

IL-15 siRNA (m): sc-39646

BACKGROUND

Interleukin-15 (IL-15), also designated IL-T, is a cloned cytokine which shares several biological activities but no sequence homology with IL-2. Human, mouse and simian IL-15 cDNA clones have been isolated and characterized. All three species encode a 162 amino acid residue precursor protein containing a 48 amino acid leader that is cleaved to generate the mature form of IL-15. IL-15 stimulates the proliferation of T cells and NK cells, while enhancing B cell expansion and antibody production. Unlike IL-2, IL-15 is not produced by lymphocytes, but appears to be produced by macrophages, epithelial lines, muscle and placenta. IL-15 has also been shown to be a chemoattractant for human blood T lymphocytes and to be able to induce lymphokine-activated killer (LAK) activity in NK cells as well as to be able to induce the generation of cytolytic effector cells. Studies have shown that IL-15 is the only other cytokine that shares the β signaling subunit of the IL-2R. Evidence also suggests that like IL-2, IL-4 and IL-7, IL-15 utilizes the common IL-2R γ subunit.

REFERENCES

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3. Giri, J.G., et al. 1994. Utilization of the β and γ chains of the IL-2 receptor by the novel cytokine IL-15. *EMBO J.* 13: 2822-2830.
4. Anderson, D.M., et al. 1995. Functional characterization of the human interleukin-15 receptor α chain and close linkage of IL15RA and IL2RA genes. *J. Biol. Chem.* 270: 29862-29869.
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6. Mohamadzadeh, M., et al. 1995. Ultraviolet B radiation upregulates the expression of IL-15 in human skin. *J. Immunol.* 155: 4492-4496.
7. Doherty, T.M., et al. 1996. Induction and regulation of IL-15 expression in murine macrophages. *J. Immunol.* 156: 735-741.

CHROMOSOMAL LOCATION

Genetic locus: IL15 (mouse) mapping to 8 C2.

PRODUCT

IL-15 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see IL-15 shRNA Plasmid (m): sc-39646-SH and IL-15 shRNA (m) Lentiviral Particles: sc-39646-V as alternate gene silencing products.

For independent verification of IL-15 (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-39646A, sc-39646B and sc-39646C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

IL-15 siRNA (m) is recommended for the inhibition of IL-15 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 μ M in 66 μ l. 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-15 gene expression knockdown using RT-PCR Primer: IL-15 (m)-PR: sc-39646-PR (20 μ l, 582 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.

PROTOCOLS

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