SANTA CRUZ BIOTECHNOLOGY, INC.

DUOX1 siRNA (m): sc-60551

BACKGROUND

Dual oxidase 1 (DUOX1), a homolog of glycoprotein p91Phox, is expressed in airway epithelium and generates reactive oxygen species (Ros). DUOX1, also designated NADPH thyroid oxidase or large NOX1, is a multi-pass membrane protein predominantly expressed in thyrocytes and tracheal surface epithelial cells, as well as thyroid, trachea and bronchium. DUOX1 generates hydrogen peroxide, which is crucial for thyroid peroxidase and lactoperoxidase. It is also involved in thyroid hormone synthesis and lactoperoxidase-mediated antimicrobial defense in mucosa. DUOX1, which also plays a role in mucin expression, is widely expressed in fetal tissues.

REFERENCES

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8. Shao, M.X. and Nadel, J.A. 2005. Dual oxidase 1-dependent MUC5AC mucin expression in cultured human airway epithelial cells. Proc. Natl. Acad. Sci. USA 102: 767-772.
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CHROMOSOMAL LOCATION

Genetic locus: Duox1 (mouse) mapping to 2 E5.

PRODUCT

DUOX1 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 DUOX1 shRNA Plasmid (m): sc-60551-SH and DUOX1 shRNA (m) Lentiviral Particles: sc-60551-V as alternate gene silencing products.

For independent verification of DUOX1 (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-60551A, sc-60551B and sc-60551C.

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

DUOX1 siRNA (m) is recommended for the inhibition of DUOX1 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 DUOX1 gene expression knockdown using RT-PCR Primer: DUOX1 (m)-PR: sc-60551-PR (20 µl, 461 bp). 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.

PROTOCOLS

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