SANTA CRUZ BIOTECHNOLOGY, INC.

Centrin-2 siRNA (m): sc-72106

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Centrin-2, an EF-hand protein, plays a critical role in normal cell division. Tissues where cilia are present, such as the retina and testis, express both Centrin-1 and -2, but Centrin-2 is also expressed in non-differentiated, non-ciliated 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. Additionally, Centrin-2 plays a role in nucleotide excision repair via association with xeroderma pigmentosum group C protein, suggesting possible coupling of cell division and nucleotide excision repair.

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. Araki, M., et al. 2001. Centrosome protein centrin 2/caltractin 1 is part of the xeroderma pigmentosum group C complex that initiates global genome nucleotide excision repair. J. Biol. Chem. 276: 18665-18672.
5. Rice, L.M., et al. 2002. Centriole duplication: centrin in on answers? Curr. Biol. 12: R618-R619.
6. Salisbury, J.L., et al. 2002. Centrin-2 is required for centriole duplication in mammalian cells. Curr. Biol. 12: 1287-1292.
7. Matei. E., et al. 2003. C-terminal half of human centrin 2 behaves like a regulatory EF-hand domain. Biochemistry 42: 1439-1450.

CHROMOSOMAL LOCATION

Genetic locus: Cetn2 (mouse) mapping to X B.

PRODUCT

Centrin-2 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 Centrin-2 shRNA Plasmid (m): sc-72106-SH and Centrin-2 shRNA (m) Lentiviral Particles: sc-72106-V as alternate gene silencing products.

For independent verification of Centrin-2 (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-72106A, sc-72106B and sc-72106C.

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

Centrin-2 siRNA (m) is recommended for the inhibition of Centrin-2 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.

GENE EXPRESSION MONITORING

Centrin-2 (3F8): sc-293192 is recommended as a control antibody for monitoring of Centrin-2 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 Centrin-2 gene expression knockdown using RT-PCR Primer: Centrin-2 (m)-PR: sc-72106-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.