SANTA CRUZ BIOTECHNOLOGY, INC.

# DUOXA1 siRNA (m): sc-77193

## BACKGROUND

DUOXA1 (dual oxidase maturation factor 1), also known as NIP or NUMBIP, is a 343 amino acid multi-pass membrane protein that belongs to the DUOXA family and exists as multiple alternatively spliced isoforms. Expressed almost exclusively in thyroid tissue, but also present in esophageal tissue, DUOXA1 interacts with NUMB and is thought to be essential for the maturation and transport of functional DUOX1 from the endoplasmic reticulum to the plasma membrane. The gene encoding DUOXA1 maps to human chromosome 15, which houses over 700 genes and comprises nearly 3% of the human genome. Angelman syndrome, Prader-Willi syndrome, Tay-Sachs disease and Marfan syndrome are all associated with defects in chromosome 15-localized genes.

## REFERENCES


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2. Casenghi, M., et al. 2005. Phosphorylation of NIp by Plk1 negatively regulates its dynein-dynactin-dependent targeting to the centrosome. J. Cell Sci. 118: 5101-5108.
3. Grasberger, H., et al. 2006. Identification of the maturation factor for dual oxidase. Evolution of an eukaryotic operon equivalent. J. Biol. Chem. 281: 18269-18272.
4. Fischer, H., et al. 2007. Developmental regulation of DUOX1 expression and function in human fetal lung epithelial cells. Am. J. Physiol. Lung Cell. Mol. Physiol. 292: L1506-L1514.
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6. Morand, S., et al. 2009. Duox maturation factors form cell surface complexes with Duox affecting the specificity of reactive oxygen species generation. FASEB J. 23: 1205-1218.
7. Rigutto, S., et al. 2009. Activation of dual oxidases Duox1 and Duox2: differential regulation mediated by camp-dependent protein kinase and protein kinase C-dependent phosphorylation. J. Biol. Chem. 284: 6725-6734.


## CHROMOSOMAL LOCATION

Genetic locus: Duoxa1 (mouse) mapping to 2 E5.

## PRODUCT

DUOXA1 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 DUOXA1 shRNA Plasmid (m): sc-77193-SH and DUOXA1 shRNA (m) Lentiviral Particles: sc-77193-V as alternate gene silencing products.

For independent verification of DUOXA1 (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-77193A, sc-77193B and sc-77193C.

## 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

DUOXA1 siRNA (m) is recommended for the inhibition of DUOXA1 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 DUOXA1 gene expression knockdown using RT-PCR Primer: DUOXA1 (m)-PR: sc-77193-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.