SANTA CRUZ BIOTECHNOLOGY, INC.

CEP55 siRNA (h): sc-90601

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The Power to Question

BACKGROUND

CEP55 (centrosomal protein of 55 kDa), also known as URCC6 (upregulated in colon cancer 6), is a 464 amino acid protein that localizes to the centrosome during interphase and may be found throughout the cell during mitosis. Widely expressed with highest expression in testis and lower expression in thymus, bone marrow, placenta, fetal heart, digestive tract and several carcinomas, CEP55 exists as a homodimer that interacts with centrosome components and is involved in mitotic exit and cytokinesis. Human CEP55 undergoes several phosphorylation events throughout the cell cycle, most of which are necessary for proper CEP55 function. Mutations or defects in the gene encoding CEP55 result in a failure to exit mitosis and may be associated with tumor progression. Two isoforms of CEP55 are expressed due to alternative splicing events.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610000. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
2. Fabbro, M., et al. 2005. Cdk1/ERK 2- and Plk1-dependent phosphorylation of a centrosome protein, CEP55, is required for its recruitment to midbody and cytokinesis. Dev. Cell 9: 477-488.
3. Doxsey, S.J. 2005. Molecular links between centrosome and midbody. Mol. Cell 20: 170-172.
4. Martinez-Garay, I., et al. 2006. The novel centrosomal associated protein CEP55 is present in the spindle midzone and the midbody. Genomics 87: 243-253.

CHROMOSOMAL LOCATION

Genetic locus: CEP55 (human) mapping to 10q23.33.

PRODUCT

CEP55 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 CEP55 shRNA Plasmid (h): sc-90601-SH and CEP55 shRNA (h) Lentiviral Particles: sc-90601-V as alternate gene silencing products.

For independent verification of CEP55 (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-90601A, sc-90601B and sc-90601C.

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

CEP55 siRNA (h) is recommended for the inhibition of CEP55 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.

GENE EXPRESSION MONITORING

CEP55 (B-8): sc-374051 is recommended as a control antibody for monitoring of CEP55 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CEP55 gene expression knockdown using RT-PCR Primer: CEP55 (h)-PR: sc-90601-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Wang, G., et al. 2016. Centrosomal protein of 55 regulates glucose metabolism, proliferation and apoptosis of glioma cells via the Akt/mTOR signaling pathway. J. Cancer 7: 1431-1440.
2. You, B. and Zhang, K.C. 2018. MicroRNA-144-3p inhibits cell proliferation and promotes apoptosis in castration-resistant prostate cancer by targeting CEP55. Eur. Rev. Med. Pharmacol. Sci. 22: 7660-7670.

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.