SANTA CRUZ BIOTECHNOLOGY, INC.

Centrobin siRNA (h): sc-94019

BACKGROUND

Centrobin, also known as centrosomal BRCA2-interacting protein, LYST-interacting protein 8 (LIP8) or PP1221, is a 903 amino acid protein that is required for centriole duplication. Centrobin localizes preferentially to the daughter centriole during centriole assembly at late G_1 or early S phase. Centrobin then remains in the daughter cell until the next centriole duplication. The amount on the original daughter centriole ultimately decreases after each duplication. Upon DNA damage, Centrobin is thought to be phosphoryated by either Atm or ATR. Centrobin interacts with lysosomal trafficking regulator (Lyst) and exists as five alternatively spliced isoforms. Centrobin contains one coiled coil domain and is post-translationally modified at serine 781. Centrobin is highly expressed in testis, and is encoded by a gene that maps to human chromosome 17.

REFERENCES

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2. Zou, C., et al. 2005. Centrobin: a novel daughter centriole-associated protein that is required for centriole duplication. J. Cell Biol. 171: 437-445.
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4. Matsuoka, S., et al. 2007. ATM and ATR substrate analysis reveals extensive protein networks responsive to DNA damage. Science 316: 1160-1166.
5. Song, L., et al. 2010. Inhibition of centriole duplication by centrobin depletion leads to p38-p53 mediated cell-cycle arrest. Cell. Signal. 22: 857-864.
6. Lee, J., et al. 2010. Centrobin/NIP2 is a microtubule stabilizer whose activity is enhanced by PLK1 phosphorylation during mitosis. J. Biol. Chem. 285: 25476-25484.
7. Jeffery, J.M., et al. 2010. Centrobin regulates the assembly of functional mitotic spindles. Oncogene 29: 2649-2658.
8. Olson, J.E., et al. 2011. Centrosome-related genes, genetic variation, and risk of breast cancer. Breast Cancer Res. Treat. 125: 221-228.
9. Gudi, R., et al. 2011. Centrobin-tubulin interaction is required for centriole elongation and stability. J. Cell Biol. 193: 711-725.

CHROMOSOMAL LOCATION

Genetic locus: CNTROB (human) mapping to 17p13.1.

PRODUCT

Centrobin 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 Centrobin shRNA Plasmid (h): sc-94019-SH and Centrobin shRNA (h) Lentiviral Particles: sc-94019-V as alternate gene silencing products.

For independent verification of Centrobin (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-94019A, sc-94019B and sc-94019C.

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

Centrobin siRNA (h) is recommended for the inhibition of Centrobin 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 Centrobin gene expression knockdown using RT-PCR Primer: Centrobin (h)-PR: sc-94019-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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.