

kleisin β siRNA (m): sc-146495

BACKGROUND

Chromosome formation and subsequent function require the activity of two condensin complexes, namely condensin I and condensin II, both of which are crucial for proper mitotic chromosome assembly and segregation. Kleisin β , also known as NCAPH2 (non-SMC condensin II complex, subunit H2) or CAPH2, is a 605 amino acid protein that localizes to the nucleus and is specifically distributed along the arms of assembled chromosomes. Existing as a component of the condensin II complex, kleisin β functions as a regulatory protein that assists in establishing mitotic chromosome architecture, possibly by providing an increased level of organization and rigidity to formed chromosomes. In response to DNA damage, kleisin β is subject to phosphorylation by ATM or ATR. Multiple isoforms of kleisin β exist due to alternative splicing events.

REFERENCES

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3. Onn, I., Aono, N., Hirano, M. and Hirano, T. 2007. Reconstitution and subunit geometry of human condensin complexes. *EMBO J.* 26: 1024-1034.
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5. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611230. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Gosling, K.M., Goodnow, C.C., Verma, N.K. and Fahrner, A.M. 2008. Defective T-cell function leading to reduced antibody production in a kleisin β mutant mouse. *Immunology* 125: 208-217.

CHROMOSOMAL LOCATION

Genetic locus: Ncap2 (mouse) mapping to 15 E3.

PRODUCT

kleisin β siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see kleisin β shRNA Plasmid (m): sc-146495-SH and kleisin β shRNA (m) Lentiviral Particles: sc-146495-V as alternate gene silencing products.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

kleisin β siRNA (m) is recommended for the inhibition of kleisin β 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 μ M in 66 μ 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

kleisin β (B-1): sc-393333 is recommended as a control antibody for monitoring of kleisin β 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 κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 kleisin β gene expression knockdown using RT-PCR Primer: kleisin β (m)-PR: sc-146495-PR (20 μ l). 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.