SANTA CRUZ BIOTECHNOLOGY, INC.

CLEC-6 siRNA (m): sc-60399

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 expressed in dendritic cells and is the human homolog of the C-type (calcium dependent) lectin-like receptor (CLEC) family that plays an important role in regulating innate immunity. The CLEC protein structure has a specific fold that provides a highly static scaffold for combinatorial display of variable antigen residues. This fold differs from the classic immunoglobulin fold, illustrating an evolutionary solution for balancing diversity against stability. CLEC-6 is a single-pass, type II transmembrane protein that is highly expressed in bone marrow and spleen and weakly expressed in peripheral blood leukocytes. CLEC-6 may function as a receptor in the antigen uptake at the infection location.

REFERENCES

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3. 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.
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5. Gavino, A.C., et al. 2005. Identification and expression profiling of a human C-type lectin, structurally homologous to mouse Dectin-2. Exp. Dermatol. 14: 281-288.
6. McMahon, S.A., et al. 2005. The C-type lectin fold as an evolutionary solution for massive sequence variation. Nat. Struct. Mol. Biol. 12: 886-892.
7. Chaipan, C., et al. 2006. DC-SIGN and CLEC-2 mediate human immunodeficiency virus type 1 capture by platelets. J. Virol. 80: 8951-8960.
8. Watson, A.A. and O'Callaghan, C.A. 2006. Crystallization and X-ray diffraction analysis of human CLEC-2. Acta Crystallogr. Sect. F, Struct. Biol. Cryst. Commun. 61: 1094-1096.

CHROMOSOMAL LOCATION

Genetic locus: Clec4d (mouse) mapping to 6 F2.

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.

PRODUCT

CLEC-6 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-6 shRNA Plasmid (m): sc-60399-SH and CLEC-6 shRNA (m) Lentiviral Particles: sc-60399-V as alternate gene silencing products.

For independent verification of CLEC-6 (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-60399A, sc-60399B and sc-60399C.

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-6 siRNA (m) is recommended for the inhibition of CLEC-6 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-6 gene expression knockdown using RT-PCR Primer: CLEC-6 (m)-PR: sc-60399-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.