SANTA CRUZ BIOTECHNOLOGY, INC.

CENP-F siRNA (h): sc-37563

BACKGROUND

A replicated chromosome includes two kinetochores that control chromosome segregation during mitosis. Centromere protein F, CENP-F (also designated mitosin) is a nuclear matrix kinetochore protein that plays a role in mitotic events. In HeLa cells, CENP-F gradually accumulates in the cell cycle, and like CENP-E is preferentially expressed during mitosis where it mediates the G_2 to M phase checkpoint. Upon completion of mitosis, CENP-F is rapidly degraded. CENP-F consists of two coil domains that flank a central flexible core and contains a P-loop (ADIPTGKT) nucleotide binding site in its globular carboxy terminus.

REFERENCES

1. Liao, H., et al. 1995. CENP-F is a protein of the nuclear matrix that assembles onto kinetochores at late G_2 and is rapidly degraded after mitosis. J. Cell Biol. 130: 507-518.
2. Zhu, X., et al. 1995. Characterization of a novel 350-kilodalton nuclear phosphoprotein that is specifically involved in mitotic-phase progression. Mol. Cell. Biol. 15: 5017-5029.
3. Rieder, C.L., et al. 1998. The vertebrate cell kinetochore and its roles during mitosis. Trends Cell Biol. 8: 310-318.
4. Ashar, H.R., et al. 2000. Farnesyl transferase inhibitors block the farnesylation of CENP-E and CENP-F and alter the association of CENP-E with the microtubules. J. Biol. Chem. 275: 30451-30457.
5. Choo, K.H. 2000. Centromerization. Trends Cell Biol. 10: 182-188.

CHROMOSOMAL LOCATION

Genetic locus: CENPF (human) mapping to 1q41.

PRODUCT

CENP-F 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-F shRNA Plasmid (h): sc-37563-SH and CENP-F shRNA (h) Lentiviral Particles: sc-37563-V as alternate gene silencing products.

For independent verification of CENP-F (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-37563A, sc-37563B and sc-37563C.

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-F siRNA (h) is recommended for the inhibition of CENP-F 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-F gene expression knockdown using RT-PCR Primer: CENP-F (h)-PR: sc-37563-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.

PROTOCOLS

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