

NC2 α siRNA (m): sc-38092

BACKGROUND

NC2 (negative cofactor 2) is a dimeric histone-fold complex that represses RNA polymerase II transcription through binding to TBP and inhibiting the transcription factors TFIIA and TFIIIB. NC2 consists of two subunits, termed NC2 α and NC2 β , and these subunits dimerize and bind to TBP-promoter complexes via histone fold domains of the H2A-H2B type. NC2 associates with promoters in a manner that correlates with transcriptional activity and with occupancy by basal transcription factors. NC2 binds directly to DNA, and the binding of NC2 to TBP-promoter complexes affects the conformation of DNA, and results in the inhibition of TFIIIB.

REFERENCES

- Goppelt, A. and Meisterernst, M. 1996. Characterization of the basal inhibitor of class II transcription NC2 from *Saccharomyces cerevisiae*. *Nucleic Acids Res.* 24: 4450-4455.
- Goppelt, A., et al. 1996. A mechanism for repression of class II gene transcription through specific binding of NC2 to TBP-promoter complexes via heterodimeric histone fold domains. *EMBO J.* 15: 3105-3116.
- Teichmann, M., et al. 1999. Human TATA-binding protein-related factor-2 (hTRF2) stably associates with hTFIIA in HeLa cells. *Proc. Natl. Acad. Sci. USA* 96: 13720-13725.
- Xie, J., et al. 2000. A single point mutation in TFIIA suppresses NC2 requirement *in vivo*. *EMBO J.* 19: 672-682.
- Geisberg, J.V., et al. 2001. Yeast NC2 associates with the RNA polymerase II preinitiation complex and selectively affects transcription *in vivo*. *Mol. Cell. Biol.* 21: 2736-2742.

CHROMOSOMAL LOCATION

Genetic locus: Drap1 (mouse) mapping to 19 A.

PRODUCT

NC2 α 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NC2 α shRNA Plasmid (m): sc-38092-SH and NC2 α shRNA (m) Lentiviral Particles: sc-38092-V as alternate gene silencing products.

For independent verification of NC2 α (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-38092A, sc-38092B and sc-38092C.

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.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20 $^{\circ}$ C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20 $^{\circ}$ 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

NC2 α siRNA (m) is recommended for the inhibition of NC2 α 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

NC2 α (H-3): sc-374336 is recommended as a control antibody for monitoring of NC2 α 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 NC2 α gene expression knockdown using RT-PCR Primer: NC2 α (m)-PR: sc-38092-PR (20 μ l). Annealing temperature for the primers should be 55-60 $^{\circ}$ C and the extension temperature should be 68-72 $^{\circ}$ C.