SANTA CRUZ BIOTECHNOLOGY, INC.

SOXN siRNA (h): sc-92548

BACKGROUND

SOXN (sulfhydryl oxidase 2), also known as QSOX2 or QSCN6L1 (quiescin Q6-like protein 1), is a 698 amino acid secreted protein that is also found in the cell and nuclear membranes. Belonging to the quiescin-sulfhydryl oxidase (QSOX) family, SOXN contains one ERV/ALR sulfhydryl oxidase domain and one thioredoxin domain. While expressed at high levels in pancreas, brain, placenta, kidney, heart and fetal tissues, SOXN is weakly expressed in lung, liver and skeletal muscle. SOXN binds one FAD per subunit and catalyzes the oxidation of sulfhydryl groups in peptide and protein thiols to disulfides with the reduction of oxygen to hydrogen peroxide. In addition, SOXN may play a role in regulating the sensitization of neuroblastoma cells for interferon γ-induced apoptosis. The gene that encodes SOXN consists of nearly 40,000 bases and maps to human chromosome 9q34.3.

REFERENCES

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2. Wittke, I., Wiedemeyer, R., Pillmann, A., Savelyeva, L., Westermann, F. and Schwab, M. 2003. Neuroblastoma-derived sulfhydryl oxidase, a new member of the sulfhydryl oxidase/Quiescin6 family, regulates sensitization to interferon γ-induced cell death in human neuroblastoma cells. Cancer Res. 63: 7742-7752.
3. Heckler, E.J., Alon, A., Fass, D. and Thorpe, C. 2008. Human quiescin-sulfhydryl oxidase, QSOX1: probing internal redox steps by mutagenesis. Biochemistry 47: 4955-4963.
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5. Online Mendelian Inheritance in Man, OMIM™. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 612860. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Kodali, V.K. and Thorpe, C. 2010. Oxidative protein folding and the Quiescin-sulfhydryl oxidase family of flavoproteins. Antioxid. Redox Signal. 13: 1217-1230.
7. Zito, E., Melo, E.P., Yang, Y., Wahlander, A., Neubert, T.A. and Ron, D. 2010. Oxidative protein folding by an endoplasmic reticulum-localized peroxiredoxin. Mol. Cell 40: 787-797.

CHROMOSOMAL LOCATION

Genetic locus: QSOX2 (human) mapping to 9q34.3.

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.

PRODUCT

SOXN 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 SOXN shRNA Plasmid (h): sc-92548-SH and SOXN shRNA (h) Lentiviral Particles: sc-92548-V as alternate gene silencing products.

For independent verification of SOXN (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-92548A, sc-92548B and sc-92548C.

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

SOXN siRNA (h) is recommended for the inhibition of SOXN 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 SOXN gene expression knockdown using RT-PCR Primer: SOXN (h)-PR: sc-92548-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.