SANTA CRUZ BIOTECHNOLOGY, INC.

CRLF1 siRNA (m): sc-142576

BACKGROUND

CRLF1 (cytokine receptor-like factor 1), also known as CLF-1 (cytokine-like factor 1), CLF, NR6, zcytor5 or CISS, is a 422 amino acid secreted protein that interacts with cells expressing ciliary neurotrophic factor receptors. A cytokine receptor subunit belonging to the type I cytokine receptor family and type 3 subfamily, CRLF1 is thought to play a role in fetal nervous system development and immunity. CRLF1 is highly expressed in stomach, placenta, heart, ovary, thyroid, bone marrow, appendix, lymph node, spleen, thymus and fetal lung, and promotes neuronal cell survival. Defects in the gene encoding CRLF1 are linked to the development of cold-induced sweating syndrome type 1 (CISS1) and Crisponi syndrome, both of which are autosomal recessive disorders. CISS1 is characterized by profuse sweating induced by cool surroundings. Crisponi syndrome is characterized by feeding and respiratory difficulties, hyperthermia, dysmorphic features and congenital muscular contractions of facial muscles. The majority of cases of Crisponi syndrome result in sudden death.

REFERENCES

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3. Elson, G.C., et al. 1998. Cytokine-like factor-1, a novel soluble protein, shares homology with members of the cytokine type I receptor family. J. Immunol. 161: 1371-1379.
4. Lesser, S.S. and Lo, D.C. 2000. CNTF II, I presume? Nat. Neurosci. 3: 851-852.
5. Elson, G.C., et al. 2000. CLF associates with CLC to form a functional heteromeric ligand for the CNTF receptor complex. Nat. Neurosci. 3: 867-872.
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7. Dagoneau, N., et al. 2007. Mutations in cytokine receptor-like factor 1 (CRLF1) account for both Crisponi and cold-induced sweating syndromes. Am. J. Hum. Genet. 80: 966-970.
8. Crisponi, L., et al. 2007. Crisponi syndrome is caused by mutations in the CRLF1 gene and is allelic to cold-induced sweating syndrome type 1. Am. J. Hum. Genet. 80: 971-981.
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CHROMOSOMAL LOCATION

Genetic locus: Crlf1 (mouse) mapping to 8 B3.3.

PROTOCOLS

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

PRODUCT

CRLF1 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 CRLF1 shRNA Plasmid (m): sc-142576-SH and CRLF1 shRNA (m) Lentiviral Particles: sc-142576-V as alternate gene silencing products.

For independent verification of CRLF1 (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-142576A, sc-142576B and sc-142576C.

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

CRLF1 siRNA (m) is recommended for the inhibition of CRLF1 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 CRLF1 gene expression knockdown using RT-PCR Primer: CRLF1 (m)-PR: sc-142576-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.