SANTA CRUZ BIOTECHNOLOGY, INC.

NYD-SP21 siRNA (h): sc-96937

BACKGROUND

The MS4A gene family in humans includes at least 16 genes that encode membrane proteins typically with tetraspanning topology. Notable genes of this family include CD20 (MS4A1), FcRβ (MS4A2) and Htm4 (MS4A3). Expression of MS4A genes is variable in tissue throughout the body. However, several are limited to cells in the hematopoietic system where they have known roles in immune cell functions. All MS4A genes are clustered on chromosome 11q in humans, in a region linked to allergy and atopy. Belonging to the MS4A family, testis development protein NYD-SP21, also known as MS4A14 (membrane-spanning 4-domains subfamily A member 14), is a 679 amino acid protein that may be involved in signal transduction. NYD-SP21 is localized to the membrane, potentially as a component of a multimeric receptor complex. Three isoforms are produced by alternative splicing events.

REFERENCES

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2. Ishibashi, K., Suzuki, M., Sasaki, S. and Imai, M. 2001. Identification of a new multigene four-transmembrane family (MS4A) related to CD20, HTm4 and β subunit of the high-affinity IgE receptor. Gene 264 87-93.
3. Liang, Y. and Tedder, T.F. 2001. Identification of a CD20-, FcεnRIβ-, and HTm4-related gene family: sixteen new MS4A family members expressed in human and mouse. Genomics 72: 119-127.
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5. Ernst, J.A., Li, H., Kim, H.S., Nakamura, G.R., Yansura, D.G. and Vandlen, R.L. 2005. Isolation and characterization of the B-cell marker CD20. Biochemistry 44: 15150-15158.
6. Tsai, P.S., Evans, J.E., Green, K.M., Sullivan, R.M., Schaumberg, D.A., Richards, S.M., Dana, M.R. and Sullivan, D.A. 2006. Proteomic analysis of human meibomian gland secretions. Br. J. Ophthalmol. 90: 372-377.
7. Zuccolo, J., Bau, J., Childs, S.J., Goss, G.G., Sensen, C.W. and Deans, J.P. 2010. Phylogenetic analysis of the MS4A and TMEM176 gene families. PLoS ONE 5: e9369.

CHROMOSOMAL LOCATION

Genetic locus: MS4A14 (human) mapping to 11q12.2.

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.

PRODUCT

NYD-SP21 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 NYD-SP21 shRNA Plasmid (h): sc-96937-SH and NYD-SP21 shRNA (h) Lentiviral Particles: sc-96937-V as alternate gene silencing products.

For independent verification of NYD-SP21 (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-96937A, sc-96937B and sc-96937C.

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

NYD-SP21 siRNA (h) is recommended for the inhibition of NYD-SP21 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 NYD-SP21 gene expression knockdown using RT-PCR Primer: NYD-SP21 (h)-PR: sc-96937-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.