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IL-28A siRNA (h): sc-45664

BACKGROUND

The interleukins are a broad family of well characterized cytokines, primarily of hematopoietic cell origin. As new cytokines are molecularly characterized, they are assigned an IL number to maintain a standard nomenclature. The interleukins are secreted by immune cells (mainly macrophages, B-cells or T-cells) that regulate a wide range of immune system functions. The functions of different interleukins vary from the regulation of inflammatory and immune responses to the regulation of other interleukins. Induced by viral infection and show antiviral activity, IL-28A, IL-28B and IL-29 are closely related genes that form a cytokine gene cluster on human chromosome region mapped to 19q13. IL-28A and IL-28B may play a role in antiviral immunity through up-regulation of MHC class I antigen expression and act as ligands for the heterodimeric class II cytokine receptor composed of IL-10R β and IL-28R.

REFERENCES

1. Sheppard, P., et al. 2003. IL-28, IL-29 and their class II cytokine receptor IL-28R. *Nat. Immunol.* 4: 63-68.
2. Pestka, S., et al. 2004. Interferons, interferon-like cytokines and their receptors. *Immunol. Rev.* 202: 8-32.
3. Bartlett, N.W., et al. 2004. A new member of the interleukin-10 related cytokine family encoded by a poxvirus. *J. Gen. Virol.* 85: 1401-1412.
4. Donnelly, R.P., et al. 2004. The expanded family of class II cytokines that share the IL-10 receptor-2 (IL-10R2) chain. *J. Leukoc. Biol.* 76: 314-321.
5. Pestka, S., et al. 2004. Interleukin-10 and related cytokines and receptors. *Annu. Rev. Immunol.* 22: 929-979.
6. Logsdon, N.J., et al. 2004. The IL-10R2 binding hot spot on IL-22 is located on the N-terminal helix and is dependent on N-linked glycosylation. *J. Mol. Biol.* 342: 503-514.

CHROMOSOMAL LOCATION

Genetic locus: IFNL2 (human) mapping to 19q13.2.

PRODUCT

IL-28A siRNA (h) 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-28A shRNA Plasmid (h): sc-45664-SH and IL-28A shRNA (h) Lentiviral Particles: sc-45664-V as alternate gene silencing products.

For independent verification of IL-28A (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-45664A, sc-45664B and sc-45664C.

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.

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-28A siRNA (h) is recommended for the inhibition of IL-28A expression in human 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-28/29 (H-1): sc-365834 is recommended as a control antibody for monitoring of IL-28A 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-28A gene expression knockdown using RT-PCR Primer: IL-28A (h)-PR: sc-45664-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.