

hnRNP I (3H7): sc-73391

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. hnRNP I, also designated polypyrimidine tract-binding protein (PTB), and its homolog hnRNP L bind to the 3' end of introns to modulate alternative splicing mechanisms of pre-mRNAs in normal cells and the translation of several viruses including hepatitis C virus (HCV). The human hnRNP I gene maps to chromosome 19p13.3 and encodes a protein that is localized in the nucleoplasm. hnRNP L, like hnRNP I, is also localized in the nucleoplasm.

REFERENCES

1. Badolato, J., et al. 1995. Identification and characterisation of a novel human RNA-binding protein. *Gene* 166: 323-337.
2. Siomi, H., et al. 1995. A nuclear localization domain in the hnRNP A1 protein. *J. Cell Biol.* 129: 551-560.
3. Perez, I., et al. 1997. Multiple RRM domains contribute to RNA binding specificity and affinity for polypyrimidine tract binding protein. *Biochemistry* 36: 11881-11890.
4. Hahn, B., et al. 1998. Heterogeneous nuclear ribonucleoprotein L interacts with the 3' border of the internal ribosomal entry site of hepatitis C virus. *J. Virol.* 72: 8782-8788.
5. Hahn, B., et al. 1998. Polypyrimidine tract-binding protein interacts with hnRNP L. *FEBS Lett.* 425: 401-406.
6. Li, H.P., et al. 1999. Polypyrimidine tract-binding protein binds to the leader RNA of mouse hepatitis virus and serves as a regulator of viral transcription. *J. Virol.* 73: 772-777.
7. Kim, J.H., et al. 2000. Protein-protein interaction among hnRNPs shuttling between nucleus and cytoplasm. *J. Mol. Biol.* 298: 395-405.
8. Melcak, I., et al. 2000. Nuclear pre-mRNA compartmentalization: trafficking of released transcripts to splicing factor reservoirs. *Mol. Biol. Cell* 11: 497-510.

CHROMOSOMAL LOCATION

Genetic locus: PTBP1 (human) mapping to 19p13.3.

SOURCE

hnRNP I (3H7) is a mouse monoclonal antibody raised against recombinant hnRNP I of human origin.

PRODUCT

Each vial contains 50 µg IgG₁ in 500 µl PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

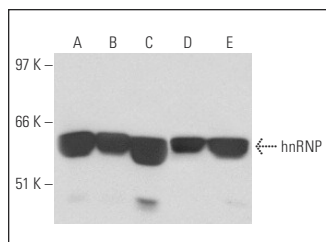
hnRNP I (3H7) is recommended for detection of hnRNP I of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for hnRNP I siRNA (h): sc-38280, hnRNP I shRNA Plasmid (h): sc-38280-SH and hnRNP I shRNA (h) Lentiviral Particles: sc-38280-V.

Molecular Weight of hnRNP I: 57 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat nuclear extract: sc-2132 or MEG-01 nuclear extract: sc-2150.

DATA



hnRNP I (3H7): sc-73391. Western blot analysis of hnRNP I expression in MEG-01 (A), HeLa (B) and A549 (C) nuclear extracts and SHP-77 (D) and HeLa (E) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Frans, G., et al. 2014. Gain-of-function mutations in signal transducer and activator of transcription 1 (STAT1): chronic mucocutaneous candidiasis accompanied by enamel defects and delayed dental shedding. *J. Allergy Clin. Immunol.* 134: 1209-1213.

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.