SANTA CRUZ BIOTECHNOLOGY, INC.

CLEC-2B siRNA (h): sc-95808

BACKGROUND

The C-type lectin/C-type lectin-like domain (CTL/CTLD) superfamily consists of a variety of proteins that share a common protein fold and have diverse functions, including cell-cell signaling, cell adhesion, glycoprotein turnover and immune responses. CLEC-2B (C-type lectin domain family 2 member B), also known as IFNRG1 (IFN-α2b-inducing-related protein 1) and AICL (activation-induced C-type lectin), is a 149 amino acid membrane protein that contains one extracellular C-type lectin domain near its carboxyl-terminus. The CLEC-2B gene is located within the natural killer gene complex, which includes genes encoding for CD69, CLEC-2D, CD161 and CD94. Since downregulation of CLEC-2B reduces NK cell-mediated cytotoxicity towards target cells and it is expressed in lymphoid tissues, CLEC-2B is thought play a role in the immune system.

REFERENCES

1. Hamann, J., et al. 1997. AICL: a new activation-induced antigen encoded by the human NK gene complex. Immunogenetics 45: 295-300.
2. Yokoyama-Kobayashi, M., et al. 1999. Selection of cDNAs encoding putative type II membrane proteins on the cell surface from a human full-length cDNA bank. Gene 228: 161-167.
3. Renedo, M., et al. 2000. A sequence-ready physical map of the region containing the human natural killer gene complex on chromosome 12p12.3-p13.2. Genomics 65: 129-136.
4. Eichler, W., et al. 2001. Differentially induced expression of C-type lectins in activated lymphocytes. J. Cell. Biochem. 36: 201-208.
5. Welte, S., et al. 2006. Mutual activation of natural killer cells and monocytes mediated by NKp80-AICL interaction. Nat. Immunol. 7: 1334-1342.
6. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 603242. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Thomas, M., et al. 2008. Natural killer cell evasion by an E3 ubiquitin ligase from Kaposi's sarcoma-associated herpesvirus. Biochem. Soc. Trans. 36: 459-463.
8. Kuttruff, S., et al. 2009. NKp80 defines and stimulates a reactive subset of CD8 T cells. Blood 113: 358-369.

CHROMOSOMAL LOCATION

Genetic locus: CLEC2B (human) mapping to 12p13.31.

PRODUCT

CLEC-2B 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 CLEC-2B shRNA Plasmid (h): sc-95808-SH and CLEC-2B shRNA (h) Lentiviral Particles: sc-95808-V as alternate gene silencing products.

For independent verification of CLEC-2B (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-95808A, sc-95808B and sc-95808C.

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

CLEC-2B siRNA (h) is recommended for the inhibition of CLEC-2B 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 CLEC-2B gene expression knockdown using RT-PCR Primer: CLEC-2B (h)-PR: sc-95808-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.

PROTOCOLS

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