SANTA CRUZ BIOTECHNOLOGY, INC.

CENP-L siRNA (h): sc-78992

BACKGROUND

During mitosis, the transient assembly of the kinetochore occurs on a platform known as the centromere, a specialized chromatin structure that is comprised of various centromere proteins (CENPs). There are two multi-protein centromere complexes, known as CENPA-NAC (nucleosome-associated) and CENPA-CAD (nucleosome distal), which interact with one another to facilitate both the assembly and the activity of the centromere. CENP-L (centromere protein L), also known as ICEN33 (interphase centromere complex protein 33), is a 344 amino acid protein and component of the CENPA-CAD complex. Existing as three alternatively spliced isoforms, CENP-L has been observed to cause abnormal mitotic cells when its expression is depleted. The gene encoding CENP-L maps to human chromosome 1q25.1 and mouse chromosome 1 H2.1.

REFERENCES

1. Obuse, C., Yang, H., Nozaki, N., Goto, S., Okazaki, T. and Yoda, K. 2004. Proteomics analysis of the centromere complex from HeLa interphase cells: UV-damaged DNA binding protein 1 (DDB-1) is a component of the CEN-complex, while BMI-1 is transiently co-localized with the centromeric region in interphase. Genes Cells 9: 105-120.
2. Takahashi, K., Takayama, Y., Masuda, F., Kobayashi, Y. and Saitoh, S. 2005. Two distinct pathways responsible for the loading of CENP-A to centromeres in the fission yeast cell cycle. Philos. Trans. R. Soc. Lond., B, Biol. Sci. 360: 595-606.
3. Izuta, H., Ikeno, M., Suzuki, N., Tomonaga, T., Nozaki, N., Obuse, C., Kisu, Y., Goshima, N., Nomura, F., Nomura, N. and Yoda, K. 2006. Comprehensive analysis of the ICEN (Interphase Centromere Complex) components enriched in the CENP-A chromatin of human cells. Genes Cells 11: 673-684.
4. Okada, M., Cheeseman, I.M., Hori, T., Okawa, K., McLeod, I.X., Yates, J.R., Desai, A. and Fukagawa, T. 2006. The CENP-H-I complex is required for the efficient incorporation of newly synthesized CENP-A into centromeres. Nat. Cell Biol. 8: 446-457.
5. Foltz, D.R., Jansen, L.E., Black, B.E., Bailey, A.O., Yates, J.R. and Cleveland, D.W. 2006. The human CENP-A centromeric nucleosome-associated complex. Nat. Cell Biol. 8: 458-469.
6. González-Barrios, R., Soto-Reyes, E. and Herrera, L.A. 2012. Assembling pieces of the centromere epigenetics puzzle. Epigenetics 7: 3-13.

CHROMOSOMAL LOCATION

Genetic locus: CENPL (human) mapping to 1q25.1.

RESEARCH USE

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

PROTOCOLS

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

PRODUCT

CENP-L siRNA (h) 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 CENP-L shRNA Plasmid (h): sc-78992-SH and CENP-L shRNA (h) Lentiviral Particles: sc-78992-V as alternate gene silencing products.

For independent verification of CENP-L (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-78992A, sc-78992B and sc-78992C.

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

CENP-L siRNA (h) is recommended for the inhibition of CENP-L expression in human 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 CENP-L gene expression knockdown using RT-PCR Primer: CENP-L (h)-PR: sc-78992-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.