.