SANTA CRUZ BIOTECHNOLOGY, INC.

hnRNP A1 (Y-15): sc-10032

BACKGROUND

Heterogeneous nuclear ribonucleoproteins (hnRNPs) constitute a set of polypeptides that contribute to mRNA transcription and pre-mRNA processing as well as mature mRNA transport to the cytoplasm and translation. They also bind heterogeneous nuclear RNA (hnRNA), which are the transcripts produced by RNA polymerase II. There are approximately 20 known hnRNP proteins, which range in size from 34 kDa to 120 kDa, and their complexes are the major constituents of the spliceosome. The majority of hnRNP proteins components are localized to the nucleus; however some shuttle between the nucleus and the cytoplasm. The A/B subfamily of hnRNPs include A1, A2/B1, A3 and A0, and in *Xenopus*, hnRNP A1, A2 and A3 are ubiquitously expressed throughout development as well as in adult tissues. hnRNP A1 and A2/B1 regulate the processing of pre-mRNA by directly antagonizing the association of various splicing factors and by influencing the splice site selection on pre-mRNA. The hnRNP A0 gene is distinct from the other A/B family members, and it encodes a low-abundance 32 kDa protein, which is implicated in mRNA stability.

REFERENCES

1. Good, P. J., et al. 1993. Three new members of the RNP protein family in *Xenopus*. Nucleic Acids Res. 21: 999-1006.
2. Badolato, J., et al. 1995. Identification and characterisation of a novel human RNA-binding protein. Gene 166: 323-337.
3. Siomi, H., et al. 1995. A nuclear localization domain in the hnRNP A1 protein. J. Cell Biol. 129: 551-560.
4. Myer, V.E., et al. 1995. Isolation and characterization of a novel, low abundance hnRNP protein: A0. RNA 1: 171-182.
5. Hanamura, A., et al. 1998. Regulated tissue-specific expression of antagonistic pre-mRNA splicing factors. RNA 4: 430-444.

CHROMOSOMAL LOCATION

Genetic locus: HNRNPA1 (human) mapping to 12q13.1, HNRNPA1L2 (human) mapping to 13q14.3; Hnrpa1 (mouse) mapping to 15 F3.

SOURCE

hnRNP A1 (Y-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of hnRNP A1 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.

Blocking peptide available for competition studies, sc-10032 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

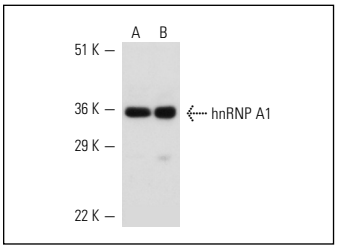
APPLICATIONS

hnRNP A1 (Y-15) is recommended for detection of hnRNP A1 and HNRNPA1L2 mouse and human origin and hnRNP A1 of rat origin 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).

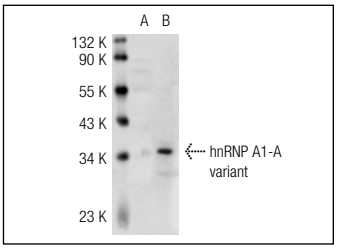
Molecular Weight of hnRNP A1: 36 kDa.

Positive Controls: KNRK nuclear extract: sc-2141, HeLa whole cell lysate: sc-2200 or KNRK nuclear extract: sc-2141.

DATA



hnRNP A1 (Y-15): sc-10032. Western blot analysis of hnRNP A1 expression in K-562 (**A**) and KNRK (**B**) nuclear extracts.



hnRNP A1 (Y-15): sc-10032. Western blot analysis of hnRNP A1 expression in non-transfected: sc-117752 (**A**) and human hnRNP A1 transfected: sc-114969 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Seko, Y. 2004. Selective cytoplasmic translocation of HuR and site-specific binding to the interleukin-2 mRNA are not sufficient for CD28-mediated stabilization of the mRNA. J. Biol. Chem. 279: 33359-33367.
2. Heyd, F., et al. 2006. Auxiliary splice factor U2AF26 and transcription factor Gfi1 cooperate directly in regulating CD45 alternative splicing. Nat. Immunol. 7: 859-867.
3. Paul, S., et al. 2006. Interaction of muscleblind, CUG-BP1 and hnRNP H proteins in DM1-associated aberrant IR splicing. EMBO J. 25: 4271-4283.
4. Blaybel, R., et al. 2008. Downregulation of the Spi-1/PU.1 oncogene induces the expression of TRIM10/HERF1, a key factor required for terminal erythroid cell differentiation and survival. Cell Res. 18: 834-845.

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.