SANTA CRUZ BIOTECHNOLOGY, INC.

CLEC-2 siRNA (h): sc-95956

BACKGROUND

CLEC-2 (C-type lectin-like receptor 2), also referred to as C-type lectin domain family 1 member B, is a monomeric, single pass, type II membrane protein belonging to a non-classical C-type lectin class of platelet activating receptors. It is expressed on the surface of platelets, immune cells of myeloid origin and in liver. C-type lectin receptors play important roles in pathogen recognition within the immune system. CLEC-2 acts as a receptor for the snake venom protein, rhodocytin. It also acts as a co-receptor for HIV-1, promoting virus capture by cells and platelets. Activation of CLEC-2 involves the tyrosine phosphorylation of its cytoplasmic tail. It signals by the activation of PLCγ2 through Src and Syk dependent pathways which lead to platelet activation and aggregation. In addition, CLEC-2 interacts with podoplanin, a sialoglycoprotein, and together they may regulate tumor growth and play a role in the formation of lymphatic vessels.

REFERENCES

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3. Chaipan, C., et al. 2006. DC-SIGN and CLEC-2 mediate human immunodeficiency virus type 1 capture by platelets. J. Virol. 80: 8951-8960.
4. Suzuki-Inoue, K., et al. 2006. A novel Syk-dependent mechanism of platelet activation by the C-type lectin receptor CLEC-2. Blood 107: 542-549.
5. Fuller, G.L., et al. 2007. The C-type lectin receptors CLEC-2 and Dectin, but not DC-SIGN, signal via a novel YXXL-dependent signaling cascade. J. Biol. Chem. 282: 12397-12409.
6. Suzuki-Inoue, K., et al. 2007. Involvement of the snake toxin receptor CLEC-2 in podoplanin-mediated platelet activation by cancer cells. J. Biol. Chem. 282: 25993-26001.
7. Kanazawa, N. 2007. Dendritic cell immunoreceptors: C-type lectin receptors for pattern-recognition and signaling on antigen-presenting cells. J. Dermatol. Sci. 45: 77-86.
8. Dhanjal, T.S., et al. 2007. Minimal regulation of platelet activity by PECAM-1. Platelets 18: 56-67.
9. Watson, A.A., et al. 2007. The crystal structure and mutational binding analysis of the extracellular domain of the platelet-activating receptor CLEC-2. J. Biol. Chem. 282: 3165-3172.

CHROMOSOMAL LOCATION

Genetic locus: CLEC1B (human) mapping to 12p13.2.

PROTOCOLS

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

PRODUCT

CLEC-2 siRNA (h) is a pool of 2 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-2 shRNA Plasmid (h): sc-95956-SH and CLEC-2 shRNA (h) Lentiviral Particles: sc-95956-V as alternate gene silencing products.

For independent verification of CLEC-2 (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-95956A and sc-95956B.

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-2 siRNA (h) is recommended for the inhibition of CLEC-2 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

CLEC-2 (53Ex9): sc-73851 is recommended as a control antibody for monitoring of CLEC-2 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CLEC-2 gene expression knockdown using RT-PCR Primer: CLEC-2 (h)-PR: sc-95956-PR (20 µl, 444 bp). 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.