SANTA CRUZ BIOTECHNOLOGY, INC.

CEP72 siRNA (h): sc-92072

BACKGROUND

Centrosomes are the major microtubule-organizing centers of mammalian cells. They are composed of a centriole pair and surrounding microtubule-nucleating material termed pericentriolar material (PCM). Bipolar mitotic spindle assembly relies on two intertwined processes: centriole duplication and centrosome maturation. Failure to properly orchestrate centrosome duplication and maturation is subsequently linked to spindle defects, which can result in aneuploidy and promote cancer progression. CEP72 (centrosomal protein 72 kDa) is a 647 amino acid protein that localizes to the centrosome and centrosome-surrounding particles throughout the cell cycle. Involved in the recruitment of key centrosomal proteins to the centrosome, CEP72 provides centrosomal microtubule-nucleation activity on the γ Tubulin ring complexes and has critical roles in forming a focused bipolar spindle, which is needed for proper tension generation between sister chromatids. CEP72 exists as two alternatively spliced isoforms.

REFERENCES

1. Lange, B.M., et al. 2000. Centriole duplication and maturation in animal cells. Curr. Top. Dev. Biol. 49: 235-249.
2. Palazzo, R.E., et al. 2000. Centrosome maturation. Curr. Top. Dev. Biol. 49: 449-470.
3. Andersen, J.S., et al. 2003. Proteomic characterization of the human centrosome by protein correlation profiling. Nature 426: 570-574.
4. Valente, E.M., et al. 2006. Mutations in CEP290, which encodes a centrosomal protein, cause pleiotropic forms of Joubert syndrome. Nat. Genet. 38: 623-625.
5. Sayer, J.A., et al. 2006. The centrosomal protein nephrocystin-6 is mutated in Joubert syndrome and activates transcription factor ATF4. Nat. Genet. 38: 674-681.
6. Pelletier, L., et al. 2006. Centriole assembly in *Caenorhabditis elegans*. Nature 444: 619-623.

CHROMOSOMAL LOCATION

Genetic locus: CEP72 (human) mapping to 5p15.33.

PRODUCT

CEP72 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 CEP72 shRNA Plasmid (h): sc-92072-SH and CEP72 shRNA (h) Lentiviral Particles: sc-92072-V as alternate gene silencing products.

For independent verification of CEP72 (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-92072A, sc-92072B and sc-92072C.

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

CEP72 siRNA (h) is recommended for the inhibition of CEP72 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 CEP72 gene expression knockdown using RT-PCR Primer: CEP72 (h)-PR: sc-92072-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.