

CEP27 siRNA (h): sc-89993

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. CEP27 (Centrosomal protein of 27 kDa), also known as HAUS2 (HAUS augmin-like complex subunit 2), is a 235 amino acid protein that localizes to interphase centrosomes and mitotic spindle microtubules. As one of eight components of the HAUS augmin-like complex, CEP27 also contributes to regulation of mitotic spindle assembly and centrosomal integrity. There are two isoforms of CEP27 that are produced as a result of alternative splicing events.

REFERENCES

1. Schiebel, E. 2000. γ -tubulin complexes: binding to the centrosome, regulation and microtubule nucleation. *Curr. Opin. Cell Biol.* 12: 113-118.
2. Andersen, J.S., et al. 2003. Proteomic characterization of the human centrosome by protein correlation profiling. *Nature* 426: 570-574.
3. Goshima, G., et al. 2008. Augmin: a protein complex required for centrosome-independent microtubule generation within the spindle. *J. Cell Biol.* 181: 421-429.
4. Lawo, S., et al. 2009. HAUS, the 8-subunit human Augmin complex, regulates centrosome and spindle integrity. *Curr. Biol.* 19: 816-826.
5. Uehara, R., et al. 2009. The augmin complex plays a critical role in spindle microtubule generation for mitotic progression and cytokinesis in human cells. *Proc. Natl. Acad. Sci. USA* 106: 6998-7003.
6. Online Mendelian Inheritance in Man, OMIM[™]. 2010. Johns Hopkins University, Baltimore, MD. MIM Number: 613429. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: HAUS2 (human) mapping to 15q15.2.

PRODUCT

CEP27 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CEP27 shRNA Plasmid (h): sc-89993-SH and CEP27 shRNA (h) Lentiviral Particles: sc-89993-V as alternate gene silencing products.

For independent verification of CEP27 (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-89993A, sc-89993B and sc-89993C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

CEP27 siRNA (h) is recommended for the inhibition of CEP27 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 μ M in 66 μ l. 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 CEP27 gene expression knockdown using RT-PCR Primer: CEP27 (h)-PR: sc-89993-PR (20 μ l). 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.