SANTA CRUZ BIOTECHNOLOGY, INC.

Siglec-15 siRNA (h): sc-76497

BACKGROUND

Two families of mammalian lectin-like adhesion molecules, the selectins and the sialoadhesins, bind glycoconjugate ligands in a sialic acid-dependent manner. The sialic acid-binding immunoglobulin superfamily lectins, designated Siglecs or sialoadhesins, recognize sialylated ligands and play a key role in mediating sialic-acid dependent binding to cells. Siglec-15 (sialic acid binding Ig-like lectin 15), also known as CD33L3, is a 328 amino acid single-pass type I membrane protein that contains one Ig-like C2-type domain and one Ig-like V-type domain. Expressed in dendritic and macrophage cells, Sinlec-15 interacts with DAP10 and DAP12 and binds to sialylated glycoproteins. The gene encoding Siglec-15 maps to human chromosome 18, which houses over 300 protein-coding genes and contains nearly 76 million bases.

REFERENCES

1. Crocker, P.R. 2002. Siglecs: sialic-acid-binding immunoglobulin-like lectins in cell-cell interactions and signalling. Curr. Opin. Struct. Biol. 12: 609-615.
2. Crocker, P.R. 2005. Siglecs in innate immunity. Curr. Opin. Pharmacol. 5: 431-437.
3. Angata, T. 2006. Molecular diversity and evolution of the Siglec family of cell-surface lectins. Mol. Divers. 10: 555-566.
4. Angata, T., Tabuchi, Y., Nakamura, K. and Nakamura, M. 2007. Siglec-15: an immune system Siglec conserved throughout vertebrate evolution. Glycobiology 17: 838-846.
5. Crocker, P.R., Paulson, J.C. and Varki, A. 2007. Siglecs and their roles in the immune system. Nat. Rev. Immunol. 7: 255-266.
6. von Gunten, S. and Bochner, B.S. 2008. Basic and clinical immunology of Siglecs. Ann. N.Y. Acad. Sci. 1143: 61-82.
7. Crocker, P.R. and Redelinghuys, P. 2008. Siglecs as positive and negative regulators of the immune system. Biochem. Soc. Trans. 36: 1467-1471.

CHROMOSOMAL LOCATION

Genetic locus: SIGLEC15 (human) mapping to 18q12.3.

PRODUCT

Siglec-15 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 Siglec-15 shRNA Plasmid (h): sc-76497-SH and Siglec-15 shRNA (h) Lentiviral Particles: sc-76497-V as alternate gene silencing products.

For independent verification of Siglec-15 (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-76497A, sc-76497B and sc-76497C.

PROTOCOLS

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

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

Siglec-15 siRNA (h) is recommended for the inhibition of Siglec-15 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 Siglec-15 gene expression knockdown using RT-PCR Primer: Siglec-15 (h)-PR: sc-76497-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.