SANTA CRUZ BIOTECHNOLOGY, INC.

# CNOT7 siRNA (m): sc-72947

## BACKGROUND

CNOT7 (CCR4-NOT transcription complex, subunit 7), also known as CAF1 (CCR4-associated factor 1), hCAF-1 or BTG1-binding factor 1, is a member of the CAF1 family. Localizing to the nucleus, CNOT7 is ubiquitously expressed and is believed to function as a transcription factor, playing a role in a wide variety of processes. CNOT7 functions as a component of the evolutionarily conserved CCR4-NOT complex, a multi-subunit complex that participates in transcription as well as mRNA degradation. CNOT7 and other subunits of the CCR4-NOT complex play a role in the regulation of nuclear hormone receptor activities. CNOT7 directly binds to and interacts with RXRβ, TOB1, TOB2, BTG1, BTG2 and BTG3. In addition, CNOT7 knockout mice are sterile and show an increase in bone mass, suggesting an important role for CNOT7 in spermatogenesis and as a suppressor of bone mass and BMP (bone morphogenetic protein) actions in osteoblasts.

## REFERENCES


1. Yoshida, Y., et al. 2001. Association of ANA, a member of the antiproliferative Tob family proteins, with a Caf1 component of the CCR4 transcriptional regulatory complex. Jpn. J. Cancer Res. 92: 592-596.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604913. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Flanagan, J., et al. 2003. Analysis of the transcription regulator, CNOT7, as a candidate chromosome 8 tumor suppressor gene in colorectal cancer. Int. J. Cancer 106: 505-509.
4. Ogawa, T., et al. 2004. Abnormal sperm morphology caused by defects in Sertoli cells of Cnot7 knockout mice. Arch. Histol. Cytol. 67: 307-314.
5. Berthet, C., et al. 2004. CCR4-associated factor CAF1 is an essential factor for spermatogenesis. Mol. Cell. Biol. 24: 5808-5820.
6. Nakamura, T., et al. 2004. Oligo-astheno-teratozoospermia in mice lacking Cnot7, a regulator of retinoid X receptor β. Nat. Genet. 36: 528-533.


## CHROMOSOMAL LOCATION

Genetic locus: Cnot7 (mouse) mapping to 8 A4.

## PRODUCT

CNOT7 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 CNOT7 shRNA Plasmid (m): sc-72947-SH and CNOT7 shRNA (m) Lentiviral Particles: sc-72947-V as alternate gene silencing products.

For independent verification of CNOT7 (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-72947A, sc-72947B and sc-72947C.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## 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

CNOT7 siRNA (m) is recommended for the inhibition of CNOT7 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

CNOT7 (18W): sc-101009 is recommended as a control antibody for monitoring of CNOT7 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 CNOT7 gene expression knockdown using RT-PCR Primer: CNOT7 (m)-PR: sc-72947-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## PROTOCOLS

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