SANTA CRUZ BIOTECHNOLOGY, INC.

CNOT2 siRNA (m): sc-72938

BACKGROUND

CNOT2 (CCR4-NOT transcription complex subunit 2) is a ubiquitous protein encoded by the human gene CNOT2. CNOT2 belongs to the CNOT2/3/5 family and is part of the CCR4-NOT complex. The CCR4-NOT complex is an evolutionarily conserved, multi-component complex known to be involved in transcription as well as mRNA degradation. Various subunits (e.g. CNOT1, CNOT2) are involved in influencing nuclear hormone receptor activities. The CCR4-NOT complex is also involved in the regulation of Histone H3 Lysine 4 methylation through a ubiquitin-dependent pathway that likely involves the proteasome. Increased expression of the CNOT2 subunit acts to strongly repress transcription by RNA polymerase II. This repressive effect is mediated by a conserved NOT-Box, which is located at the C-terminus of CNOT2 proteins. Repression by the NOT-Box is sensitive to treatment with the histone deacetylase (HDAC) inhibitor Trichostatin A.

REFERENCES

1. Stein, S., et al. 1997. Differential activation of the clustered homeobox genes CNOT2 and CNOT1 during notogenesis in the chick. Dev. Biol. 180: 519-533.
2. Lemaire, L. and Kessel, M. 1998. Gastrulation and homeobox genes in chick embryos. Mech. Dev. 67: 3-16.
3. Zwartjes, C.G., et al. 2004. Repression of promoter activity by CNOT2, a subunit of the transcription regulatory Ccr4-NOT complex. J. Biol. Chem. 279: 10848-10854.
4. Lenssen, E., et al. 2004. The Ccr4-NOT complex independently controls both Msn2-dependent transcriptional activation—via a newly identified Glc7/Bud14 type I protein phosphatase module—and TFIID promoter distribution. Mol. Cell. Biol. 25: 488-498.
5. Shi, J. and Nelson, M.A. 2005. The cyclin-dependent kinase 11 interacts with NOT2. Biochem. Biophys. Res. Commun. 334: 1310-1316.
6. Winkler, G.S., et al. 2006. Human Ccr4-NOT complex is a ligand-dependent repressor of nuclear receptor-mediated transcription. EMBO J. 25: 3089-3099.

CHROMOSOMAL LOCATION

Genetic locus: Cnot2 (mouse) mapping to 10 D2.

PRODUCT

CNOT2 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 CNOT2 shRNA Plasmid (m): sc-72938-SH and CNOT2 shRNA (m) Lentiviral Particles: sc-72938-V as alternate gene silencing products.

For independent verification of CNOT2 (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-72938A, sc-72938B and sc-72938C.

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

CNOT2 siRNA (m) is recommended for the inhibition of CNOT2 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 CNOT2 gene expression knockdown using RT-PCR Primer: CNOT2 (m)-PR: sc-72938-PR (20 µl, 584 bp). 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.