



# Centrin-1 siRNA (h): sc-60359

## BACKGROUND

EF-hand type  $\text{Ca}^{2+}$ -binding proteins consists of several family members, including Centrin-1, Centrin-2 and Centrin-3. The Centrin proteins are ubiquitously expressed cytoskeletal components that show increased expression during cell differentiation. Tissues where cilia are present, such as the retina and testis, express both Centrin-1 and -2, but Centrin-2 is also expressed in nondifferentiated, nonciliated retinal cells (retinoblastoma cells), liver, skeletal muscle and cardiac muscle. In these tissues, Centrin associates with the centrosomes, mitotic spindle poles and basal bodies. Knockdown studies reveal a requirement for Centrin in centriole duplication and organization of spindle pole morphology and the completion of cytokinesis. Centrin-3 plays a role in centrosome reproduction.

## REFERENCES

1. LeDizet, M., et al. 1998. Differential regulation of Centrin genes during ciliogenesis in human tracheal epithelial cells. *Am. J. Physiol.* 275: L1145-L1156.
2. Wolfrum, U., et al. 1998. Expression of Centrin isoforms in the mammalian retina. *Exp. Cell Res.* 242: 10-17.
3. Durussel, I., et al. 2000. Cation- and peptide-binding properties of human Centrin-2. *FEBS Lett.* 472: 208-212.
4. Laoukili, J., et al. 2000. Differential expression and cellular distribution of Centrin isoforms during human ciliated cell differentiation *in vitro*. *J. Cell Sci.* 113: 1355-1364.
5. Middendorp, S., et al. 2000. A role for Centrin-3 in centrosome reproduction. *J. Cell Biol.* 148: 405-416.
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7. Rice, L.M., et al. 2002. Centriole duplication: Centrin in on answers? *Curr. Biol.* 12: R618-R619.
8. Salisbury, J.L., et al. 2002. Centrin-2 is required for centriole duplication in mammalian cells. *Curr. Biol.* 12: 1287-1292.

## CHROMOSOMAL LOCATION

Genetic locus: CETN1 (human) mapping to 18p11.32.

## PRODUCT

Centrin-1 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  $\mu\text{M}$  solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Centrin-1 shRNA Plasmid (h): sc-60359-SH and Centrin-1 shRNA (h) Lentiviral Particles: sc-60359-V as alternate gene silencing products.

For independent verification of Centrin-1 (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-60359A, sc-60359B and sc-60359C.

## STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at  $-20^{\circ}\text{C}$  with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at  $-20^{\circ}\text{C}$ , avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330  $\mu\text{l}$  of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu\text{l}$  of RNase-free water makes a 10  $\mu\text{M}$  solution in a 10  $\mu\text{M}$  Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

Centrin-1 siRNA (h) is recommended for the inhibition of Centrin-1 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  $\mu\text{M}$  in 66  $\mu\text{l}$ . 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.

## GENE EXPRESSION MONITORING

Centrin-1 (2A6): sc-293494 is recommended as a control antibody for monitoring of Centrin-1 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-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>TM</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Centrin-1 gene expression knockdown using RT-PCR Primer: Centrin-1 (h)-PR: sc-60359-PR (20  $\mu\text{l}$ ). Annealing temperature for the primers should be  $55-60^{\circ}\text{C}$  and the extension temperature should be  $68-72^{\circ}\text{C}$ .

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.