SANTA CRUZ BIOTECHNOLOGY, INC.

HCNP siRNA (m): sc-75233

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 RARα 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.
4. Yonemasu, R., et al. 2005. Disruption of mouse XAB2 gene involved in pre-mRNA splicing, transcription and transcription-coupled DNA repair results in preimplantation lethality. DNA Repair 4: 479-491.
5. Nabeshi, H., et al. 2006. Proteomic analysis for protein carbonyl as an indicator of oxidative damage in senescence-accelerated mice. Free Radic. Res. 40: 1173-1181.

CHROMOSOMAL LOCATION

Genetic locus: Xab2 (mouse) mapping to 8 A1.1.

PRODUCT

HCNP siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see HCNP shRNA Plasmid (m): sc-75233-SH and HCNP shRNA (m) Lentiviral Particles: sc-75233-V as alternate gene silencing products.

For independent verification of HCNP (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-75233A, sc-75233B and sc-75233C.

PROTOCOLS

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

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

HCNP siRNA (m) is recommended for the inhibition of HCNP expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

HCNP (C-9): sc-271037 is recommended as a control antibody for monitoring of HCNP gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor HCNP gene expression knockdown using RT-PCR Primer: HCNP (m)-PR: sc-75233-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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