SANTA CRUZ BIOTECHNOLOGY, INC.

Sm G (N-14)-R: sc-21062-R

SANTA CRUZ BIOTECHNOLOGY

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 κb transcripts in HeLa cells. The genes encoding human Sm F and Sm G map to chromosomes 12 and 2, 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

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2. Hermann, H., Fabrizio, P., Raker, V.A., Foulaki, K., Hornig, H., Brahms, H. and Luhrmann, R. 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., Plessel, G. and Luhrmann, R. 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., Raker, V.A., van Venrooij, W.J. and Luhrmann, R. 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. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603541. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

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

SOURCE

Sm G (N-14)-R is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of Sm G 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-21062 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

Sm G (N-14)-R is recommended for detection of Sm G of mouse, rat 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).

Sm G (N-14)-R is also recommended for detection of Sm G in additional species, including equine, canine, bovine and avian.

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 nuclear extract: sc-2120.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.