SANTA CRUZ BIOTECHNOLOGY, INC.

Sm B/B'/N (N-18): sc-5485

BACKGROUND

mRNA precursors are processed in the spliceosome, where introns are excised to form continuous coding sequences. The major components of the spliceosome are RNA-protein complexes called snRNPs (small nuclear ribo-nucleoprotein particles). The core proteins that are common to all snRNPs are called the Sm proteins, and are designated B, B', D1, D2, D3, E, F, G and N. Antibodies recognizing Sm proteins are frequently generated in autoimmune diseases, including in patients with systemic lupus erythematosus. Sm proteins are characterized by a conserved Sm sequence motif in two parts, Sm1 and Sm2, which are separated by a variable region.

REFERENCES

1. Lerner, M.R. and Steitz, J.A. 1979. Antibodies to small nuclear RNAs complexed with proteins are produced by patients with systemic lupus erythematosus. Proc. Natl. Acad. Sci. USA 76: 5495-5499.
2. Steitz, J.A., et al. 1988. Functions of the abundant U-snRNPs. In Birnstiel, M.L., ed. Structure and function of major and minor small nuclear ribonucleoprotein particles. Berlin: Springer-Verlag. 115-154.
3. Luhrmann, R., et al. 1990. Structure of spliceosomal snRNPs and their role in pre-mRNA splicing. Biochim. Biophys. Acta 1087: 265-292.

CHROMOSOMAL LOCATION

Genetic locus: SNRPB (human) mapping to 20p13, SNRPN (human) mapping to 15q11.2; Snrpb (mouse) mapping to 2 F1, Snrpn (mouse) mapping to 7 C.

SOURCE

Sm B/B'/N (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of SmB 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-5485 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Sm B/B'/N (N-18) is recommended for detection of Sm B, Sm B' and Sm N 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 B/B'/N (N-18) is also recommended for detection of Sm B, Sm B' and Sm N in additional species, including equine, canine, bovine, porcine and avian.

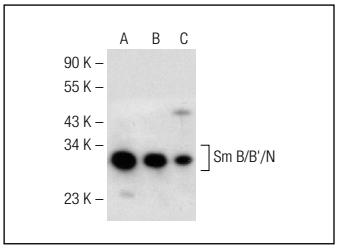
Molecular Weight of Sm B/B'/N: 28 kDa.

Positive Controls: KNRK nuclear extract: sc-2141, HeLa nuclear extract: sc-2120 or K-562 nuclear extract: sc-2130.

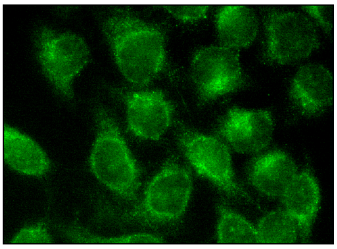
RECOMMENDED SECONDARY REAGENTS

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 B/B'/N (N-18): sc-5485. Western blot analysis of Sm B/B'/N expression in K-562 (**A**), HeLa (**B**) and KNRK (**C**) nuclear extracts.



Sm B/B'/N (N-18): sc-5485. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization.

SELECT PRODUCT CITATIONS

1. Zhou, C. and Knipe, D.M. 2002. Association of herpes simplex virus type 1 ICP8 and ICP27 proteins with cellular RNA polymerase II holoenzyme. J. Virol. 76: 5893-5904.
2. Licciardo, P., et al. 2003. The FCP1 phosphatase interacts with RNA polymerase II and with MEP50 a component of the methylosome complex involved in the assembly of snRNP. Nucleic Acids Res. 31: 999-1005.
3. Kofler, M. 2004. Recognition sequences for the GYF domain reveal a possible spliceosomal function of CD2BP2. J. Biol. Chem. 279: 28292-28297.
4. Dörr, J., et al. 2008. Contribution of the individual subunits of protein kinase CK2 and of hPrp3p to the splicing process. Mol. Cell. Biochem. 316: 187-193.
5. Kofler, M., et al. 2009. Proline-rich sequence recognition I: Marking GYF and WW domain assembly sites in early spliceosomal complexes. Mol. Cell. Proteomics 8: 2461-2473.

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.