

hnRNP I (N-20): sc-16547

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.

CHROMOSOMAL LOCATION

Genetic locus: PTBP1 (human) mapping to 19p13.3; Ptpb1 (mouse) mapping to 10 C1.

SOURCE

hnRNP I (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of hnRNP I of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-16547 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

hnRNP I (N-20) is recommended for detection of hnRNP I 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).

hnRNP I (N-20) is also recommended for detection of hnRNP I in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for hnRNP I siRNA (h): sc-38280, hnRNP I siRNA (m): sc-38281, hnRNP I shRNA Plasmid (h): sc-38280-SH, hnRNP I shRNA Plasmid (m): sc-38281-SH, hnRNP I shRNA (h) Lentiviral Particles: sc-38280-V and hnRNP I shRNA (m) Lentiviral Particles: sc-38281-V.

Molecular Weight of hnRNP I: 57 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or NIH/3T3 + PMA nuclear extract: sc-2125.

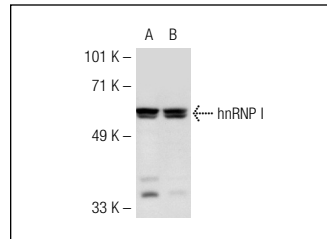
RESEARCH USE

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

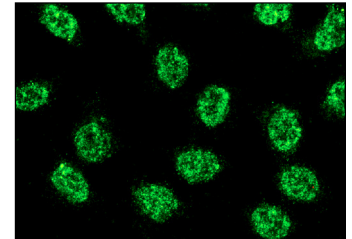
STORAGE

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

DATA



hnRNP I (N-20): sc-16547. Western blot analysis of hnRNP I expression in HeLa (A) and Jurkat (B) whole cell lysates.



hnRNP I (N-20): sc-16547. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

- Iglesias, A.R., et al. 2004. Some microsatellites may act as novel polymorphic *cis*-regulatory elements through transcription factor binding. *Gene* 341: 149-165.
- Engels, B., et al. 2012. Polypyrimidine tract binding protein (hnRNP I) is possibly a conserved modulator of miRNA-mediated gene regulation. *PLoS ONE* 7: e33144.
- Barboro, P., et al. 2012. The role of nuclear matrix proteins binding to matrix attachment regions (Mars) in prostate cancer cell differentiation. *PLoS ONE* 7: e40617.
- Shibasaki, T., et al. 2013. PTB deficiency causes the loss of adherens junctions in the dorsal telencephalon and leads to lethal hydrocephalus. *Cereb. Cortex*. 23: 1824-1835.
- Rahman, M.A., et al. 2013. HnRNP L and hnRNP LL antagonistically modulate PTB-mediated splicing suppression of CHRNA1 pre-mRNA. *Sci. Rep.* 3: 2931.
- Bielli, P., et al. 2014. Regulation of Bcl-X splicing reveals a role for the polypyrimidine tract binding protein (PTBP1/hnRNP I) in alternative 5' splice site selection. *Nucleic Acids Res.* 42: 12070-12081.
- Weng, K.F., et al. 2014. A cytoplasmic RNA virus generates functional viral small RNAs and regulates viral IRES activity in mammalian cells. *Nucleic Acids Res.* 42: 12789-805.
- Calabretta, S., et al. 2015. Modulation of PKM alternative splicing by PTBP1 promotes gemcitabine resistance in pancreatic cancer cells. *Oncogene*. E-published.


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Try **hnRNP I (SH54): sc-56701** or **hnRNP I (A-4): sc-515282**, our highly recommended monoclonal alternatives to hnRNP I (N-20).