

LSm5 (G-5): sc-398656

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. LSm proteins contain a Sm sequence motif which has two regions separated by a linker of variable length that forms a loop. LSm5, also known as YER146W, is a 91 amino acid protein belonging to the snRNP Sm family. Localized to the nucleus, LSm5 has been found to play a role in the formation and function of the U6 snRNP. Specifically, LSm5 binds to the 3' end of U6 snRNA and facilitates U4/U6 duplex formation.

REFERENCES

1. Salgado-Garrido, J., et al. 1999. Sm and Sm-like proteins assemble in two related complexes of deep evolutionary origin. *EMBO J.* 18: 3451-3462.
2. Achsel, T., et al. 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. Eystathiou, T., et al. 2002. Autoantibody to hLSm4 and the heptameric LSm complex in anti-Sm sera. *Arthritis Rheum.* 46: 726-734.
5. Ingelfinger, D., et al. 2002. The human LSm1-7 proteins colocalize with the mRNA-degrading enzymes Dcp1/2 and Xrn1 in distinct cytoplasmic foci. *RNA* 8: 1489-1501.
6. Lehner, B. and Sanderson, C.M. 2004. A protein interaction framework for human mRNA degradation. *Genome Res.* 14: 1315-1323.

CHROMOSOMAL LOCATION

Genetic locus: LSM5 (human) mapping to 7p14.3; Lsm5 (mouse) mapping to 6 B3.

SOURCE

LSm5 (G-5) is a mouse monoclonal antibody raised against amino acids 1-91 representing full length LSm5 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-398656 X, 200 µg/0.1 ml.

LSm5 (G-5) is available conjugated to agarose (sc-398656 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398656 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398656 PE), fluorescein (sc-398656 FITC), Alexa Fluor® 488 (sc-398656 AF488), Alexa Fluor® 546 (sc-398656 AF546), Alexa Fluor® 594 (sc-398656 AF594) or Alexa Fluor® 647 (sc-398656 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398656 AF680) or Alexa Fluor® 790 (sc-398656 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

LSm5 (G-5) is recommended for detection of LSm5 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).

LSm5 (G-5) is also recommended for detection of LSm5 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for LSm5 siRNA (h): sc-75709, LSm5 siRNA (m): sc-75710, LSm5 shRNA Plasmid (h): sc-75709-SH, LSm5 shRNA Plasmid (m): sc-75710-SH, LSm5 shRNA (h) Lentiviral Particles: sc-75709-V and LSm5 shRNA (m) Lentiviral Particles: sc-75710-V.

LSm5 (G-5) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

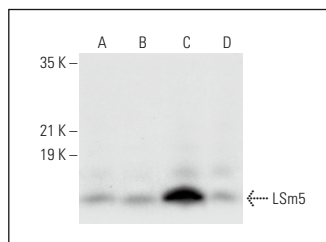
Molecular Weight of LSm5: 10 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HL-60 whole cell lysate: sc-2209 or T-47D cell lysate: sc-2293.

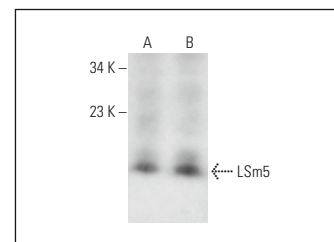
RECOMMENDED SUPPORT REAGENTS

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



LSm5 (G-5): sc-398656. Western blot analysis of LSm5 expression in HeLa (A), T-47D (B), HL-60 (C) and MCF7 (D) whole cell lysates.



LSm5 (G-5): sc-398656. Western blot analysis of LSm5 expression in SK-N-SH (A) and Neuro-2A (B) 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.