SANTA CRUZ BIOTECHNOLOGY, INC.

pan hnRNP (C-6): sc-166577

BACKGROUND

Heterogeneous nuclear ribonucleoproteins (hnRNPs) constitute a set of polypeptides that contribute to pre-mRNA processing and transport, and also bind heterogeneous nuclear RNA (hnRNA), which are the transcripts produced by RNA polymerase II. hnRNP complexes are the major constituents of the spliceosome and in particular, the hnRNP A1 protein is one of the major pre-mRNA/mRNA binding proteins and also one of the most abundant proteins in the nucleus. hnRNP A1 and A2/B1 regulate the processing of pre-mRNA by directly antagonizing the association of various splicing factors and by influencing the splice site selection on pre-mRNA. The majority of hnRNP proteins components are localized to the nucleus; however some shuttle between the nucleus and the cytoplasm. Most hnRNP proteins, including hnRNP C1 and C2, contain one or more RNA binding domains and are implicated in the processing of pre-mRNA. hnRNPs F and H are largely related factors that preferentially associate with poly(rG) regions on RNA. Isoforms of these proteins are often generated by alternative processing of the pre-mRNA and by posttranslational modifications such as phosphorylation on serines and threonines and methylation of arginines.

SOURCE

pan hnRNP (C-6) is a mouse monoclonal antibody raised against amino acids 61-260 mapping within an internal region of hnRNP D0 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.

pan hnRNP (C-6) is available conjugated to agarose (sc-166577 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-166577 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166577 PE), fluorescein (sc-166577 FITC), Alexa Fluor® 488 (sc-166577 AF488), Alexa Fluor® 546 (sc-166577 AF546), Alexa Fluor® 594 (sc-166577 AF594) or Alexa Fluor® 647 (sc-166577 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166577 AF680) or Alexa Fluor® 790 (sc-166577 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

pan hnRNP (C-6) is recommended for detection of hnRNP D0, hnRNP A/B and JKTBP 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).

Molecular Weight of pan hnRNP: 29-53 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or Raji whole cell lysate: sc-364236.

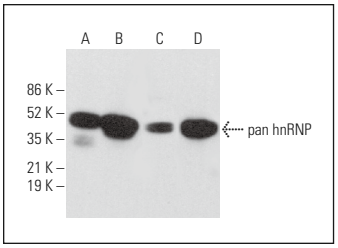
STORAGE

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

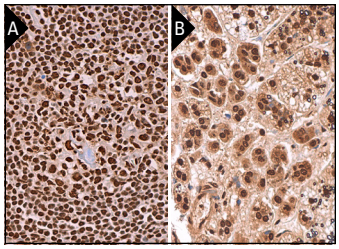
RESEARCH USE

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

DATA



pan hnRNP (C-6): sc-166577. Western blot analysis of pan hnRNP expression in HeLa (**A**), Jurkat (**B**), U-251-MG (**C**) and Raji (**D**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



pan hnRNP (C-6): sc-166577. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing nuclear staining of cells in germinal center and cells in non-germinal center (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing nuclear and cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Lee, Y.B., et al. 2013. Hexanucleotide repeats in ALS/FTD form length-dependent RNA foci, sequester RNA binding proteins, and are neurotoxic. Cell Rep. 5: 1178-1186.
2. Arnhold, F., et al. 2015. Amyloid domains in the cell nucleus controlled by nucleoskeletal protein Lamin B1 reveal a new pathway of mercury neurotoxicity. PeerJ 3: e754.
3. Peng, W.X., et al. 2020. lncRNA RMST enhances DNMT3 expression through interaction with HuR. Mol. Ther. 28: 9-18.
4. Ofir-Birin, Y., et al. 2021. Malaria parasites both repress host CXCL10 and use it as a cue for growth acceleration. Nat. Commun. 12: 4851.
5. Chen, Y., et al. 2021. Silencing of METTL3 effectively hinders invasion and metastasis of prostate cancer cells. Theranostics 11: 7640-7657.
6. Kleene, R., et al. 2023. The KDET motif in the intracellular domain of the cell adhesion molecule L1 interacts with several nuclear, cytoplasmic, and mitochondrial proteins essential for neuronal functions. Int. J. Mol. Sci. 24: 932.
7. Eraso, P., et al. 2023. New functions of intracellular LOXL2: modulation of RNA-binding proteins. Molecules 28: 4433.
8. Morillo-Bernal, J., et al. 2024. HuR (ELAVL1) stabilizes SOX9 mRNA and promotes migration and invasion in breast cancer cells. Cancers 16: 384.
9. Szczepankiewicz, A.A., et al. 2024. Neuronal activation affects the organization and protein composition of the nuclear speckles. Biochim. Biophys. Acta Mol. Cell Res. 1871: 119829.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.