

Sm B/B'/N (FL-240): sc-25372

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 ribonucleoprotein 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

- 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.
- 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.
- Luhrmann, R., et al. 1990. Structure of spliceosomal snRNPs and their role in pre-mRNA splicing. *Biochim. Biophys. Acta* 1087: 265-292.
- 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.
- Seraphin, B. 1995. Sm and Sm-like proteins belong to a large family: identification of proteins of the U6 as well as the U1, U2, U4 and U5 snRNPs. *EMBO J.* 14: 2089-2098.

CHROMOSOMAL LOCATION

Genetic locus: SNRNP (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 (FL-240) is a rabbit polyclonal antibody raised against amino acids 1-240 representing full length Sm B 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.

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 or our catalog for detailed protocols and support products.

APPLICATIONS

Sm B/B'/N (FL-240) 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 and immunohistochemistry (including paraffin-embedded sections) (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 (FL-240) is also recommended for detection of Sm B, Sm B' and Sm N in additional species, including equine, canine and bovine.

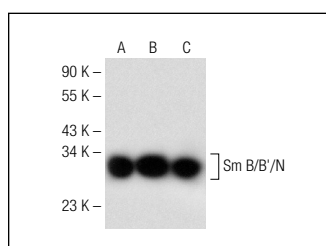
Molecular Weight of Sm B/B'/N: 28 kDa.

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

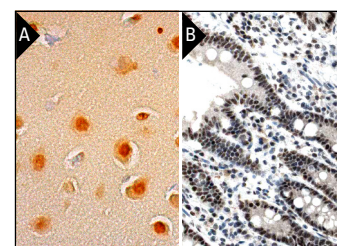
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



Sm B/B'/N (FL-240): sc-25372. Western blot analysis of Sm B/B'/N expression in K-562 (A), HeLa (B) and KNRK (C) nuclear extracts.



Sm B/B'/N (FL-240): sc-25372. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing nuclear staining of neuronal cells, glial cells and Endothelial cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing nuclear staining of glandular cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

SELECT PRODUCT CITATIONS

- Kasimanickam, V., et al. 2012. Association between mRNA abundance of functional sperm function proteins and fertility of Holstein bulls. *Theriogenology* 78: 2007-2019.e2.