SANTA CRUZ BIOTECHNOLOGY, INC.

U2 snRNP A (G-2): sc-398896

BACKGROUND

Small nuclear ribonucleoproteins, also known as snRNPs, combine with other proteins to form spliceosomes, a complex that catalyzes pre-mRNA splicing. There are two types of spliceosomes: U2 and U12. The U2-type spliceosome is found in all eukaryotes and excises U2-type introns, which account for the majority of pre-mRNA introns. The U12-type spliceosome removes U12-type introns, which comprise less than 1% of all human introns. U2 snRNP A, also known as SNRPA1 or U2A, is a component of the U2 snRNP that forms a complex with U2 snRNP B (U2B). Together, U2 snRNP A and U2 snRNP B form a complex that binds to the U2 snRNA hairpin IV. The configuration of this U2 snRNP A/U2 snRNP B dimer and the subtle variations of a few key residues regulate the snRNP-RNA-binding specificity. U2 snRNP A is a 255 amino acid protein, and two isoforms exist as a result of alternative splicing events.

REFERENCES

1. Sillekens, P.T., et al. 1989. Molecular cloning of the cDNA for the human U2 snRNA-specific A' protein. Nucleic Acids Res. 17: 1893-1906.
2. Crispino, J.D., et al. 1994. Complementation by SR proteins of pre-mRNA splicing reactions depleted of U1 snRNP. Science 265: 1866-1869.
3. Blencowe, B.J., et al. 1998. A coactivator of pre-mRNA splicing. Genes Dev. 12: 996-1009.
4. Price, S.R., et al. 1998. Crystal structure of the spliceosomal U2B"-U2A' protein complex bound to a fragment of U2 small nuclear RNA. Nature 394: 645-650.
5. Eldridge, A.G., et al. 1999. The SRm160/300 splicing coactivator is required for exon-enhancer function. Proc. Natl. Acad. Sci. USA 96: 6125-6130.
6. Lundin, M., et al. 2000. Gene structure of the U2 snRNP-specific A' protein gene from *Salmo salar:* alternative transcripts observed. Mar. Biotechnol. 2: 204-211.
7. Nagengast, A.A. and Salz, H.K. 2001. The *Drosophila* U2 snRNP protein U2A' has an essential function that is SNF/U2B" independent. Nucleic Acids Res. 29: 3841-3847.

CHROMOSOMAL LOCATION

Genetic locus: SNRPA1 (human) mapping to 15q26.3; Snrpa1 (mouse) mapping to 7 C.

SOURCE

U2 snRNP A (G-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 170-190 within an internal region of U2 snRNP A of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398896 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

U2 snRNP A (G-2) is recommended for detection of U2 snRNP A 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for U2 snRNP A siRNA (h): sc-89928, U2 snRNP A siRNA (m): sc-154833, U2 snRNP A shRNA Plasmid (h): sc-89928-SH, U2 snRNP A shRNA Plasmid (m): sc-154833-SH, U2 snRNP A shRNA (h) Lentiviral Particles: sc-89928-V and U2 snRNP A shRNA (m) Lentiviral Particles: sc-154833-V.

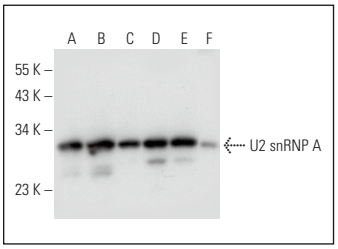
Molecular Weight of U2 snRNP A: 28 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, KNRK whole cell lysate: sc-2214 or HeLa whole cell lysate: sc-2200.

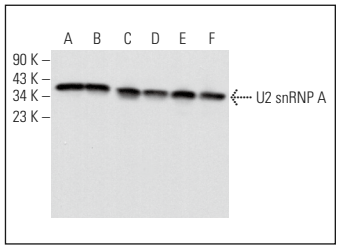
RECOMMENDED SUPPORT REAGENTS

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



U2 snRNP A (G-2): sc-398896. Western blot analysis of U2 snRNP A expression in Jurkat (**A**), U-698-M (**B**), HUV-EC-C (**C**), Hep G2 (**D**) and HeLa (**E**) whole cell lysates and rat liver tissue extract (**F**).



U2 snRNP A (G-2): sc-398896. Western blot analysis of U2 snRNP A expression in Jurkat (**A**), MCF7 (**B**), C4 (**C**), RAW 264.7 (**D**) and KNRK (**E**) whole cell lysates and rat thymus tissue extract (**F**).

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.