

CEP126 siRNA (h): sc-96891

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. CEP126 (centrosomal protein 126 kDa), also known as KIAA1377, is a 1,117 amino acid cytoplasmic protein expressed in brain, lung, skeletal muscle, kidney, pancreas, testis and ovary. Necessary for microtubules and mitotic spindle organization, CEP126 plays a role in cytokinesis and participates in primary cilium formation.

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. Pelletier, L., et al. 2006. Centriole assembly in *Caenorhabditis elegans*. *Nature* 444: 619-623.
4. Chen, T.C., et al. 2009. From midbody protein-protein interaction network construction to novel regulators in cytokinesis. *J. Proteome Res.* 8: 4943-4953.
5. Tipton, A.R., et al. 2012. Identification of novel mitosis regulators through data mining with human centromere/kinetochore proteins as group queries. *BMC Cell Biol.* 13: 15.
6. Lim, Y.M., et al. 2012. Exome sequencing identifies KIAA1377 and C5orf42 as susceptibility genes for monogenic amyotrophy. *Neuromuscul. Disord.* 22: 394-400.
7. Bonavita, R., et al. 2014. Cep126 is required for pericentriolar satellite localization to the centrosome and for primary cilium formation. *Biol. Cell* 106: 254-267.

CHROMOSOMAL LOCATION

Genetic locus: KIAA1377 (human) mapping to 11q22.1.

PRODUCT

CEP126 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 CEP126 shRNA Plasmid (h): sc-96891-SH and CEP126 shRNA (h) Lentiviral Particles: sc-96891-V as alternate gene silencing products.

For independent verification of CEP126 (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-96891A, sc-96891B and sc-96891C.

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

CEP126 siRNA (h) is recommended for the inhibition of CEP126 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 CEP126 gene expression knockdown using RT-PCR Primer: CEP126 (h)-PR: sc-96891-PR (20 μ l, 585 bp). 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.