SANTA CRUZ BIOTECHNOLOGY, INC.

IL-23R siRNA (h): sc-60834

BACKGROUND

The p19 protein shares sequence similarity with IL-6 subfamily members and is distantly related to the p35 subunit of IL-12. p19 shows no biological activity by itself; instead, it combines with the p40 subunit of IL-12 to form a biologically active, composite cytokine, IL-23. IL-23 shares some *in vivo* functions with IL-12, including the activation of the transcription factor Stat4. Also similar to IL-12, human IL-23 stimulates IFN-γ production and proliferation in PHA blast T cells, as well as in CD45RO (memory) T cells. Ubiquitous transgenic expression of the IL-23 subunit p19 induces multiorgan inflammation, runting, infertility, and premature death. The receptors for each appear to share one subunit, but also have at least one distinct subunit. Activated Dendritic cells secrete detectable levels of this heterodimeric complex and IL-23 binds to IL-12R β1 and IL-23R. At least six spliced isoforms of IL-23R (IL-23R1 to 6) can be generated through alternative splicing. The IL-23R2 and/or IL-23R4 variants are predominantly detected in certain human lung carcinomas and may contribute to their pathogenesis.

REFERENCES

1. Oppmann, B., et al. 2000. Novel p19 protein engages IL-12p40 to form a cytokine, IL-23, with biological activities similar as well as distinct from IL-12. Immunity 13: 715-725.
2. Wiekowski, M.T., et al. 2001. Ubiquitous transgenic expression of the IL-23 subunit p19 induces multiorgan inflammation, runting, infertility, and premature death. J. Immunol. 166: 7563-7570.
3. Cooper, A.M., et al. 2002. Mice lacking bioactive IL-12 can generate protective, antigen-specific cellular responses to mycobacterial infection only if the IL-12 p40 subunit is present. J. Immunol. 168: 1322-1327.

CHROMOSOMAL LOCATION

Genetic locus: IL23R (human) mapping to 1p31.3.

PRODUCT

IL-23R 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-23R shRNA Plasmid (h): sc-60834-SH and IL-23R shRNA (h) Lentiviral Particles: sc-60834-V as alternate gene silencing products.

For independent verification of IL-23R (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-60834A, sc-60834B and sc-60834C.

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-23R siRNA (h) is recommended for the inhibition of IL-23R 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-23R (3D7): sc-293485 is recommended as a control antibody for monitoring of IL-23R 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-23R gene expression knockdown using RT-PCR Primer: IL-23R (h)-PR: sc-60834-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Tu, B., et al. 2015. Macrophages derived from THP-1 promote the osteogenic differentiation of mesenchymal stem cells through the IL-23/IL-23R/β-catenin pathway. Exp. Cell Res. 339: 81-89.

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.