SANTA CRUZ BIOTECHNOLOGY, INC.

SNRPA (BJ-7): sc-101149

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

SNRPA (small nuclear ribonucleoprotein polypeptide A), also known as U1A (U1 snRNP protein A), is a component of the RNA spliceosome, a complex of proteins that are required for the precise excision of introns from pre-messenger RNA (pre-mRNA). Localizing to the nucleus, SNRPA contains two RRM (RNA recognition motif) domains, namely RRM1 and RRM2, and RRM1 specifically associates with the stem loop II of U1 snRNA (small nuclear RNA). In addition to functioning as a component of the U1 snRNP, SNRPA negatively regulates polyadenylation of SNRPA pre-mRNA, thereby negatively regulating itself. By inhibiting the addition of a polyA tail that would allow the pre-mRNA to mature, SNRPA causes the nuclear exosome degradation of the SNRPA pre-mRNA. At least 16% of cellular SNRPA also functions in an snRNP-free form (SF-A) that complexes with a group of non-snRNP proteins.

REFERENCES

1. Schonk, D., et al. 1990. Assignment of seven genes to distinct intervals on the midportion of human chromosome 19q surrounding the myotonic dystrophy gene region. Cytogenet. Cell Genet. 54: 15-19.
2. Lutz, C.S., et al. 1996. Interaction between the U1 snRNP-A protein and the 160 kDa subunit of cleavage-polyadenylation specificity factor increases polyadenylation efficiency *in vitro*. Genes Dev. 10: 325-337.

CHROMOSOMAL LOCATION

Genetic locus: SNRPA (human) mapping to 19q13.2.

SOURCE

SNRPA (BJ-7) is a mouse monoclonal antibody raised against recombinant SNRPA of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SNRPA (BJ-7) is recommended for detection of SNRPA of 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), 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).

Suitable for use as control antibody for SNRPA siRNA (h): sc-97298, SNRPA shRNA Plasmid (h): sc-97298-SH and SNRPA shRNA (h) Lentiviral Particles: sc-97298-V.

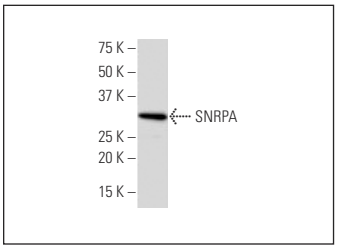
Molecular Weight of SNRPA: 32 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat nuclear extract: sc-2132 or CCRF-CEM nuclear extract: sc-2146.

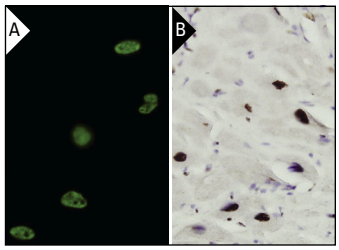
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



SNRPA (BJ-7): sc-101149. Western blot analysis of SNRPA expression in HeLa whole cell lysate.



SNRPA (BJ-7): sc-101149. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human heart tissue showing nuclear localization (**B**).

SELECT PRODUCT CITATIONS

1. Yamazaki, T., et al. 2012. FUS-SMN protein interactions link the motor neuron diseases ALS and SMA. Cell Rep. 2: 799-806.
2. Li, Z., et al. 2015. Exon-intron circular RNAs regulate transcription in the nucleus. Nat. Struct. Mol. Biol. 22: 256-264.
3. Kawasaki, S., et al. 2017. Synthetic mRNA devices that detect endogenous proteins and distinguish mammalian cells. Nucleic Acids Res. 45: e117.
4. Chi, B., et al. 2018. Interactome analyses revealed that the U1 snRNP machinery overlaps extensively with the RNAP II machinery and contains multiple ALS/SMA-causative proteins. Sci. Rep. 8: 8755.
5. Jiang, D., et al. 2018. Gemin5 plays a role in unassembled-U1 snRNA disposal in SMN-deficient cells. FEBS Lett. 592: 1400-1411.

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.