SANTA CRUZ BIOTECHNOLOGY, INC.

IL-17F siRNA (h): sc-39656

BACKGROUND

The proinflammatory cytokine Interleukin 17 (IL-17) is produced by activated T cells to elicit potent cellular responses. IL-17 is secreted as a disulfide-linked homodimeric glycoprotein. A human IL-17 homolog IL-17E is a ligand for EV127/IL-17BR, which is also known as IL-17 receptor homolog 1. IL-17E mRNA is detected at very low levels in several peripheral tissues. IL-17E induces the activation of NFκB and stimulates the production of the proinflammatory chemokine IL-8. In addition, IL-17E has catabolic activity on human articular cartilage. IL-17E is a unique pleiotropic cytokine that may be an important mediator of inflammatory and immune responses. Another homolog of IL-17, IL-17F, is a secreted cytokine expressed only in activated $CD4^+$ T cells and activated monocytes. IL-17F stimulates the production of other cytokines such as IL-6, IL-8 and granulocyte colony-stimulating factor, and regulates cartilage matrix turnover.

REFERENCES

1. Fossiez, F., et al. 1996. T cell interleukin-17 induces stromal cells to produce proinflammatory and hematopoietic cytokines. J. Exp. Med. 183: 2593-2603.
2. Hymowitz, S.G., et al. 2001. IL-17s adopt a cystine knot fold: structure and activity of a novel cytokine, IL-17F, and implications for receptor binding. EMBO J. 20: 5332-5341.
3. Lee, J., et al. 2001. IL-17E, a novel proinflammatory ligand for the IL-17 receptor homolog IL-17Rh1. J. Biol. Chem. 276: 1660-1664.
4. Starnes, T., et al. 2001. Cutting edge: IL-17F, a novel cytokine selectively expressed in activated T cells and monocytes, regulates angiogenesis and endothelial cell cytokine production. J. Immunol. 167: 4137-4140.
5. Pan, G., et al. 2001. Forced expression of murine IL-17E induces growth retardation, jaundice, a Th2-biased response, and multiorgan inflammation in mice. J. Immunol. 167: 6559-6567.

CHROMOSOMAL LOCATION

Genetic locus: IL17F (human) mapping to 6p12.2.

PRODUCT

IL-17F 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-17F shRNA Plasmid (h): sc-39656-SH and IL-17F shRNA (h) Lentiviral Particles: sc-39656-V as alternate gene silencing products.

For independent verification of IL-17F (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-39656A, sc-39656B and sc-39656C.

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-17F siRNA (h) is recommended for the inhibition of IL-17F 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-17F (G-6): sc-515029 is recommended as a control antibody for monitoring of IL-17F 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-17F gene expression knockdown using RT-PCR Primer: IL-17F (h)-PR: sc-39656-PR (20 µl, 474 bp). 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.