

# SNRPA (B-12): sc-376027

## 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

- 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.
- Lutz, C.S., et al. 1996. Interaction between the U1 snRNP-A protein and the 160-kD 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; Snrpa (mouse) mapping to 7 A3.

## SOURCE

SNRPA (B-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 137-169 within an internal region of SNRPA of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SNRPA (B-12) is available conjugated to agarose (sc-376027 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376027 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376027 PE), fluorescein (sc-376027 FITC), Alexa Fluor® 488 (sc-376027 AF488), Alexa Fluor® 546 (sc-376027 AF546), Alexa Fluor® 594 (sc-376027 AF594) or Alexa Fluor® 647 (sc-376027 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376027 AF680) or Alexa Fluor® 790 (sc-376027 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376027 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

SNRPA (B-12) is recommended for detection of SNRPA of mouse, rat and human 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), 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).

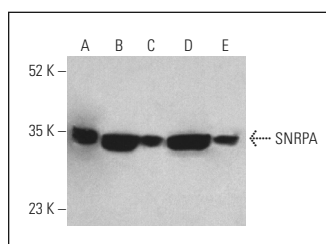
SNRPA (B-12) is also recommended for detection of SNRPA in additional species, including equine, canine and bovine.

Suitable for use as control antibody for SNRPA siRNA (h): sc-97298, SNRPA siRNA (m): sc-153660, SNRPA shRNA Plasmid (h): sc-97298-SH, SNRPA shRNA Plasmid (m): sc-153660-SH, SNRPA shRNA (h) Lentiviral Particles: sc-97298-V and SNRPA shRNA (m) Lentiviral Particles: sc-153660-V.

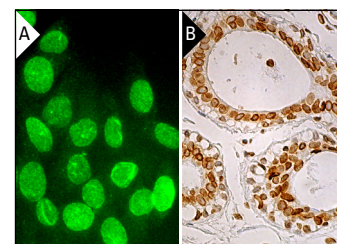
Molecular Weight of SNRPA: 32 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, Jurkat whole cell lysate: sc-2204 or KNRK whole cell lysate: sc-2214.

## DATA



SNRPA (B-12) HRP: sc-376027 HRP. Direct western blot analysis of SNRPA expression in HeLa nuclear extract (A) and Jurkat (B), 3T3-L1 (C), HEK293 (D) and KNRK (E) whole cell lysates.



SNRPA (B-12): sc-376027. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing nuclear staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

- Kfir, N., et al. 2015. SF3B1 association with chromatin determines splicing outcomes. *Cell Rep.* 11: 618-629.
- Jin, L., et al. 2020. STRAP regulates alternative splicing fidelity during lineage commitment of mouse embryonic stem cells. *Nat. Commun.* 11: 5941.
- Peng, T., et al. 2022. LINC01088 promotes the growth and invasion of glioma cells through regulating small nuclear ribonucleoprotein polypeptide A transcription. *Bioengineered* 13: 9172-9183.
- Li, Q., et al. 2022. SRSF5-mediated alternative splicing of M gene is essential for influenza A virus replication: a host-directed target against influenza virus. *Adv. Sci.* 9: e2203088.

## RESEARCH USE

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