SANTA CRUZ BIOTECHNOLOGY, INC.

hnRNP U (3G6): sc-32315

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

RNA polymerase II transcripts are complexed with hnRNP (heterogeneous nuclear ribonucleoprotein) proteins, which are involved in several aspects of hnRNA maturation and transport. The hnRNP particle U (also designated SAF-A, for scaffold attachment factor, and SP120) is an abundant nucleoplasmic phosphoprotein and the largest of the major hnRNP proteins. hnRNP U is specifically involved in pre-mRNA processing and is directly bound to both RNA and DNA. Specifically, hnRNP U has a high affinity to the SAR (scaffold attachment region) of DNA. hnRNP U also functions as an RNA polymerase elongation inhibitor by inhibiting TFIIH-mediated phosphorylation of the carboxy-terminal domain of Pol II. Identical to GRIP120, hnRNP U also associates with glucocorticoid receptors to inhibit glucocorticoid induction.

CHROMOSOMAL LOCATION

Genetic locus: HNRNPU (human) mapping to 1q44; Hnrnpu (mouse) mapping to 1 H4.

SOURCE

hnRNP U (3G6) is a mouse monoclonal antibody raised against recombinant full length protein of hnRNP U of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

hnRNP U (3G6) is available conjugated to agarose (sc-32315 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-32315 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-32315 PE), fluorescein (sc-32315 FITC), Alexa Fluor® 488 (sc-32315 AF488), Alexa Fluor® 546 (sc-32315 AF546), Alexa Fluor® 594 (sc-32315 AF594) or Alexa Fluor® 647 (sc-32315 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-32315 AF680) or Alexa Fluor® 790 (sc-32315 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 U (3G6) is recommended for detection of hnRNP U 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), 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 U siRNA (h): sc-38298, hnRNP U siRNA (m): sc-38299, hnRNP U shRNA Plasmid (h): sc-38298-SH, hnRNP U shRNA Plasmid (m): sc-38299-SH, hnRNP U shRNA (h) Lentiviral Particles: sc-38298-V and hnRNP U shRNA (m) Lentiviral Particles: sc-38299-V.

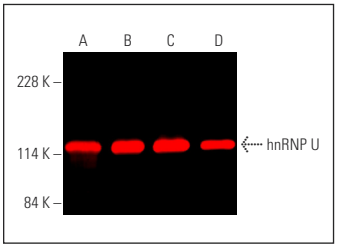
Molecular Weight of hnRNP U: 142 kDa.

Positive Controls: K-562 nuclear extract: sc-2130, HeLa nuclear extract: sc-2120 or Jurkat nuclear extract: sc-2132.

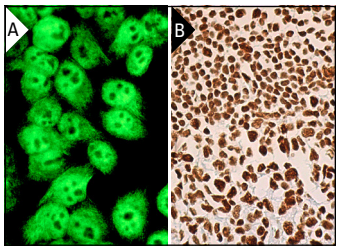
STORAGE

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

DATA



hnRNP U (3G6): sc-32315. Near-infrared western blot analysis of hnRNP U expression in K-562 (**A**), HeLa (**B**) and Jurkat (**C**) nuclear extracts and MDA-MB-231 whole cell lysate (**D**). Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.



hnRNP U (3G6): sc-32315. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing nuclear staining of cells in germinal center and cells in non-germinal center (**B**).

SELECT PRODUCT CITATIONS

1. Oveland, E., et al. 2009. Ligand-induced Flt3-downregulation modulates cell death associated proteins and enhances chemosensitivity to idarubicin in THP-1 acute myeloid leukemia cells. Leuk. Res. 33: 276-287.
2. Yamada, N., et al. 2015. Xist exon 7 contributes to the stable localization of Xist RNA on the inactive X-chromosome. PLoS Genet. 11: e1005430.
3. Falaleeva, M., et al. 2016. Dual function of C/D box small nucleolar RNAs in rRNA modification and alternative pre-mRNA splicing. Proc. Natl. Acad. Sci. USA 113: E1625-E1634.
4. Blank, M.F., et al. 2017. SIRT7-dependent deacetylation of CDK9 activates RNA polymerase II transcription. Nucleic Acids Res. 45: 2675-2686.
5. Papoutsoglou, P., et al. 2019. The TGFB2-AS1 lncRNA regulates TGF-β signaling by modulating corepressor activity. Cell Rep. 28: 3182-3198.e11.
6. Yugami, M., et al. 2020. Analysis of the nucleocytoplasmic shuttling RNA-binding protein HNRNPU using optimized HITS-CLIP method. PLoS ONE 15: e0231450.
7. Huang, Y., et al. 2021. Large scale RNA-binding proteins/LncRNAs interaction analysis to uncover lncRNA nuclear localization mechanisms. Brief. Bioinform. 22: bbab195.
8. Rajagopal, V., et al. 2022. Proteome-wide identification of RNA-dependent proteins in lung cancer cells. Cancers 14: 6109.
9. Refaat, A.M., et al. 2023. HNRNPU facilitates antibody class-switch recombination through C-NHEJ promotion and R-loop suppression. Cell Rep. 42: 112284.
10. Bossaert, M., et al. 2024. Identification of the main barriers to Ku accumulation in chromatin. Cell Rep. 43: 114538.

RESEARCH USE

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