

Sm E (L-17): sc-21057

BACKGROUND

U1, U2, U4, U5, U6 and U7 are small nuclear ribonucleoproteins (snRNPs) that comprise the spliceosome in eukaryotes. Each UsnRNP contains common Sm proteins B/B', D1, D2, D3, E, F and G. The Sm proteins pair up as D1-D2, B/B'-D3 and E-F-G to form RNA-free hetero-oligomers in the cytoplasm. Sm proteins aid in the cytoplasmic construction of the UsnRNPs by binding to a conserved Sm site on UsnRNA and forming a stable snRNP core complex. Sm D1, D2 and D3 are present in U1, U2, U4/5 and U5 but not U7 snRNPs in human and mouse cells. U7 snRNPs contain Lsm10, an Sm D1-like protein. Autoantibodies produced in patients suffering from systemic lupus erythematosus react predominantly with Sm B/B', D1 and D3. The major linear epitope of these autoantibodies includes the C-terminal RG dipeptide repeats found in Sm D1 and D3. The gene encoding human Sm E maps to chromosome 1q32.1.

REFERENCES

1. Branlant, C., et al. 1982. U2 RNA shares a structural domain with U1, U4, and U5 RNAs. *EMBO J.* 1: 1259-1265.
2. Stanford, D.R., et al. 1988. The complete primary structure of the human snRNP E protein. *Nucleic Acids Res.* 16: 10593-10605.
3. Lehmeier, T., et al. 1990. Evidence for three distinct D proteins, which react differentially with anti-Sm autoantibodies, in the cores of the major snRNPs U1, U2, U4/U6 and U5. *Nucleic Acids Res.* 18: 6475-6484.
4. Neiswanger, K., et al. 1990. Assignment of the gene for the small nuclear ribonucleoprotein E (SNRPE) to human chromosome 1q25-q43. *Genomics* 7: 503-508.
5. Raker, V.A., et al. 1996. The snRNP core assembly pathway: identification of stable core protein heteromeric complexes and an snRNP subcore particle *in vitro*. *EMBO J.* 15: 2256-2269.

CHROMOSOMAL LOCATION

Genetic locus: SNRPE (human) mapping to 1q32.1; Snrpe (mouse) mapping to 1 E4.

SOURCE

Sm E (L-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Sm E 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-21057 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Sm E (L-17) is recommended for detection of Sm E 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).

Sm E (L-17) is also recommended for detection of Sm E in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Sm E siRNA (h): sc-38329, Sm E siRNA (m): sc-38330, Sm E shRNA Plasmid (h): sc-38329-SH, Sm E shRNA Plasmid (m): sc-38330-SH, Sm E shRNA (h) Lentiviral Particles: sc-38329-V and Sm E shRNA (m) Lentiviral Particles: sc-38330-V.

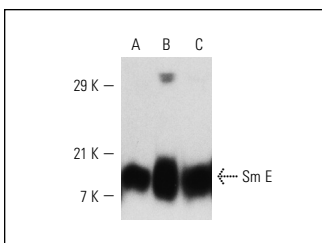
Molecular Weight of Sm E: 11 kDa.

Positive Controls: NIH/3T3 nuclear extract: sc-2138, HEK293 whole cell lysate: sc-45136 or HeLa nuclear extract: sc-2120.

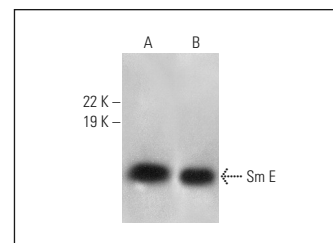
RECOMMENDED SECONDARY REAGENTS

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



Sm E (L-17): sc-21057. Western blot analysis of Sm E expression in NIH/3T3 (A), PC-12 (B) and HeLa (C) nuclear extracts.



Sm E (L-17): sc-21057. Western blot analysis of Sm E expression in HEK293 whole cell lysate (A) and A-431 nuclear extract (B).

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.