SANTA CRUZ BIOTECHNOLOGY, INC.

CNOT3 siRNA (h): sc-72939

BACKGROUND

CNOT3 is a widely expressed subunit of the CCR4-NOT transcription complex and belongs to the CNOT2/3/5 family. 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, CNOT3) 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. Similar to CNOT2, CNOT3 contains the specialized protein motif NOT-Box. This conserved motif confers a transcription repression function to CNOT3. Repression by the NOT-Box is sensitive to treatment with the histone deacetylase (HDAC) inhibitor trichostatin A.

REFERENCES

1. Albert, T.K., et al. 2000. Isolation and characterization of human orthologs of yeast CCR4-NOT complex subunits. Nucleic Acids Res. 28: 809-817.
2. Wende, H., et al. 2000. Extensive gene duplications and a large inversion characterize the human leukocyte receptor cluster. Immunogenetics 51: 703-713.
3. Aoki, T., et al. 2002. TBP-interacting protein 120B, which is induced in relation to myogenesis, binds to NOT3. Biochem. Biophys. Res. Commun. 296: 1097-1103.
4. Yin, X., et al. 2005. Identification of novel CBP interacting proteins in embryonic orofacial tissue. Biochem. Biophys. Res. Commun. 329: 1010-1017.
5. Laribee, R.N., et al. 2007. CCR4/NOT complex associates with the proteasome and regulates histone methylation. Proc. Natl. Acad. Sci. USA 104: 5836-5841.
6. Garapaty, S.R., et al. 2008. Components of the CCR4-not complex function as nuclear hormone receptor coactivators via association with the NRC interacting factor, NIF-1. J. Biol. Chem. 283: 6806-6816.

CHROMOSOMAL LOCATION

Genetic locus: CNOT3 (human) mapping to 19q13.42.

PRODUCT

CNOT3 siRNA (h) 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 CNOT3 shRNA Plasmid (h): sc-72939-SH and CNOT3 shRNA (h) Lentiviral Particles: sc-72939-V as alternate gene silencing products.

For independent verification of CNOT3 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-72939A, sc-72939B and sc-72939C.

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

CNOT3 siRNA (h) is recommended for the inhibition of CNOT3 expression in human 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 CNOT3 gene expression knockdown using RT-PCR Primer: CNOT3 (h)-PR: sc-72939-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.