LSm4 (C-14): sc-54840



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. LSm4, also called U6 snRNA-associated Sm-like protein or glycine-rich protein (GRP), binds specifically to the 3'-terminal U-tract of U6 snRNA. Human LSm4 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.

REFERENCES

- Bouveret, E., Rigaut, G., Shevchenko, A., Wilm, M. and Seraphin, B. 2000.
 A Sm-like protein complex that participates in mRNA degradation. EMBO J. 19: 1661-1671.
- Hirsch, E., Oohashi, T., Ahmad, M., Stamm, S. and Fässler, R. 2000. Periimplantation lethality in mice lacking the Sm motif-containing protein LSm4. Mol. Cell. Biol. 20: 1055-1062.
- Brahms, H., Meheus, L., de Brabandere, V., Fischer, U. and Lührmann, R. 2001. Symmetrical dimethylation of arginine residues in spliceosomal Sm protein B/B' and the Sm-like protein LSm4, and their interaction with the SMN protein. RNA 7: 1531-1542.
- 4. Eystathioy, T., Peebles, C.L., Hamel, J.C., Vaughn, J.H. and Chan, E.K. 2002. Autoantibody to hLSm4 and the heptameric LSm complex in anti-Sm sera. Arthritis Rheum. 46: 726-734.
- Mazzoni, C., Mancini, P., Verdone, L., Madeo, F., Serafini, A., Herker, E. and Falcone, C. 2003. A truncated form of KILSm4p and the absence of factors involved in mRNA decapping trigger apoptosis in yeast. Mol. Biol. Cell 14: 721-729.
- Kufel, J., Allmang, C., Petfalski, E., Beggs, J. and Tollervey, D. 2003. LSm proteins are required for normal processing and stability of ribosomal RNAs. J. Biol. Chem. 278: 2147-2156.
- 7. Ingelfinger, D., Arndt-Jovin, D.J., Lührmann, R. and Achsel, T. 2003. The human LSm1-7 proteins colocalize with the mRNA-degrading enzymes Dcp1/2 and Xrnl in distinct cytoplasmic foci. RNA 8: 1489-1501.
- 8. Fernandez, C.F., Pannone, B.K., Chen, X., Fuchs, G. and Wolin, S.L. 2004. An LSm2-LSm7 complex in *Saccharomyces cerevisiae* associates with the small nucleolar RNA snR5. Mol. Biol. Cell. 15: 2842-2852.
- Beckham, C.J., Light, H.R., Nissan, T.A., Ahlquist, P., Parker, R. and Nouiery, A. 2007. Interactions between brome mosaic virus RNAs and cytoplasmic processing bodies. J. Virol. 81: 9759-9768.

CHROMOSOMAL LOCATION

Genetic locus: LSM4 (human) mapping to 19p13.11; Lsm4 (mouse) mapping to 8 B3.3.

SOURCE

LSm4 (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of LSm4 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-54840 P, ($100 \mu g$ peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

LSm4 (C-14) is recommended for detection of LSm4 of mouse and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 LSm4 siRNA (h): sc-62567 and LSm4 siRNA (m): sc-62568.

Molecular Weight of LSm4: 15 kDa.

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) 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.

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 or our catalog for detailed protocols and support products.

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