

hnRNP I (SH54): sc-56701

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.

SOURCE

hnRNP I (SH54) is a mouse monoclonal antibody raised against HeLa nuclear extract of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

hnRNP I (SH54) is available conjugated to agarose (sc-56701 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-56701 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-56701 PE), fluorescein (sc-56701 FITC), Alexa Fluor[®] 488 (sc-56701 AF488), Alexa Fluor[®] 546 (sc-56701 AF546), Alexa Fluor[®] 594 (sc-56701 AF594) or Alexa Fluor[®] 647 (sc-56701 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-56701 AF680) or Alexa Fluor[®] 790 (sc-56701 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

hnRNP I (SH54) is recommended for detection of hnRNP I of 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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.

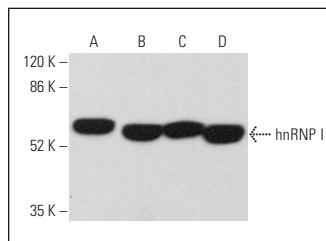
Molecular Weight of hnRNP I: 57 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or CCRF-CEM cell lysate: sc-2225.

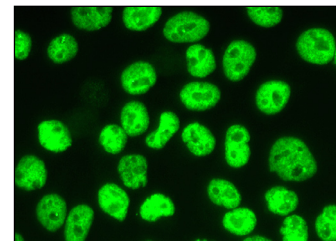
STORAGE

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

DATA



hnRNP I (SH54): sc-56701. Western blot analysis of hnRNP I expression in HeLa (A), Jurkat (B), A549 (C) and CCRF-CEM (D) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



hnRNP I (SH54): sc-56701. Immunofluorescence staining of formalin-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

- Li, H., et al. 2009. Identification of mRNA binding proteins that regulate the stability of LDL receptor mRNA through AU-rich elements. *J. Lipid Res.* 50: 820-831.
- Shi, H., et al. 2011. Proteomic analysis of advanced colorectal cancer by laser capture microdissection and two-dimensional difference gel electrophoresis. *J. Proteomics* 75: 339-351.
- Dassi, E., et al. 2013. Hyper conserved elements in vertebrate mRNA 3'-UTRs reveal a translational network of RNA-binding proteins controlled by HuR. *Nucleic Acids Res.* 41: 3201-3216.
- Hughes, J.M., et al. 2015. C/EBPα-p30 protein induces expression of the oncogenic long non-coding RNA UCA1 in acute myeloid leukemia. *Oncotarget* 6: 18534-18544.
- Ajiro, M., et al. 2016. A genome landscape of SRSF3-regulated splicing events and gene expression in human osteosarcoma U2OS cells. *Nucleic Acids Res.* 44: 1854-1870.
- Jiang, J., et al. 2017. Polypyrimidine tract-binding protein 1 promotes proliferation, migration and invasion in clear-cell renal cell carcinoma by regulating alternative splicing of PKM. *Am. J. Cancer Res.* 7: 245-259.
- Toki, N., et al. 2020. SINEUP long non-coding RNA acts via PTBP1 and HNRNPK to promote translational initiation assemblies. *Nucleic Acids Res.* 48: 11626-11644.
- Zaepfel, B.L. and Rothstein, J.D. 2021. Polyadenylated RNA and RNA-binding proteins exhibit unique response to hyperosmotic stress. *Front. Cell Dev. Biol.* 9: 809859.
- Cortés-López, M., et al. 2022. High-throughput mutagenesis identifies mutations and RNA-binding proteins controlling CD19 splicing and CART-19 therapy resistance. *Nat. Commun.* 13: 5570.

RESEARCH USE

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