SANTA CRUZ BIOTECHNOLOGY, INC.

IL-29 siRNA (h): sc-62499

BACKGROUND

The interleukins (ILs) are a broad family of well characterized cytokines, primarily of hematopoietic cell origin. They are secreted by immune cells (mainly macrophages, B-cells or T-cells) that regulate a wide range of immune system functions. The specific functions of different interleukins vary from the regulation of inflammatory and immune responses to the regulation of other interleukins. IL-29, also known as interferon λ-1 (IFN-λ1) is a class II cytokine that stimulates its response through a heterodimeric receptor composed of IL-10Rβ and IL-28RA. It is induced by viral infection and exhibits antiviral and antiproliferative activity. In addition, IL-29 may play a role in immunoregulation. It stimulates an identical response as IFN-α but utilizes a different receptor. In addition, IL-29 may be a useful therapeutic agent against chronic viral hepatitis.

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. Brand, S., et al. 2005. IL-28A and IL-29 mediate antiproliferative and antiviral signals in intestinal epithelial cells and murine CMV infection increases colonic IL-28A expression. Am. J. Physiol. Gastrointest. Liver Physiol. 289: G960-G968.
4. Siren, J., et al. 2005. IFN-α regulates TLR-dependent gene expression of IFN-α, IFN-β, IL-28, and IL-29. J. Immunol. 174: 1932-1937.
5. Doyle, S.E., et al. 2006. Interleukin-29 uses a type 1 interferon-like program to promote antiviral responses in human hepatocytes. Hepatology 44: 896-906.
6. Li, M.C., et al. 2006. Liposome-mediated IL-28 and IL-29 expression in A549 cells and anti-viral effect of IL-28 and IL-29 on WISH cells. Acta Pharmacol. Sin. 27: 453-459.

CHROMOSOMAL LOCATION

Genetic locus: IL29 (human) mapping to 19q13.2.

PRODUCT

IL-29 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see IL-29 shRNA Plasmid (h): sc-62499-SH and IL-29 shRNA (h) Lentiviral Particles: sc-62499-V as alternate gene silencing products.

For independent verification of IL-29 (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-62499A, sc-62499B and sc-62499C.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

IL-29 siRNA (h) is recommended for the inhibition of IL-29 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 µM in 66 µl. 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-29 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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-29 gene expression knockdown using RT-PCR Primer: IL-29 (h)-PR: sc-62499-PR (20 µl). 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.