

IL-27 siRNA (h): sc-72184

BACKGROUND

IL-27 triggers expansion of antigen-specific naive CD4⁺ T cells and promotes polarization towards a Th1 phenotype with expression of γ -interferon. IL-27 contributes to the development of an adaptive immune response through its action on CD4⁺ T cells and also directly acts on cells of the innate immune system. IL-27 protein levels increase upon activation of antigen-presenting cells. IL-27 protein induces orphan cytokine receptor WSX-1/TCCR-dependent clonal expansion of naive but not memory CD4⁺ T cells. IL-27 signaling through TCCR/WSX-1 induces phosphorylation of Stat1-5. The predicted 243 amino acid human IL-27 protein, which is 73% identical to the mouse protein, contains an N-terminal signal peptide, several O-glycosylation sites and a stretch of 13 Glutamate residues between helices C and D.

REFERENCES

1. Pflanz, S., et al. 2002. IL-27, a heterodimeric cytokine composed of Ebi3 and p28 protein, induces proliferation of naive CD4⁺ T cells. *Immunity* 16: 779-790.
2. Cordoba-Rodriguez, R., et al. 2003. L-23 and IL-27: new members of the growing family of IL-12-related cytokines with important implications for therapeutics. *Expert Opin. Biol. Ther.* 3: 715-723.
3. Lucas, S., et al. 2003. IL-27 regulates IL-12 responsiveness of naive CD4⁺ T cells through Stat1-dependent and -independent mechanisms. *Proc. Natl. Acad. Sci. USA* 100: 15047-15052.
4. Villarino, A.V., et al. 2004. Understanding the pro- and anti-inflammatory properties of IL-27. *J. Immunol.* 173: 715-720.
5. Goldberg, R., et al. 2004. Suppression of ongoing adjuvant-induced arthritis by neutralizing the function of the p28 subunit of IL-27. *J. Immunol.* 173: 1171-1178.

CHROMOSOMAL LOCATION

Genetic locus: IL27 (human) mapping to 16p11.2.

PRODUCT

IL-27 siRNA (h) is a pool of 2 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-27 shRNA Plasmid (h): sc-72184-SH and IL-27 shRNA (h) Lentiviral Particles: sc-72184-V as alternate gene silencing products.

For independent verification of IL-27 (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-72184A and sc-72184B.

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-27 siRNA (h) is recommended for the inhibition of IL-27 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-27 (LB-L22): sc-134367 is recommended as a control antibody for monitoring of IL-27 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-27 gene expression knockdown using RT-PCR Primer: IL-27 (h)-PR: sc-72184-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.