SANTA CRUZ BIOTECHNOLOGY, INC.

CEP135 siRNA (h): sc-88951

BACKGROUND

CEP135, also known as centrosomal protein of 135 kDa and centrosomal protein 4 (CEP4), is a 1,140 amino acid protein that acts as a scaffold protein during centriole biogenesis and belongs to the CEP135/TSGA10 family. During interphase, CEP135 acts as a platform protein for CEP250 and is required for centriole-centriole cohesion. CEP135 also interacts with Dynactin 2. which mediates Dynein-organelle binding and helps to regulate chromosome alignment during prometaphase and spindle organization during mitosis. CEP135 is localized in the cytoplasm and during centriole biogenesis, CEP135 is concentrated in the proximal lumen of procentrioles and parental centrioles. CEP135 exists as two alternatively spliced isoforms and is post-translationally phosphorylated at serine 439. The gene encoding CEP135 maps to human chromosome 4q12, which represents approximately 6% of the human genome and contains nearly 900 genes.

REFERENCES

1. Ishikawa, K., et al. 1998. Prediction of the coding sequences of unidentified human genes. X. The complete sequences of 100 new cDNA clones from brain which can code for large proteins *in vitro*. DNA Res. 5: 169-176.
2. Andersen, J.S., et al. 2003. Proteomic characterization of the human centrosome by protein correlation profiling. Nature 426: 570-574.
3. Olsen, J.V., et al. 2006. Global, *in vivo,* and site-specific phosphorylation dynamics in signaling networks. Cell 127: 635-648.
4. Kleylein-Sohn, J., et al. 2007. Plk4-induced centriole biogenesis in human cells. Dev. Cell 13: 190-202.
5. Kim, K., et al. 2008. A novel function of CEP135 as a platform protein of C-NAP1 for its centriolar localization. Exp. Cell Res. 314: 3692-3700.
6. Hutchins, J.R., et al. 2010. Systematic analysis of human protein complexes identifies chromosome segregation proteins. Science 328: 593-599.

CHROMOSOMAL LOCATION

Genetic locus: CEP135 (human) mapping to 4q12.

PRODUCT

CEP135 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 CEP135 shRNA Plasmid (h): sc-88951-SH and CEP135 shRNA (h) Lentiviral Particles: sc-88951-V as alternate gene silencing products.

For independent verification of CEP135 (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-88951A, sc-88951B and sc-88951C.

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

CEP135 siRNA (h) is recommended for the inhibition of CEP135 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 CEP135 gene expression knockdown using RT-PCR Primer: CEP135 (h)-PR: sc-88951-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.