SANTA CRUZ BIOTECHNOLOGY, INC.

CAP-G2 siRNA (m): sc-142000

BACKGROUND

The condensin complex plays a role in the resolution and segregation of sister chromatids during mitosis and some aspects of mitotic chromosome assembly. Cdc2 phosphorylation of the complex leads to its activation and its association with chromosome arms and condensation. CAP-G2 (chromosome-associated protein G2), also known as condensin-2 complex subunit G2, NCAPG2 (non-SMC condensin II complex, subunit G2), MTB or LUZP5 (leucine zipper protein 5), is a 1,143 amino acid nuclear protein and component of the condensin-2 complex, which plays a role in creating rigidity at the chromatid axis. Existing as two alternatively spliced isoforms, CAP-G2 contains one HEAT repeat and is encoded by a gene that maps to human chromosome 7q36.3.

REFERENCES

1. Ono, T., et al. 2003. Differential contributions of condensin I and condensin II to mitotic chromosome architecture in vertebrate cells. Cell 115: 109-121.
2. Smith, E.D., et al. 2004. More than blood, a novel gene required for mammalian postimplantation development. Mol. Cell. Biol. 24: 1168-1173.
3. Kittler, R., et al. 2004. An endoribonuclease-prepared siRNA screen in human cells identifies genes essential for cell division. Nature 432: 1036-1040.
4. Nousiainen, M., et al. 2006. Phosphoproteome analysis of the human mitotic spindle. Proc. Natl. Acad. Sci. USA 103: 5391-5396.
5. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 608532. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Wood, J.L., et al. 2008. Microcephalin/MCPH1 associates with the Condensin II complex to function in homologous recombination repair. J. Biol. Chem. 283: 29586-29592.

CHROMOSOMAL LOCATION

Genetic locus: Ncapg2 (mouse) mapping to 12 F2.

PRODUCT

CAP-G2 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 CAP-G2 shRNA Plasmid (m): sc-142000-SH and CAP-G2 shRNA (m) Lentiviral Particles: sc-142000-V as alternate gene silencing products.

For independent verification of CAP-G2 (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-142000A, sc-142000B and sc-142000C.

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

CAP-G2 siRNA (m) is recommended for the inhibition of CAP-G2 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 CAP-G2 gene expression knockdown using RT-PCR Primer: CAP-G2 (m)-PR: sc-142000-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.