



NCX3 siRNA (h): sc-44910

BACKGROUND

Sodium/calcium exchanger proteins are integral membrane proteins primarily seen in cardiac cells. In cardiac myocytes, the concentration of Ca^{2+} alternates between low levels during relaxation and high levels during contraction. NCX3 ($\text{Na}^+/\text{Ca}^{2+}$ -exchange protein 3), also known as SLC8A3 (solute carrier family 8 (sodium/calcium exchanger), member 3), is a 927 amino acid multi-pass membrane protein belonging to the sodium/potassium/calcium exchanger family. Expressed as three alternatively spliced isoforms, NCX3 rapidly transports Ca^{2+} during excitation-contraction coupling. Containing two Calx- β domains, NCX3 is expressed in brain, skeletal muscle and retina. As a major functional sodium-calcium exchanger in osteoblasts, NCX3 is involved in the translocation of Ca^{2+} out of osteoblasts into calcifying bone matrix.

REFERENCES

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7. Formisano, L., et al. 2008. The two isoforms of the $\text{Na}^+/\text{Ca}^{2+}$ exchanger, NCX1 and NCX3, constitute novel additional targets for the prosurvival action of Akt/protein kinase B pathway. *Mol. Pharmacol.* 73: 727-737.
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CHROMOSOMAL LOCATION

Genetic locus: SLC8A3 (human) mapping to 14q24.2.

PROTOCOLS

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

PRODUCT

NCX3 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 NCX3 shRNA Plasmid (h): sc-44910-SH and NCX3 shRNA (h) Lentiviral Particles: sc-44910-V as alternate gene silencing products.

For independent verification of NCX3 (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-44910A, sc-44910B and sc-44910C.

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

NCX3 siRNA (h) is recommended for the inhibition of NCX3 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 NCX3 gene expression knockdown using RT-PCR Primer: NCX3 (h)-PR: sc-44910-PR (20 μl , 491 bp). Annealing temperature for the primers should be $55-60^\circ\text{C}$ and the extension temperature should be $68-72^\circ\text{C}$.

RESEARCH USE

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