SANTA CRUZ BIOTECHNOLOGY, INC.

# CEP164 siRNA (m): sc-142279

## 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).CEP164 (centrosomal protein 164 kDa) is a 1,460 amino acid protein that is expressed in several cell lines. CEP164 localizes to the nucleus as well as the centrosome and may be involved in microtubule organization and maintenance for the formation of primary cilia. It is suggested that CEP164 is a key player in the DNA damage-activated ATR/ATM signaling cascade and is required for the proper phosphorylation of Histone H2A.X, RPA proteins, Chk2 and Chk1. CEP164 plays a critical role in $G_2$/M checkpoint, nuclear divisions and in chromosome segregation. CEP164 is phosphorylated upon replication stress, ultraviolet radiation (UV), and ionizing radiation (IR). Two isoforms exist due to alternative splicing events.

## REFERENCES


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2. Palazzo, R.E., Vogel, J.M., Schnackenberg, B.J., Hull, D.R. and Wu, X. 2000. Centrosome maturation. Curr. Top. Dev. Biol. 49: 449-470.
3. Pelletier, L., O'Toole, E., Schwager, A., Hyman, A.A. and Müller-Reichert, T. 2006. Centriole assembly in *Caenorhabditis elegans*. Nature. 444: 619-623.
4. Graser, S., Stierhof, Y.D., Lavoie, S.B., Gassner, O.S., Lamla, S., Le Clech, M. and Nigg, E.A. 2007. Cep164, a novel centriole appendage protein required for primary cilium formation. J. Cell Biol. 179: 321-330.
5. Pedersen, L.B., Veland, I.R., Schrøder, J.M. and Christensen, S.T. 2008. Assembly of primary cilia. Dev. Dyn. 237: 1993-2006.
6. Sivasubramaniam, S., Sun, X., Pan, Y.R., Wang, S. and Lee, E.Y. 2008. Cep164 is a mediator protein required for the maintenance of genomic stability through modulation of MDC1, RPA, and CHK1. Genes Dev. 22: 587-600.


## CHROMOSOMAL LOCATION

Genetic locus: Cep164 (mouse) mapping to 9 A5.2.

## PRODUCT

CEP164 siRNA (m) 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 CEP164 shRNA Plasmid (m): sc-142279-SH and CEP164 shRNA (m) Lentiviral Particles: sc-142279-V as alternate gene silencing products.

For independent verification of CEP164 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-142279A, sc-142279B and sc-142279C.

## 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

CEP164 siRNA (m) is recommended for the inhibition of CEP164 expression in mouse 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 CEP164 gene expression knockdown using RT-PCR Primer: CEP164 (m)-PR: sc-142279-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.