

HCNP (C-9): sc-271037



The Power to Question

BACKGROUND

HCNP, also known as XAB2 (xeroderma pigmentosum group A (XPA) binding protein 2), HCRN, SYF1 or NTC90, is a nuclear protein that participates in transcription, transcription-coupled repair (TCR) and pre-mRNA splicing. It contains 15 tetratricopeptide repeat motifs and associates with nucleotide excision repair machinery. More specifically, HCNP associates with Cockayne syndrome group A and B proteins (CSA and CSB), RNA Polymerase II (Pol II) and XPA in response to DNA damage and is believed to function in the TCR pathway. HCNP also functions as an essential component of a pre-mRNA splicing complex of the spliceosome (composed of AQR (aquarius), PRP19, CCDC16, HCNP, ISY1 and Cyclophilin E) and is required for proper RNA synthesis in the cell. In addition, HCNP functions as a component of the RAR corepressor complex with RAR α and HDAC3 and exhibits an inhibitory effect on ATRA-induced cell differentiation. This suggests that HCNP may function as useful target in cancer therapy.

REFERENCES

1. Nakatsu, Y., et al. 2000. XAB2, a novel tetratricopeptide repeat protein involved in transcription-coupled DNA repair and transcription. *J. Biol. Chem.* 275: 34931-34937.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610850. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Amada, N., et al. 2003. A novel rat orthologue and homologue for the *Drosophila* crooked neck gene in neural stem cells and their immediate descendants. *J. Biochem.* 133: 615-623.

CHROMOSOMAL LOCATION

Genetic locus: XAB2 (human) mapping to 19p13.2; Xab2 (mouse) mapping to 8 A1.1.

SOURCE

HCNP (C-9) is a mouse monoclonal antibody raised against amino acids 556-855 mapping at the C-terminus of HCNP of human origin.

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.

HCNP (C-9) is available conjugated to agarose (sc-271037 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271037 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271037 PE), fluorescein (sc-271037 FITC), Alexa Fluor® 488 (sc-271037 AF488), Alexa Fluor® 546 (sc-271037 AF546), Alexa Fluor® 594 (sc-271037 AF594) or Alexa Fluor® 647 (sc-271037 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271037 AF680) or Alexa Fluor® 790 (sc-271037 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

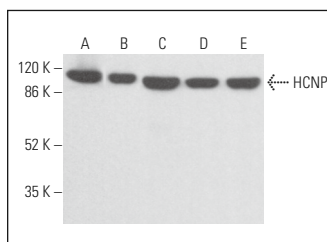
HCNP (C-9) is recommended for detection of HCNP of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for HCNP siRNA (h): sc-75232, HCNP siRNA (m): sc-75233, HCNP shRNA Plasmid (h): sc-75232-SH, HCNP shRNA Plasmid (m): sc-75233-SH, HCNP shRNA (h) Lentiviral Particles: sc-75232-V and HCNP shRNA (m) Lentiviral Particles: sc-75233-V.

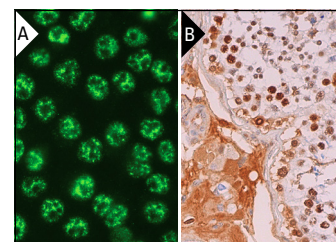
Molecular Weight of HCNP: 100 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, HL-60 nuclear extract: sc-2147 or MCF7 whole cell lysate: sc-2206.

DATA



HCNP (C-9): sc-271037. Western blot analysis of HCNP expression in HeLa (A) and HL-60 (B) nuclear extracts and Jurkat (C), MCF7 (D) and SK-N-MC (E) whole cell lysates. Detection reagent used: m-IgG κ BP-HRP: sc-516102.



HCNP (C-9): sc-271037. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear staining of cells in seminiferous ducts and cytoplasmic staining of Leydig cells (B).

SELECT PRODUCT CITATIONS

1. Onyango, D.O., et al. 2016. Tetratricopeptide repeat factor XAB2 mediates the end resection step of homologous recombination. *Nucleic Acids Res.* 44: 5702-5716.
2. Onyango, D.O., et al. 2017. PRPF8 is important for BRCA1-mediated homologous recombination. *Oncotarget* 8: 93319-93337.
3. Jin, L., et al. 2020. STRAP regulates alternative splicing fidelity during lineage commitment of mouse embryonic stem cells. *Nat. Commun.* 11: 5941.
4. van Toorn, M., et al. 2022. Active DNA damage eviction by HLTf stimulates nucleotide excision repair. *Mol. Cell* 82: 1343-1358.e8.
5. Donnio, L.M., et al. 2022. XAB2 dynamics during DNA damage-dependent transcription inhibition. *Elife* 11: e77094.

RESEARCH USE

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

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