

IL-20R β siRNA (m): sc-146216

BACKGROUND

The class II cytokine receptor family includes 12 members, 11 of which combine as various heterodimers to transduce signals across the cellular membrane for 27 cytokines. These cytokines are divided into four structurally related groups: six cytokines of the IL-10 family, 17 type I IFNs, one type II IFN and three IFN- λ . IL-20 is a member of the IL-10 family of cytokines that has been shown to be upregulated in psoriatic skin. The receptor for IL-20 (IL-20R) exists as a dimer consisting of IL-20R α and IL-20R β . IL-20R also functions as a receptor for IL-19, IL-24 and IL-26. It is highly expressed in skin, brain and testis. IL-20, IL20R α and IL-20R β all have higher expression levels in psoriatic lesional (LS) skin than in nonlesional (NL) skin, suggesting a role for these proteins as potential therapeutic targets. IL-20 can induce signal transducer and activator of transcription (Stat) activation through IL-20R.

REFERENCES

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5. Carson, W.E., et al. 1995. The functional characterization of interleukin-10 receptor expression on human natural killer cells. *Blood* 85: 3577-3585.
6. Corinti, S., et al. 2001. Regulatory activity of autocrine IL-10 on dendritic cell functions. *J. Immunol.* 166: 4312-4318.
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8. Stearns, M.E., et al. 2003. IL-10 signaling via IL-10E1 is dependent on tyrosine phosphorylation in the IL-10R α chain in human primary prostate cancer cell lines. *Oncogene* 22: 3781-3791.
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CHROMOSOMAL LOCATION

Genetic locus: Il20rb (mouse) mapping to 9 E3.3.

PRODUCT

IL-20R β 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-20R β shRNA Plasmid (m): sc-146216-SH and IL-20R β shRNA (m) Lentiviral Particles: sc-146216-V as alternate gene silencing products.

For independent verification of IL-20R β (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-146216A, sc-146216B and sc-146216C.

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-20R β siRNA (m) is recommended for the inhibition of IL-20R β 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor IL-20R β gene expression knockdown using RT-PCR Primer: IL-20R β (m)-PR: sc-146216-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Xiao, M., et al. 2021. Osteocytes regulate neutrophil development through IL-19: a potent cytokine for neutropenia treatment. *Blood* 137: 3533-3547.

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.