

Siglec-6 siRNA (h): sc-72251

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-6, also called obesity-binding protein 1, is an adhesion molecule that is highly expressed in placental trophoblasts, as well as in peripheral blood leukocytes. Siglec-6 can bind both N-acetylneuraminic acid (Neu5Ac) and N-glycolylneuraminic acid (Neu5Gc), the two common sialic acids found in mammalian cells. Together with the other members of the Siglec family, Siglec-6 promotes cell-cell interactions and plays a roll in the innate and adaptive immune systems through glycan recognition.

REFERENCES

1. Patel, N., et al. 1999. OB-BP1/Siglec-6. a leptin- and sialic acid-binding protein of the immunoglobulin superfamily. *J. Biol. Chem.* 274: 22729-22738.
2. Brinkman-Van der Linden, E.C. and Varki, A. 2000. New aspects of siglec binding specificities, including the significance of fucosylation and of the sialyl-Tn epitope. *Sialic acid-binding immunoglobulin superfamily lectins. J. Biol. Chem.* 275: 8625-8632.
3. Brinkman-Van der Linden, E.C., et al. 2000. Loss of N-glycolylneuraminic acid in human evolution. Implications for sialic acid recognition by siglecs. *J. Biol. Chem.* 275: 8633-8640.
4. Yousef, G.M., et al. 2002. Genomic organization of the siglec gene locus on chromosome 19q13.4 and cloning of two new siglec pseudogenes. *Gene* 286: 259-270.
5. Blixt, O., et al. 2003. Sialoside specificity of the siglec family assessed using novel multivalent probes: identification of potent inhibitors of myelin-associated glycoprotein. *J. Biol. Chem.* 278: 31007-31019.
6. Lock, K., et al. 2004. Expression of CD33-related siglecs on human mononuclear phagocytes, monocyte-derived dendritic cells and plasmacytoid dendritic cells. *Immunobiology* 209: 199-207.

CHROMOSOMAL LOCATION

Genetic locus: SIGLEC6 (human) mapping to 19q13.41.

PRODUCT

Siglec-6 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Siglec-6 shRNA Plasmid (h): sc-72251-SH and Siglec-6 shRNA (h) Lentiviral Particles: sc-72251-V as alternate gene silencing products.

For independent verification of Siglec-6 (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-72251A, sc-72251B and sc-72251C.

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

Siglec-6 siRNA (h) is recommended for the inhibition of Siglec-6 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 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 Siglec-6 gene expression knockdown using RT-PCR Primer: Siglec-6 (h)-PR: sc-72251-PR (20 μ l). 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.