SANTA CRUZ BIOTECHNOLOGY, INC.

U1 snRNP 70 (C-3): sc-390899

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 accumulations 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.

CHROMOSOMAL LOCATION

Genetic locus: SNRNP70 (human) mapping to 19q13.33; Snrnp70 (mouse) mapping to 7 B4.

SOURCE

U1 snRNP 70 (C-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 183-280 of U1 snRNP 70 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.

U1 snRNP 70 (C-3) is available conjugated to agarose (sc-390899 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390899 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390899 PE), fluorescein (sc-390899 FITC), Alexa Fluor® 488 (sc-390899 AF488), Alexa Fluor® 546 (sc-390899 AF546), Alexa Fluor® 594 (sc-390899 AF594) or Alexa Fluor® 647 (sc-390899 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390899 AF680) or Alexa Fluor® 790 (sc-390899 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390899 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

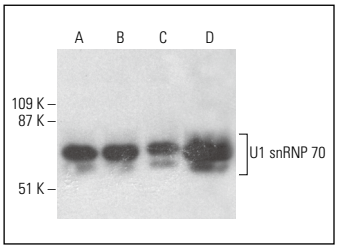
U1 snRNP 70 (C-3) is recommended for detection of U1 snRNP 70 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution 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).

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.

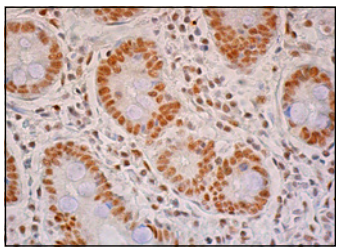
Molecular Weight of U1 snRNP 70: 70 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, Jurkat whole cell lysate: sc-2204 or Hep G2 cell lysate: sc-2227.

DAT



U1 snRNP 70 (C-3) HRP: sc-390899 HRP. Direct western blot analysis of U1 snRNP 70 expression in Hep G2 (**A**), Jurkat (**B**), RAW 264.7 (**C**) and HuT 78 (**D**) whole cell lysates.



U1 snRNP 70 (C-3): sc-390899. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing nuclear staining of glandular cells. Detected with m-IgG_1 BP-HRP: sc-525408.

SELECT PRODUCT CITATIONS

1. Szerlong, H.J., et al. 2015. Proteomic characterization of the nucleolar linker Histone H1 interaction network. J. Mol. Biol. 427: 2056-2071.
2. Tran, S.S., et al. 2019. Widespread RNA editing dysregulation in brains from autistic individuals. Nat. Neurosci. 22: 25-36.
3. Feng, L., et al. 2020. Long noncoding RNA VCAN-AS1 contributes to the progression of gastric cancer via regulating p53 expression. J. Cell. Physiol. 235: 4388-4398.
4. Park, Y., et al. 2021. Translation mediated by the nuclear cap-binding complex is confined to the perinuclear region via a CTIF-DDX19B interaction. Nucleic Acids Res. 49: 8261-8276.
5. Matkovic, R., et al. 2022. TASOR epigenetic repressor cooperates with a CNOT1 RNA degradation pathway to repress HIV. Nat. Commun. 13: 66.

STORAGE

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