

Neu4 siRNA (m): sc-149921

BACKGROUND

Neu4 (N-acetyl- α -neuraminidase 4), also known as LP5125, is a 484 amino acid peripheral membrane protein that contains 3 BNR repeats and belongs to the glycosyl hydrolase 33 family. Expressed ubiquitously with highest expression in liver, Neu4 functions as a sialidase that catalyzes the hydrolysis of α -(2 $\rightarrow$ 3)-, α -(2 $\rightarrow$ 6)- and α -(2 $\rightarrow$ 8)- glycosidic linkages of terminal sialic acid residues in synthetic substrates, as well as glycolipids, oligosaccharides and colominic acid. The gene encoding Neu4 maps to human chromosome 2, which houses over 1,400 genes and comprises nearly 8% of the human genome. Harlequin ichthyosis, a rare and morbid skin deformity, is associated with mutations in the ABCA12 gene, while the lipid metabolic disorder sitosterolemia is associated with defects in the ABCG5 and ABCG8 genes. Additionally, an extremely rare recessive genetic disorder, Alström syndrome, is caused by mutations in the ALMS1 gene, which maps to chromosome 2.

REFERENCES

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- Seyrantepe, V., et al. 2004. Neu4, a novel human lysosomal lumen sialidase, confers normal phenotype to sialidosis and galactosialidosis cells. *J. Biol. Chem.* 279: 37021-37029.
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- Stamatos, N.M., et al. 2005. Differential expression of endogenous sialidases of human monocytes during cellular differentiation into macrophages. *FEBS J.* 272: 2545-2556.
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CHROMOSOMAL LOCATION

Genetic locus: Neu4 (mouse) mapping to 1 D.

PRODUCT

Neu4 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Neu4 shRNA Plasmid (m): sc-149921-SH and Neu4 shRNA (m) Lentiviral Particles: sc-149921-V as alternate gene silencing products.

For independent verification of Neu4 (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-149921A, sc-149921B and sc-149921C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Neu4 siRNA (m) is recommended for the inhibition of Neu4 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 μ M in 66 μ l. 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 Neu4 gene expression knockdown using RT-PCR Primer: Neu4 (m)-PR: sc-149921-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

- Sumida, M., et al. 2015. Rapid trimming of cell surface polysialic acid (polySia) by exovesicular sialidase triggers release of preexisting surface neurotrophin. *J. Biol. Chem.* 290: 13202-13214.

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.