SANTA CRUZ BIOTECHNOLOGY, INC.

U1 snRNP 70 (H-280): sc-25371

BACKGROUND

U1 small nuclear ribonucleoprotein (U1 snRNP 70 or U1 70) 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). U1 snRNP 70 specifically associates with the single stranded loop of hairpin 1 on U1 snRNA (small nuclear RNA). Like other snRNPs, U1 snRNP 70 contains a single RNA binding domain of 80-90 amino acids that is located within the central portion of the protein, and is both necessary and sufficient for the specific U1 snRNA binding in vitro. This interaction, which occurs independently of ATP, is essential for the commitment to the pre-mRNA splicing pathway, as it facilitates the association of other proteins with the spliceosome. U1 snRNP 70 is diffusely localized in the cytoplasm at the onset of mitosis and as mitosis progresses through telophase, U1 snRNP 70 accumulates in the daughter nuclei.

REFERENCES

1. Wieben, E.D., et al. 1983. U1 small nuclear ribonucleoprotein studied by *in vitro* assembly. J. Cell. Biol. 96: 1751-1755.
2. Hamm, J., et al. 1987. *In vitro* assembly of U1 snRNPs. EMBO J. 6: 3479-3485.
3. Surowy, C.S., et al. 1989. Direct, sequence-specific binding of the human U1-70K ribonucleoprotein antigen protein to loop I of U1 small nuclear RNA. Mol. Cell Biol. 9: 4179-4186.
4. Query, C.C., et al. 1989. A specific 31-nucleotide domain of U1 RNA directly interacts with the 70 kDa small nuclear ribonucleoprotein component. Mol. Cell Biol. 9: 4872-4881.
5. Ferreira, J.A., et al. 1994. Differential interaction of splicing snRNPs with coiled bodies and interchromatin granules during mitosis and assembly of daughter cell nuclei. J. Cell Biol. 126: 11-23.
6. Ihn, H., et al. 1999. Distribution and antigen specificity of anti-U1RNP antibodies in patients with systemic sclerosis. Clin. Exp. Immunol. 117: 383-387.

CHROMOSOMAL LOCATION

Genetic locus: SNRP70 (human) mapping to 19q13.3; Snrp70 (mouse) mapping to 7 B3.

SOURCE

U1 snRNP 70 (H-280) is a rabbit polyclonal antibody raised against amino acids 183-280 of U1 snRNP 70 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.

APPLICATIONS

U1 snRNP 70 (H-280) is recommended for detection of U1 snRNP 70 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 (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 U1 snRNP 70 siRNA (h): sc-36768, U1 snRNP 70 siRNA (m): sc-36769, U1 snRNP 70 shRNA Plasmid (h): sc-36768-SH, U1 snRNP 70 shRNA Plasmid (m): sc-36769-SH, U1 snRNP 70 shRNA (h) Lentiviral Particles: sc-36768-V and U1 snRNP 70 shRNA (m) Lentiviral Particles: sc-36769-V.

Molecular Weight of U1 snRNP 70: 70 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or HUT 78 whole cell lysate: sc-2208.

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.

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.