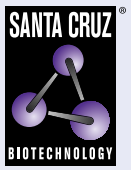
SANTA CRUZ BIOTECHNOLOGY, INC.

# Sm G (A-11): sc-398741




The Power to Question

## 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 (also known as SNRPF for small nuclear ribonucleoprotein polypeptide F) and Sm G (also known as SNRPG) are both expressed as 0.5 kb transcripts in HeLa cells. The genes encoding human Sm F and Sm G map to chromosomes 12q23.1 and 2p13.3, 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.

## CHROMOSOMAL LOCATION

Genetic locus: SNRPG (human) mapping to 2p13.3; Snrpg (mouse) mapping to 6 D1.

## SOURCE

Sm G (A-11) is a mouse monoclonal antibody raised against amino acids 1-76 representing full length Sm G of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Sm G (A-11) is available conjugated to agarose (sc-398741 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398741 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398741 PE), fluorescein (sc-398741 FITC), Alexa Fluor® 488 (sc-398741 AF488), Alexa Fluor® 546 (sc-398741 AF546), Alexa Fluor® 594 (sc-398741 AF594) or Alexa Fluor® 647 (sc-398741 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398741 AF680) or Alexa Fluor® 790 (sc-398741 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

Sm G (A-11) is recommended for detection of Sm G and Sm G-like 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).

Suitable for use as control antibody for Sm G siRNA (h): sc-106555, Sm G siRNA (m): sc-153613, Sm G shRNA Plasmid (h): sc-106555-SH, Sm G shRNA Plasmid (m): sc-153613-SH, Sm G shRNA (h) Lentiviral Particles: sc-106555-V and Sm G shRNA (m) Lentiviral Particles: sc-153613-V.

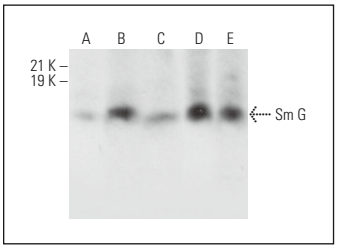
Molecular Weight of Sm G: 9 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or HEK293 whole cell lysate: sc-45136.

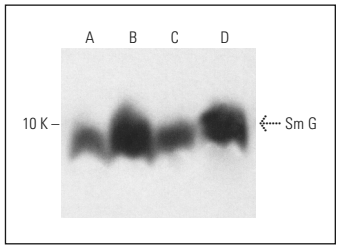
## RECOMMENDED SUPPORT REAGENTS

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




Sm G (A-11): sc-398741. Western blot analysis of Sm G expression in HeLa (**A**), Jurkat (**B**) and HEK293 (**C**) whole cell lysates and HeLa (**D**) and Jurkat (**E**) nuclear extracts.




Sm G (A-11): sc-398741. Western blot analysis of Sm G expression in HeLa (**A**), Jurkat (**B**), Hep G2 (**C**) and U-698-M (**D**) nuclear extracts. Detection reagent used: m-$IgG_1$ BP-HRP: sc-525408.

## 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.