SANTA CRUZ BIOTECHNOLOGY, INC.

CLEC-4F siRNA (h): sc-94556

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-4F (C-type lectin domain family 4 member F), also known as CLECSF13 (C-type lectin superfamily member 13) or KCLR, is a 589 amino acid single-pass type II membrane protein that contains one C-type lectin domain and belongs to the CTL/CTLD superfamily. Functioning as a receptor, CLEC-4F has affinity for fucose and galactose, and is thought to have a role in endocytosis. The gene encoding CLEC-4F maps to human chromosome 2, which consists of 237 million bases, encodes over 1,400 genes and makes up approximately 8% of the human genome. A number of genetic diseases are linked to genes on chromosome 2, including Harlequin icthyosis, sitosterolemia and Alström syndrome.

REFERENCES

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3. Arce, I., et al. 2001. Molecular and genomic characterization of human DLEC, a novel member of the C-type lectin receptor gene family preferentially expressed on monocyte-derived dendritic cells. Eur. J. Immunol. 31: 2733-2740.
4. Hearn, T., et al. 2002. Mutation of ALMS1, a large gene with a tandem repeat encoding 47 amino acids, causes Alström syndrome. Nat. Genet. 31: 79-83.
5. Ebner, S., et al. 2003. Evolutionary analysis reveals collective properties and specificity in the C-type lectin and lectin-like domain superfamily. Proteins 53: 44-55.
6. Kelsell, D.P., et al. 2005. Mutations in ABCA12 underlie the severe congenital skin disease harlequin ichthyosis. Am. J. Hum. Genet. 76: 794-803.
7. 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.

CHROMOSOMAL LOCATION

Genetic locus: CLEC4F (human) mapping to 2p13.3.

PRODUCT

CLEC-4F 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-4F shRNA Plasmid (h): sc-94556-SH and CLEC-4F shRNA (h) Lentiviral Particles: sc-94556-V as alternate gene silencing products.

For independent verification of CLEC-4F (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-94556A, sc-94556B and sc-94556C.

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-4F siRNA (h) is recommended for the inhibition of CLEC-4F 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-4F gene expression knockdown using RT-PCR Primer: CLEC-4F (h)-PR: sc-94556-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.