SANTA CRUZ BIOTECHNOLOGY, INC.

CEP192 siRNA (h): sc-72864

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. The human homolog of the *C. elegans* and *D. melanogaster* protein SPD-2 is CEP192 (centrosomal protein of 192 kDa), an integral regulator of PCM recruitment, centrosome maturation centriole duplication. CEP192 forms a scaffold upon which proteins involved in microtubule nucleation and spindle assembly become active during mitosis.

REFERENCES

1. Lange, B.M., et al. 2000. Centriole duplication and maturation in animal cells. Curr. Top. Dev. Biol. 49: 235-249.
2. Kemp, C.A., et al. 2004. Centrosome maturation and duplication in *C. elegans* require the coiled-coil protein SPD-2. Dev. Cell 6: 511-523.
3. Pelletier, L., et al. 2006. Centriole assembly in *Caenorhabditis elegans*. Nature 444: 619-623.
4. Gomez-Ferreria, M.A., et al. 2007. Human Cep192 is required for mitotic centrosome and spindle assembly. Curr. Biol. 17: 1960-1966.
5. Gomez-Ferreria, M.A., et al. 2008. Cep192 and the generation of the mitotic spindle. Cell Cycle 7: 1507-1510.
6. Zhu, F., et al. 2008. The mammalian SPD-2 ortholog Cep192 regulates centrosome biogenesis. Curr. Biol. 18: 136-141.
7. Giansanti, M.G., et al. 2008. *Drosophila* SPD-2 is an essential centriole component required for PCM recruitment and astral-microtubule nucleation. Curr. Biol. 18: 303-309.

CHROMOSOMAL LOCATION

Genetic locus: CEP192 (human) mapping to 18p11.21.

PRODUCT

CEP192 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 CEP192 shRNA Plasmid (h): sc-72864-SH and CEP192 shRNA (h) Lentiviral Particles: sc-72864-V as alternate gene silencing products.

For independent verification of CEP192 (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-72864A, sc-72864B and sc-72864C.

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

CEP192 siRNA (h) is recommended for the inhibition of CEP192 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 CEP192 gene expression knockdown using RT-PCR Primer: CEP192 (h)-PR: sc-72864-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.