SANTA CRUZ BIOTECHNOLOGY, INC.

# IL-28R siRNA (m): sc-62498

## BACKGROUND

IL-28R (interleukin-28 receptor α chain, cytokine receptor family 2 member 12, IFN-λ R1) is a 535 amino acid protein encoded by the human gene IL28RA. IL-28R belongs to the type II cytokine receptor family and contains one Fibronectin type III domain. It is a single-pass type I membrane protein found as a heterodimer with IL-10RB. This is a receptor for a small family of structurally-related cytokines that, like IFNs, are known to induce antiviral activity. The expression of IFN-λ (IL-28) mRNA is inducible by viral infection in several cell lines. The receptor complex (IL-28R) that is utilized by all three IFN-λ proteins for signaling is composed of two subunits, a receptor designated IL-28R and IL-10R2. Both receptor chains are constitutively expressed on a wide variety of human cell lines and tissues and signal through the JAK-Stat (janus kinases-signal transducers and activators of transcription) pathway.

## REFERENCES


1. Sheppard, P., et al. 2002. IL-28, IL-29 and their class II cytokine receptor IL-28R. Nat. Immunol. 4: 63-68.
2. Kotenko, S.V., et al. 2002. IFN-λs mediate antiviral protection through a distinct class II cytokine receptor complex. Nat. Immunol. 4: 69-77.
3. Dumoutier, L., et al. 2004. Role of the interleukin (IL)-28 receptor tyrosine residues for antiviral and antiproliferative activity of IL-29/interferon-λ 1: similarities with type I interferon signaling. J. Biol. Chem. 279: 32269-32274.
4. Meager, A., et al. 2005. Biological activity of interleukins-28 and -29: comparison with type I interferons. Cytokine 31: 109-118.
5. 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.
6. Chi, B., et al. 2006. α and λ interferon together mediate suppression of CD4 T cells induced by respiratory syncytial virus. J. Virol. 80: 5032-5040.


## CHROMOSOMAL LOCATION

Genetic locus: Ifnlr1 (mouse) mapping to 4 D3.

## PRODUCT

IL-28R 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see IL-28R shRNA Plasmid (m): sc-62498-SH and IL-28R shRNA (m) Lentiviral Particles: sc-62498-V as alternate gene silencing products.

For independent verification of IL-28R (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-62498A, sc-62498B and sc-62498C.

## 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-28R siRNA (m) is recommended for the inhibition of IL-28R 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 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor IL-28R gene expression knockdown using RT-PCR Primer: IL-28R (m)-PR: sc-62498-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.