

IL-11R α siRNA (m): sc-35648

BACKGROUND

The pleiotropic cytokine, IL-11, has been shown to have proliferative and differentiation effects on lymphopoietic, myeloid and erythroid cells. IL-11 also has the inhibiting effect of repressing adipogenesis *in vitro*. The IL-11 α receptor, IL-11R α , is a member of the class I subgroup of the cytokine receptor family and exhibits structural similarity to the α subunits of the human ciliary neurotrophic factor (CNTF) and the mouse IL-6 receptor. It is speculated that IL-11R α regulates the proliferation and/or differentiation of skeletal progenitor and mesenchymal cells. For high affinity binding of IL-11 to IL-11R α , coexpression of gp130 and IL-11 α is necessary. It has also been found that coexpression of IL-11R α and gp130 is required for proper stimulation of Ba/F3 cells to differentiate into macrophage in response to IL-11.

REFERENCES

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2. Keith, J.C., Jr., et al. 1994. IL-11, a pleiotropic cytokine: exciting new effects of IL-11 on gastrointestinal mucosal biology. *Stem Cells* 12: 79-89.
3. Neuhaus, H., et al. 1994. Et12, a novel putative type-1 cytokine receptor expressed during mouse embryogenesis at high levels in skin and cells with skeletogenic potential. *Dev. Biol.* 166: 531-542.
4. Hilton, D.J., et al. 1994. Cloning of a murine IL-11 receptor α -chain; requirement for gp130 for high-affinity binding and signal transduction. *EMBO J.* 13: 4765-4775.
5. Peters, S.O., et al. 1995. Murine marrow cells expanded in culture with IL-3, IL-6, IL-11, and SCF acquire an engraftment defect in normal hosts. *Exp. Hematol.* 23: 461-469.
6. Jacobsen, S.E., et al. 1995. The FLT3 ligand potently and directly stimulates the growth and expansion of primitive murine bone marrow progenitor cells *in vitro*: synergistic interactions with interleukin (IL) 11, IL-12, and other hematopoietic growth factors. *J. Exp. Med.* 181: 1357-1363.

CHROMOSOMAL LOCATION

Genetic locus: Il11ra1 (mouse) mapping to 4 A5.

PRODUCT

IL-11R α 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-11R α shRNA Plasmid (m): sc-35648-SH and IL-11R α shRNA (m) Lentiviral Particles: sc-35648-V as alternate gene silencing products.

For independent verification of IL-11R α (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-35648A, sc-35648B and sc-35648C.

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 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-11R α siRNA (m) is recommended for the inhibition of IL-11R α 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.

GENE EXPRESSION MONITORING

IL-11R α (F-10): sc-393039 is recommended as a control antibody for monitoring of IL-11R α gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor IL-11R α gene expression knockdown using RT-PCR Primer: IL-11R α (m)-PR: sc-35648-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.