SANTA CRUZ BIOTECHNOLOGY, INC.

# Siglec-10 siRNA (h): sc-97663

## BACKGROUND

Siglec-10 (Sialic acid-binding Ig-like lectin 10) is a 697 amino acid protein belonging to the immunoglobulin superfamily. The N-terminal Ig-like domain of Siglec-10 contains a sialic acid-binding site and the C-terminal cytoplasmic region of Siglec-10 contains two immunoreceptor tyrosine-based inhibitor motifs (ITIMs), which are involved in the modulation of cellular responses through SH2 domains. With most expression in spleen, bone marrow and peripheral blood lymphocytes, such as monocytes, natural killer calls and eosinophils, it is likely that Siglec-10 functions as an inhibitory receptor in the immune response. Importantly, Siglec-10 mRNA is found to be highly upregulated in eosinophils at sites of inflammation in asthmatics, suggesting that Siglec-10 may be an appropriate target for new approaches of immunomodulatory therapy. There are six named isoforms of Siglec-10 that are a result of alternative splicing. All isoforms exists as single-pass transmembrane proteins, except for isoform 6, which is secreted.

## REFERENCES


1. Yousef, G.M., et al. 2001. Molecular characterization, tissue expression, and mapping of a novel Siglec-like gene (SLG2) with three splice variants. Biochem. Biophys. Res. Commun. 284: 900-910.
2. Munday, J., et al. 2001. Identification, characterization and leucocyte expression of Siglec-10, a novel human sialic acid-binding receptor. Biochem. J. 355: 489-497.
3. Whitney, G., et al. 2001. A new siglec family member, Siglec-10, is expressed in cells of the immune system and has signaling properties similar to CD33. Eur. J. Biochem. 268: 6083-6096.
4. Li, N., et al. 2001. Cloning and characterization of Siglec-10, a novel sialic acid binding member of the Ig superfamily, from human dendritic cells. J. Biol. Chem. 276: 28106-28112.
5. Kitzig, F., et al. 2002. Cloning of two new splice variants of Siglec-10 and mapping of the interaction between Siglec-10 and SHP-1. Biochem. Biophys. Res. Commun. 296: 355-362.


## CHROMOSOMAL LOCATION

Genetic locus: SIGLEC10 (human) mapping to 19q13.33.

## PRODUCT

Siglec-10 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-10 shRNA Plasmid (h): sc-97663-SH and Siglec-10 shRNA (h) Lentiviral Particles: sc-97663-V as alternate gene silencing products.

For independent verification of Siglec-10 (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-97663A, sc-97663B and sc-97663C.

## 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-10 siRNA (h) is recommended for the inhibition of Siglec-10 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.

## GENE EXPRESSION MONITORING

Siglec-10 (1D11): sc-293355 is recommended as a control antibody for monitoring of Siglec-10 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Siglec-10 gene expression knockdown using RT-PCR Primer: Siglec-10 (h)-PR: sc-97663-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.