



IL-9 siRNA (m): sc-39633

BACKGROUND

Interleukin-9, or IL-9, is a TH2 cytokine that has been shown to promote the antigen-independent growth of some T helper clones. IL-9 is a pleiotropic cytokine with multiple functions on cells of lymphoid, myeloid and mast cell lineages. Both mouse and human cDNAs encode 144 amino acid precursors with 18 amino acid residue signal peptides that are cleaved to form the mature biologically active glycoprotein. Although IL-9 is constitutively expressed *in vitro* by several transformed T cell lines, IL-9 expression can be induced in human peripheral blood T lymphocytes by T cell activators such as phorbol esters (PHA) and anti-CD3 antibodies. IL-9 exerts its biological effects through the interleukin-9 receptor, IL-9R. IL-9R is composed of at least two subunits: the IL-2 receptor γ chain, which is common to the IL-2, IL-4, IL-7 and IL-15 receptors, and one specific to the IL-9 receptor.

REFERENCES

1. Van Snick, J., et al. 1989. Cloning and characterization of a cDNA for a new mouse T cell growth factor (P40). *J. Exp. Med.* 169: 363-368.
2. Renauld, J.C., et al. 1990. Cloning and expression of a cDNA for the human homolog of mouse T cell and mast cell growth factor P40. *Cytokine* 2: 9-12.
3. Gessner, A., et al. 1993. Differential regulation of IL-9-expression after infection with *Leishmania major* in susceptible and resistant mice. *Immunobiology* 189: 419-435.
4. Houssiau, F.A., et al. 1995. A cascade of cytokines is responsible for IL-9 expression in human T cells. Involvement of IL-2, IL-4 and IL-10. *J. Immunol.* 154: 2624-2630.
5. Louahed, J., et al. 1995. IL-9 induces expression of granzymes and high-affinity IgE receptor in murine T helper clones. *J. Immunol.* 154: 5061-5070.
6. Kimura, Y., et al. 1995. Sharing of the IL-2 receptor γ chain with the functional IL-9 receptor complex. *Int. Immunol.* 7: 115-120.
7. Tsicopoulos, A., et al. 2004. Involvement of IL-9 in the bronchial phenotype of patients with nasal polyposis. *J. Allergy Clin. Immunol.* 113: 462-469.
8. Nagato, T., et al. 2005. Expression of interleukin-9 in nasal natural killer/T-cell lymphoma cell lines and patients. *Clin. Cancer Res.* 11: 8250-8257.

CHROMOSOMAL LOCATION

Genetic locus: IL9 (mouse) mapping to 13 B1.

PRODUCT

IL-9 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-9 shRNA Plasmid (m): sc-39633-SH and IL-9 shRNA (m) Lentiviral Particles: sc-39633-V as alternate gene silencing products.

For independent verification of IL-9 (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-39633A, sc-39633B and sc-39633C.

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-9 siRNA (m) is recommended for the inhibition of IL-9 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-9 gene expression knockdown using RT-PCR Primer: IL-9 (m)-PR: sc-39633-PR (20 μ l). 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.