SANTA CRUZ BIOTECHNOLOGY, INC.

hnRNP A1 (9H10): sc-56700

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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, 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 fac ors 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 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.

CHROMOSOMAL LOCATION

Genetic locus: HNRNPA1 (human) mapping to 12q13.13; Hnrnpa1 (mouse) mapping to 15 F3.

SOURCE

hnRNP A1 (9H10) is a mouse monoclonal antibody raised against full length hnRNP A1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

hnRNP A1 (9H10) is recommended for detection of hnRNP A1 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 hnRNP A1 siRNA (h2): sc-270345, hnRNP A1 siRNA (m): sc-35576, hnRNP A1 shRNA Plasmid (h2): sc-270345-SH, hnRNP A1 shRNA Plasmid (m): sc-35576-SH, hnRNP A1 shRNA (h2) Lentiviral Particles: sc-270345-V and hnRNP A1 shRNA (m) Lentiviral Particles: sc-35576-V.

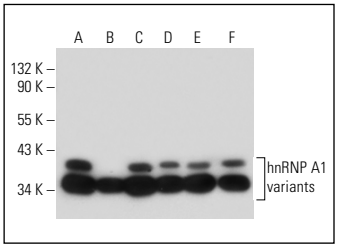
Molecular Weight of hnRNP A1 isoforms: 29/34/39 kDa.

Positive Controls: hnRNP A1 (h): 293T Lysate: sc-111438, HeLa whole cell lysate: sc-2200 or MCF7 nuclear extract: sc-2149.

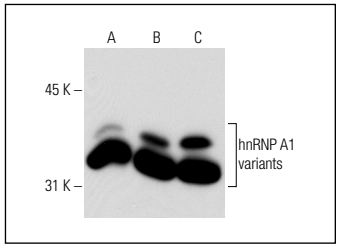
STORAGE

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

DATA



hnRNP A1 (9H10): sc-56700. Western blot analysis of hnRNP A1 expression in HeLa (**A**), MCF7 (**B**), K-562 (**C**) and SW480 (**D**) nuclear extracts and Jurkat (**E**) and HeLa (**F**) whole cell lysates.



hnRNP A1 (9H10): sc-56700. Western blot analysis of hnRNP A1 expression in non-transfected 293T: sc-117752 (**A**), human hnRNP A1 transfected 293T: sc-111438 (**B**) and HeLa (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Khotin, M., et al. 2010. Proteomic analysis of ACTN4-interacting proteins reveals it's a putative involvement in mRNA metabolism. Biochem. Biophys. Res. Commun. 397: 192-196.
2. Ramakrishnan, P. and Baltimore, D. 2011. Sam68 is required for both NFκB activation and apoptosis signaling by the TNF receptor. Mol. Cell 43: 167-179.
3. Walker, E.J., et al. 2013. Rhinovirus 3C protease facilitates specific nucleoporin cleavage and mislocalisation of nuclear proteins in infected host cells. PLoS ONE 8: e71316.
4. Yu, C.Y., et al. 2014. HNRNPA1 regulates HMGCR alternative splicing and modulates cellular cholesterol metabolism. Hum. Mol. Genet. 23: 319-332.
5. Feng, D., et al. 2015. Multiple effects of curcumin on promoting expression of the exon 7-containing SMN2 transcript. Genes Nutr. 10: 40.
6. Walker, E., et al. 2016. Rhinovirus 16 2A protease affects nuclear localization of 3CD during infection. J. Virol. 90: 11032-11042.
7. Barbash, S., et al. 2017. Alzheimer's brains show inter-related changes in RNA and lipid metabolism. Neurobiol. Dis. 106: 1-13.
8. Zhu, Y., et al. 2018. Molecular mechanisms for CFIm-mediated regulation of mRNA alternative polyadenylation. Mol. Cell 69: 62-74.
9. O'Leary, C.A., et al. 2019. RNA structural analysis of the MYC mRNA reveals conserved motifs that affect gene expression. PLoS ONE 14: e0213758.
10. Shenasa, H., et al. 2020. Allosteric regulation of U1 snRNP by splicing regulatory proteins controls spliceosomal assembly. RNA 26: 1389-1399.

RESEARCH USE

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