SANTA CRUZ BIOTECHNOLOGY, INC.

CLEC-1 siRNA (m): sc-60397

BACKGROUND

The human β-glucan protein (Dectin-1) is a small, type II transmembrane receptor that enables β-glucan dependent, nonopsonic recognition of zymosan and other yeast-derived particles by primary macrophages. Dectin-1 is the human homolog of the C-type (calcium dependent) lectin-like receptor (CLEC) family that play an important role in regulating innate immunity. CLEC-1 is a 280 amino acid single-pass type II transmembrane protein expressed in dendritic and endothelial cells. It accumulates in perinuclear compartments and requires an associated chain to reach the cell surface. CLEC-1 is involved in antigen uptake and is homologous to the natural killer (NK) cell receptors, NKG2s and CD94, that interact with major histocompatibility complex class I molecules and either inhibit or activate cytotoxicity and cytokine secretion. It has a single carbohydrate recognition domain with six conserved and two additional cysteine residues. Additionally, CLEC-1 has a cytoplasmic immunoreceptor tyrosine-based motif and many potential phosphorylation sites.

REFERENCES

1. Colonna, M., et al. 2000. Molecular characterization of two novel C-type lectin-like receptors, one of which is selectively expressed in human dendritic cells. Eur. J. Immunol. 30: 697-704.
2. Sobanov, Y., et al. 2001. A novel cluster of lectin-like receptor genes expressed in monocytic, dendritic and endothelial cells maps close to the NK receptor genes in the human NK gene complex. Eur. J. Immunol. 31: 3493-3503.
3. Lu, Q., et al. 2005. Snake venom C-type lectins interacting with platelet receptors. Structure-function relationships and effects on haemostasis. Toxicon 45: 1089-1098.
4. Rosen, D.B., et al. 2005. Cutting edge: lectin-like transcript-1 is a ligand for the inhibitory human NKR-P1A receptor. J. Immunol. 175: 7796-7799.
5. Rupp, C., et al. 2006. Mouse endosialin, a C-type lectin-like cell surface receptor: expression during embryonic development and induction in experimental cancer neoangiogenesis. Cancer Immun. 6: 10.
6. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 606782. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: Clec1a (mouse) mapping to 6 F3.

PRODUCT

CLEC-1 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CLEC-1 shRNA Plasmid (m): sc-60397-SH and CLEC-1 shRNA (m) Lentiviral Particles: sc-60397-V as alternate gene silencing products.

For independent verification of CLEC-1 (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-60397A, sc-60397B and sc-60397C.

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-1 siRNA (m) is recommended for the inhibition of CLEC-1 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 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-1 gene expression knockdown using RT-PCR Primer: CLEC-1 (m)-PR: sc-60397-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.