SANTA CRUZ BIOTECHNOLOGY, INC.

SNRPA (D-4): sc-514390

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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.
3. Tang, J., et al. 1996. Characterization of yeast U1 snRNP A protein: identification of the N-terminal RNA binding domain (RBD) binding site and evidence that the C-terminal RBD functions in splicing. RNA 2: 1058-1070.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 182285. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Liang, S., et al. 2006. p54NRB is a component of the snRNP-free U1A (SF-A) complex that promotes pre-mRNA cleavage during polyadenylation. RNA 12: 111-121.
6. Ma, J., et al. 2006. Non-snRNP U1A levels decrease during mammalian B cell differentiation and release the IgM secretory poly(A) site from repression. RNA 12: 122-132.

CHROMOSOMAL LOCATION

Genetic locus: Snrpa (mouse) mapping to 7 A3.

SOURCE

SNRPA (D-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1-21 at the N-terminus of SNRPA of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

BBlocking peptide available for competition studies, sc-514390 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

SNRPA (D-4) is recommended for detection of SNRPA of mouse 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 SNRPA siRNA (m): sc-153660, SNRPA shRNA Plasmid (m): sc-153660-SH and SNRPA shRNA (m) Lentiviral Particles: sc-153660-V.

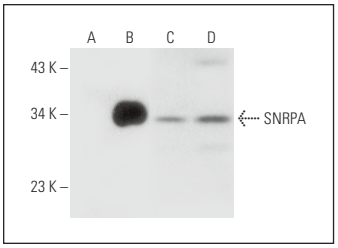
Molecular Weight of SNRPA: 32 kDa.

Positive Controls: SNRPA (m): 293T Lysate: sc-127563, NIH/3T3 whole cell lysate: sc-2210 or 3T3-L1 cell lysate: sc-2243.

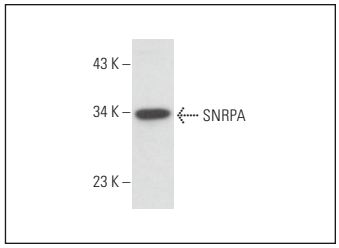
RECOMMENDED SUPPORT REAGENTS

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



SNRPA (D-4): sc-514390. Western blot analysis of SNRPA expression in non-transfected 293T: sc-117752 (**A**), mouse SNRPA transfected 293T: sc-127563 (**B**), NIH/3T3 (**C**) and 3T3-L1 (**D**) whole cell lysates.



SNRPA (D-4): sc-514390. Western blot analysis of SNRPA expression in Neuro-2A whole cell lysate.

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.