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Siglec-G siRNA (m): sc-153463

BACKGROUND

Siglec-G, also known as Siglec10, is a 688 amino acid membrane protein expressed highly in B-1 lymphocyte cells. B-1 cells are important to the humoral immune response by producing antibodies against antigens and acting as antigen presenting cells (APCs). Siglec-G is believed to be a B-1 cell inhibitory receptor. Siglec-G, along with CD24, also acts to selectively suppress tissue damage-induced immune responses. The gene that encodes Siglec-G maps to mouse chromosome 7. Many of the mouse homologs of genes on chromosome 7 are located on human chromosome 19. Around 63 million bases with over 1,400 genes, chromosome 19 makes up over 2% of human genomic DNA. Chromosome 19 includes a diversity of interesting genes and is recognized for having the greatest gene density of the human chromosomes. It is the genetic home for a number of immunoglobulin superfamily members including the killer cell and leukocyte Ig-like receptors, a number of ICAMs, the CEACAM and PSG family, and Fc α receptors. Key genes for eye color and hair color also map to chromosome 19. Peutz-Jeghers syndrome, spinocerebellar ataxia type 6, the stroke disorder CADASIL, hypercholesterolemia and Insulin-dependent diabetes have been linked to chromosome 19.

REFERENCES

- Zimmermann, W., et al. 1988. Chromosomal localization of the carcinoembryonic antigen gene family and differential expression in various tumors. *Cancer Res.* 48: 2550-2554.
- Stubbs, L., et al. 1996. Detailed comparative map of human chromosome 19q and related regions of the mouse genome. *Genomics* 35: 499-508.
- Buchet-Poyau, K., et al. 2002. Search for the second Peutz-Jeghers syndrome locus: exclusion of the STK13, PRKCG, KLK10, and PSCD2 genes on chromosome 19 and the STK11IP gene on chromosome 2. *Cytogenet. Genome Res.* 97: 171-178.
- Wang, H., et al. 2003. Organization and evolution of the Cyp2 gene cluster on mouse chromosome 7, and comparison with the syntenic human cluster. *Environ. Health Perspect.* 111: 1835-1842.

CHROMOSOMAL LOCATION

Genetic locus: Siglecg (mouse) mapping to 7 B4.

PRODUCT

Siglec-G 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 Siglec-G shRNA Plasmid (m): sc-153463-SH and Siglec-G shRNA (m) Lentiviral Particles: sc-153463-V as alternate gene silencing products.

For independent verification of Siglec-G (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-153463A, sc-153463B and sc-153463C.

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 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-G siRNA (m) is recommended for the inhibition of Siglec-G 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 Siglec-G gene expression knockdown using RT-PCR Primer: Siglec-G (m)-PR: sc-153463-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.