

# Sm F (D-16): sc-21060

## BACKGROUND

U1, U2, U5 and U4/U6 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 F and Sm G are both expressed as 0.5 kb transcripts in HeLa cells. Sm G mRNA migrates as a doublet by high-TEMED SDS-PAGE, which suggests the presence of conformational isomers of Sm G. The genes encoding human Sm F and Sm G map to chromosomes 12q and 2p, respectively. Sm proteins are often targeted by autoantibodies produced in patients suffering from systemic lupus erythematosus (SLE). One class of these autoantibodies react specifically with native Sm E-F-G complexes.

## 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. Hermann, H., et al. 1995. snRNP Sm proteins share two evolutionarily conserved sequence motifs which are involved in Sm protein-protein interactions. *EMBO J.* 14: 2076-2088.
3. 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.
4. Brahms, H., et al. 1997. A major, novel systemic lupus erythematosus autoantibody class recognizes the E, F, and G Sm snRNP proteins as an E-F-G complex but not in their denatured states. *Arthritis Rheum.* 40: 672-682.
5. LocusLink Report (LocusID: 6636). <http://www.ncbi.nlm.nih.gov/LocusLink/>

## CHROMOSOMAL LOCATION

Genetic locus: SNRPF (human) mapping to 12q23.1; Snrpf (mouse) mapping to 10 C2.

## SOURCE

Sm F (D-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Sm F 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-21059 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 F (D-16) is recommended for detection of Sm F 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 F (D-16) is also recommended for detection of Sm F in additional species, including equine, canine, bovine, porcine and avian.

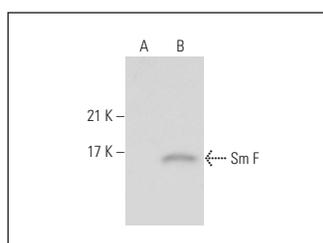
Suitable for use as control antibody for Sm F siRNA (h): sc-38331, Sm F siRNA (m): sc-38332, Sm F shRNA Plasmid (h): sc-38331-SH, Sm F shRNA Plasmid (m): sc-38332-SH, Sm F shRNA (h) Lentiviral Particles: sc-38331-V and Sm F shRNA (m) Lentiviral Particles: sc-38332-V.

Positive Controls: Sm F (h): 293T Lysate: sc-112407.

## 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 F (D-16): sc-21060. Western blot analysis of Sm F expression in non-transfected: sc-117750 (A) and human Sm F transfected: sc-112407 (B) whole cell lysates.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.