SANTA CRUZ BIOTECHNOLOGY, INC.

CNOX siRNA (h): sc-105222

BACKGROUND

CNOX, also known as ENOX1 (ecto-NOX disulfide-thiol exchanger 1) or PIG38, is a 643 amino acid secreted protein that exists both in the extracellular space and in the cell membrane and contains one RRM (RNA recognition motif) domain. Expressed in lymphocyte cells and present in a variety of cancer tissues, including breast, lung, prostate and ovarian carcinomas, CNOX functions as a terminal oxidase in plasma membrane transport pathways. Specifically, CNOX exhibits copper-dependent protein disulfide-thiol interchange activity and hydroquinone (NADH) oxidase activity, which may be important in cell enlargement and vesicle budding. Due to its presence in the sera of cancer-affected tissue, CNOX is thought to play a role in tumor transformation and metastasis. The gene encoding CNOX maps to human chromosome 13, which houses over 400 genes, such as BRCA2 and RB1, and comprises nearly 4% of the human genome.

REFERENCES

1. Sedlak, D., Moore, D.M. and Moore, D.J. 2001. A drug-unresponsive and protease-resistant CNOX protein from human sera. Arch. Biochem. Biophys. 386: 106-116.
2. Scarlett, D.J., Herst, P.M. and Berridge, M.V. 2005. Multiple proteins with single activities or a single protein with multiple activities: the conundrum of cell surface NADH oxidoreductases. Biochim. Biophys. Acta 1708: 108-119.
3. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 610914. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Jiang, Z., Gorenstein, N.M., Morre, D.M. and Morre, D.J. 2008. Molecular cloning and characterization of a candidate human growth-related and time-keeping constitutive cell surface hydroquinone (NADH) oxidase. Biochemistry 47: 14028-14038.

CHROMOSOMAL LOCATION

Genetic locus: ENOX1 (human) mapping to 13q14.11.

PRODUCT

CNOX 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 CNOX shRNA Plasmid (h): sc-105222-SH and CNOX shRNA (h) Lentiviral Particles: sc-105222-V as alternate gene silencing products.

For independent verification of CNOX (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-105222A, sc-105222B and sc-105222C.

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 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

CNOX siRNA (h) is recommended for the inhibition of CNOX 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 CNOX gene expression knockdown using RT-PCR Primer: CNOX (h)-PR: sc-105222-PR (20 µl). 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.