

hnRNP I (A-4): sc-515282

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. Hahm, 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. Hahm, B., et al. 1998. Polypyrimidine tract-binding protein interacts with hnRNP L. *FEBS Lett.* 425: 401-406.

CHROMOSOMAL LOCATION

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

SOURCE

hnRNP I (A-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 291-306 within an internal region of hnRNP I of human origin.

PRODUCT

Each vial contains 200 µg IgG₃ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-515282 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

hnRNP I (A-4) is recommended for detection of hnRNP I 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 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.

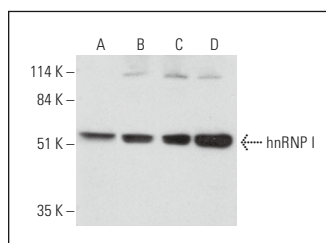
Molecular Weight of hnRNP I: 57 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, SHP-77 whole cell lysate: sc-364258 or MEG-01 nuclear extract: sc-2150.

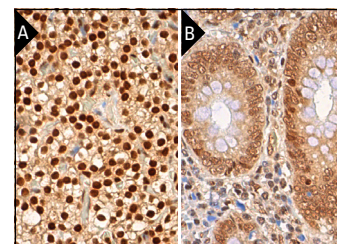
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



hnRNP I (A-4): sc-515282. Western blot analysis of hnRNP I expression in SHP-77 whole cell lysate (A) and A549 (B), MEG-01 (C) and Jurkat (D) nuclear extracts.



hnRNP I (A-4): sc-515282. Immunoperoxidase staining of formalin fixed, paraffin-embedded human parathyroid gland tissue showing nuclear staining of glandular cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing nuclear and cytoplasmic staining of glandular cells and lymphoid cells (B).

SELECT PRODUCT CITATIONS

1. Göder, A., et al. 2023. PTBP1 enforces ATR-CHK1 signaling determining the potency of CDC7 inhibitors. *iScience* 26: 106951.

RESEARCH USE

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