SANTA CRUZ BIOTECHNOLOGY, INC.

NELL1 siRNA (h): sc-96693

BACKGROUND

NELL1 (NEL-like 1), also known as NRP1 or IDH3GL (NAD+-dependent isocitrate dehydrogenase 3 gamma-like), is an 810 amino acid secreted protein that contains one TSP N-terminal domain, five VWFC domains and six EGF-like domains. Expressed in craniofacial anomalies, NELL1 exists as a homotrimer that interacts with PKC β and is involved in the regulation of cell growth and differentiation. Human NELL1 shares 50% amino acid identity with its chicken counterpart, suggesting that NELL1 may have a conserved role between species. The gene encoding NELL1 maps to human chromosome 11, which houses over 1,400 genes and comprises nearly 4% of the human genome. Jervell and Lange-Nielsen syndrome, Jacobsen syndrome, Niemann-Pick disease, hereditary angioedema and Smith-Lemli-Opitz syndrome are associated with defects in genes that maps to chromosome 11.

REFERENCES

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3. Luce, M.J. and Burrows, P.D. 1999. The neuronal EGF-related genes NELL1 and NELL2 are expressed in hemopoietic cells and developmentally regulated in the B lineage. Gene 231: 121-126.
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7. Jin, Z., et al. 2007. Hypermethylation of the nel-like 1 gene is a common and early event and is associated with poor prognosis in early-stage esophageal adenocarcinoma. Oncogene 26: 6332-6340.
8. Franke, A., et al. 2007. Systematic association mapping identifies NELL1 as a novel IBD disease gene. PLoS ONE 2: e691.
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CHROMOSOMAL LOCATION

Genetic locus: NELL1 (human) mapping to 11p15.1.

PROTOCOLS

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

PRODUCT

NELL1 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 NELL1 shRNA Plasmid (h): sc-96693-SH and NELL1 shRNA (h) Lentiviral Particles: sc-96693-V as alternate gene silencing products.

For independent verification of NELL1 (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-96693A, sc-96693B and sc-96693C.

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

NELL1 siRNA (h) is recommended for the inhibition of NELL1 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 NELL1 gene expression knockdown using RT-PCR Primer: NELL1 (h)-PR: sc-96693-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.