

hnRNP K/J (3C2): sc-32307

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 protein are localized to the nucleus, however some shuttle between the nucleus and the cytoplasm, such as hnRNP K. hnRNP K recruits a variety of molecular partners through two K homologous (KH) domains, which are required for protein-protein interactions. hnRNP K also contains several potential phosphorylation sites, including Ser 302, the major site of PKC δ phosphorylation, which are thought to regulate various cellular functions, including sequence-specific DNA binding, transcription, RNA binding and nucleocytoplasmic shuttling.

CHROMOSOMAL LOCATION

Genetic locus: HNRPK (human) mapping to 9q21.32; Hnrpk (mouse) mapping to 13 B1.

SOURCE

hnRNP K/J (3C2) is a mouse monoclonal antibody raised against hnRNPs of human origin purified by oligo (dc) affinity chromatography.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

hnRNP K/J (3C2) is available conjugated to agarose (sc-32307 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-32307 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-32307 PE), fluorescein (sc-32307 FITC), Alexa Fluor® 488 (sc-32307 AF488), Alexa Fluor® 546 (sc-32307 AF546), Alexa Fluor® 594 (sc-32307 AF594) or Alexa Fluor® 647 (sc-32307 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-32307 AF680) or Alexa Fluor® 790 (sc-32307 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

hnRNP K/J (3C2) is recommended for detection of hnRNP K and hnRNP J of mouse, rat, human, *Xenopus laevis* and zebrafish origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 flow cytometry (1 μ g per 1 x 10⁶ cells).

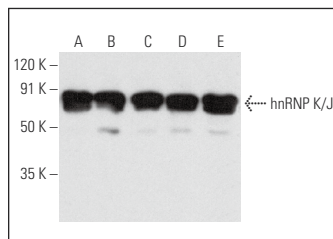
Molecular Weight of hnRNP K/J: 66/64 kDa.

Positive Controls: MDA-MB-231 cell lysate: sc-2232, NIH/3T3 whole cell lysate: sc-2210 or LADMAC whole cell lysate: sc-364189.

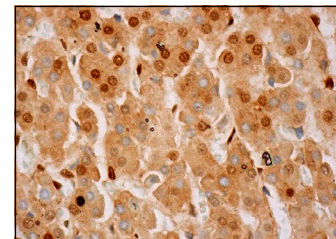
STORAGE

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

DATA



hnRNP K/J (3C2): sc-32307. Western blot analysis of hnRNP K/J expression in MDA-MB-231 (A), NIH/3T3 (B), LADMAC (C), L8 (D) and RPE-J (E) whole cell lysates.



hnRNP K/J (3C2): sc-32307. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing nuclear and cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Hogg, J.R. and Collins, K. 2007. RNA-based affinity purification reveals 7SK RNPs with distinct composition and regulation. *RNA* 13: 868-880.
- Cao, W., et al. 2012. Control of alternative splicing by forskolin through hnRNP K during neuronal differentiation. *Nucleic Acids Res.* 40: 8059-8071.
- Rahman, M.A., et al. 2013. HnRNP L and hnRNP LL antagonistically modulate PTB-mediated splicing suppression of CHRNA1 pre-mRNA. *Sci. Rep.* 3: 2931.
- Hobbs, R.P., et al. 2015. Keratin-dependent regulation of Aire and gene expression in skin tumor keratinocytes. *Nat. Genet.* 47: 933-938.
- Blank, M.F., et al. 2017. SIRT7-dependent deacetylation of CDK9 activates RNA polymerase II transcription. *Nucleic Acids Res.* 45: 2675-2686.
- Fei, T., et al. 2017. Genome-wide CRISPR screen identifies HNRNPL as a prostate cancer dependency regulating RNA splicing. *Proc. Natl. Acad. Sci. USA* 114: E5207-E5215.
- Rao, G.K., et al. 2018. T cell LFA-1-induced proinflammatory mRNA stabilization is mediated by the p38 pathway kinase MK2 in a process regulated by hnRNPs C, H1 and K. *PLoS ONE* 13: e0201103.
- 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.
- Kawachi, T., et al. 2021. Regulated splicing of large exons is linked to phase-separation of vertebrate transcription factors. *EMBO J.* 40: e107485.
- Fallatah, A., et al. 2023. Keratin 19 binds and regulates cytoplasmic HNRNPK mRNA targets in triple-negative breast cancer. *BMC Mol. Cell Biol.* 24: 26.

RESEARCH USE

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