SANTA CRUZ BIOTECHNOLOGY, INC.

hnRNP F/H (1G11): sc-32310

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.

CHROMOSOMAL LOCATION

Genetic locus: HNRNPF (human) mapping to 10q11.21, HNRNPH1 (human) mapping to 5q35.3; Hnrnpf (mouse) mapping to 6 F1, Hnrnph1 (mouse) mapping to 11 B1.3.

SOURCE

hnRNP F/H (1G11) is a mouse monoclonal antibody raised against purified recombinant hnRNP F/H of human origin.

PRODUCT

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

hnRNP F/H (1G11) is available conjugated to agarose (sc-32310 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-32310 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-32310 PE), fluorescein (sc-32310 FITC), Alexa Fluor® 488 (sc-32310 AF488), Alexa Fluor® 546 (sc-32310 AF546), Alexa Fluor® 594 (sc-32310 AF594) or Alexa Fluor® 647 (sc-32310 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-32310 AF680) or Alexa Fluor® 790 (sc-32310 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

hnRNP F/H (1G11) is recommended for detection of hnRNP F and hnRNP H of mouse, rat, human and *Xenopus laevis* 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).

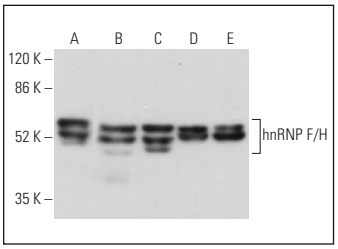
Molecular Weight of hnRNP F/H: 48 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, MDA-MB-231 cell lysate: sc-2232 or K-562 whole cell lysate: sc-2203.

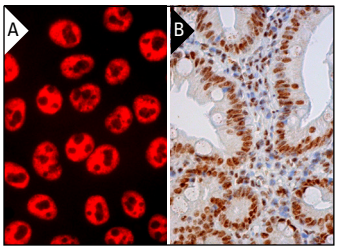
STORAGE

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

DATA



hnRNP F/H (1G11): sc-32310. Western blot analysis of hnRNP F/H expression in Jurkat nuclear extract (**A**) and MDA-MB-231 (**B**), K-562 (**C**), U-251-MG (**D**) and 3T3-L1 (**E**) whole cell lysates. Detection reagent used: m-IgGλ BP-HRP (Cruz Marker): sc-516132-CM.



hnRNP F/H (1G11): sc-32310. Immunofluorescence staining of formalin-fixed HeLa cells showing nuclear localization. Detection reagent used: m-IgGλ BP-CFL 594: sc-516192 (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing nuclear staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Khotin, M., et al. 2010. Proteomic analysis of ACTN4-interacting proteins reveals it's a putative involvement in mRNA metabolism. Biochem. Biophys. Res. Commun. 397: 192-196.
2. Cao, W., et al. 2012. Control of alternative splicing by forskolin through hnRNP K during neuronal differentiation. Nucleic Acids Res. 40: 8059-8071.
3. Sohail, M. and Xie, J. 2015. Evolutionary emergence of a novel splice variant with an opposite effect on the cell cycle. Mol. Cell. Biol. 35: 2203-2214.
4. Nazim, M., et al. 2016. Competitive regulation of alternative splicing and alternative polyadenylation by hnRNP H and CstF64 determines acetylcholinesterase isoforms. Nucleic Acids Res. 45: 1455-1468.
5. Aviner, R., et al. 2017. Proteomic analysis of polyribosomes identifies splicing factors as potential regulators of translation during mitosis. Nucleic Acids Res. 45: 5945-5957.
6. Fan, L., et al. 2018. Histone demethylase JMJD1A promotes alternative splicing of AR variant 7 (AR-V7) in prostate cancer cells. Proc. Natl. Acad. Sci. USA 115: E4584-E4593.
7. Mestre-Fos, S., et al. 2019. G-quadruplexes in human ribosomal RNA. J. Mol. Biol. 431: 1940-1955.
8. Dan, X., et al. 2019. HSP 27 responds to and facilitates enterovirus A71 replication through enhancing viral IRES-mediated translation. J. Virol. 93: e02322-18.
9. Boskovic, A., et al. 2020. Control of noncoding RNA production and histone levels by a 5' tRNA fragment. Genes Dev. 34: 118-131.

RESEARCH USE

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