SANTA CRUZ BIOTECHNOLOGY, INC.

hCAP-H siRNA (m): sc-62446

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The Power to Question

BACKGROUND

hCAP-H, also known as NCAPH (non-SMC condensin I complex subunit H), BRRN, BRRN1 or CAPH, is a widely expressed 741 amino acid member of the CND2 (condensin subunit 2) family. Localized to the cytoplasm and the nucleus during interphase and to the nucleus during the rest of mitosis, hCAP-H is a regulatory subunit of the condensin complex, a multi-protein structure that converts interphase chromatin into condense chromosomes. The condensin complex is thought to induce positive supercoils into relaxed DNA and may also convert nicked DNA into knotted forms that can properly condense. hCAP-H, as well as other subunits of the condensin complex, are subject to phosphorylation by Cdc2 (cell division cycle 2). This phosphorylation activates the condensin complex and is, therefore, required for chromosome condensation.

REFERENCES

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3. Cabello, O.A., Baldini, A., Bhat, M., Bellen, H. and Belmont, J.W. 1997. Localization of BRRN1, the human homologue of *Drosophila* barr, to 2q11.2. Genomics 46: 311-313.
4. Kimura, K., Cuvier, O. and Hirano, T. 2001. Chromosome condensation by a human condensin complex in *Xenopus* egg extracts. J. Biol. Chem. 276: 5417-5420.
5. Cabello, O.A., Eliseeva, E., He, W.G., Youssoufian, H., Plon, S.E., Brinkley, B.R. and Belmont, J.W. 2001. Cell cycle-dependent expression and nucleolar localization of hCAP-H. Mol. Biol. Cell 12: 3527-3537.
6. Aono, N., Sutani, T., Tomonaga, T., Mochida, S. and Yanagida, M. 2002. Cnd2 has dual roles in mitotic condensation and interphase. Nature 417: 197-202.

CHROMOSOMAL LOCATION

Genetic locus: Ncaph (mouse) mapping to 2 F1.

PRODUCT

hCAP-H 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 hCAP-H shRNA Plasmid (m): sc-62446-SH and hCAP-H shRNA (m) Lentiviral Particles: sc-62446-V as alternate gene silencing products.

For independent verification of hCAP-H (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-62446A, sc-62446B and sc-62446C.

RESEARCH USE

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

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

hCAP-H siRNA (m) is recommended for the inhibition of hCAP-H 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor hCAP-H gene expression knockdown using RT-PCR Primer: hCAP-H (m)-PR: sc-62446-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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