SANTA CRUZ BIOTECHNOLOGY, INC.

IL-21 siRNA (m): sc-39663

BACKGROUND

Interleukins are a group of cytokines produced by a wide variety of cells. Interleukin 21 (IL-21) is a small secreted interleukin molecule that has potent effects on lymphoid cells. Specifically, IL-21 stimulates B cell proliferation in an anti-CD40-dependent manner, and also activates anti-CD3-regulated stimulation of the proliferation of naive (CD45RA-positive) cytotoxic T cells. IL-21 is regulated by the T-helper cell subset-specific action of Tbet, which represses its expression, and NFATc2, which promotes its expression. IL-21 is most closely related to IL-2 and IL-15, and it plays an important role in the proliferation and maturation of natural killer (NK) cell populations from bone marrow, though this role differs between species. Human IL-21 enhances NK cell proliferation, but murine IL-21 inhibits NK cell proliferation.

REFERENCES

1. Ford, R., et al. 1995. Identification of B cell growth factors (interleukin-14; high molecular weight-B cell growth factors) in effusion fluids from patients with aggressive B cell lymphomas. Blood 86: 283-293.
2. Gallagher, G., et al. 2000. Cloning, expression and initial characterization of interleukin-19 (IL-19), a novel homologue of human interleukin-10 (IL-10). Genes Immun. 1: 442-450.
3. Parrish-Novak, J., et al. 2000. Interleukin 21 and its receptor are involved in NK cell expansion and regulation of lymphocyte function. Nature 408: 57-63.
4. Blumberg, H., et al. 2001. Interleukin-20: discovery, receptor identification, and role in epidermal function. Cell 104: 9-19.
5. Vosshenrich, C.A. and Di Santo, J.P. 2001. Cytokines: IL-21 joins the γ_c-dependent network? Curr. Biol. 11: R175-177.
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CHROMOSOMAL LOCATION

Genetic locus: Il21 (mouse) mapping to 3 B.

PRODUCT

IL-21 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 IL-21 shRNA Plasmid (m): sc-39663-SH and IL-21 shRNA (m) Lentiviral Particles: sc-39663-V as alternate gene silencing products.

For independent verification of IL-21 (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-39663A, sc-39663B and sc-39663C.

PROTOCOLS

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

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

IL-21 siRNA (m) is recommended for the inhibition of IL-21 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 IL-21 gene expression knockdown using RT-PCR Primer: IL-21 (m)-PR: sc-39663-PR (20 µl, 573 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.