

IL-22 siRNA (h): sc-39664

BACKGROUND

IL-10-related T cell-derived inducible factor (IL-22, also known as IL-TIF) is a cytokine that was originally identified in mouse as an IL-9 inducible gene in T cells and mast cells and shows 22% amino acid identity with IL-10. Additionally, IL-22 is induced by IL-9 in thymic lymphomas and by lectins in freshly isolated splenocytes. IL-22 is found in both the thymus and brain, which suggests that the role of this factor is not restricted to the immune system. IL-22 is a ligand for CRF2-4, a member of the class II cytokine receptor family. In contrast to IL-10, IL-22 does not inhibit the production of proinflammatory cytokines by monocytes in response to lipopolysaccharide nor does it impact IL-10 function on monocytes, but it has modest inhibitory effects on IL-4 production from Th2 T cells.

REFERENCES

- Dumoutier, L., et al. 2000. IL-TIF/IL-22: genomic organization and mapping of the human and mouse genes. *Genes Immun.* 1: 488-494.
- Xie, M.H., et al. 2000. Interleukin (IL)-22, a novel human cytokine that signals through the interferon receptor-related proteins CRF2-4 and IL-22R. *J. Biol. Chem.* 275: 31335-31339.
- Dumoutier, L., et al. 2000. Human interleukin-10-related T cell-derived inducible factor: molecular cloning and functional characterization as an hepatocyte-stimulating factor. *Proc. Natl. Acad. Sci. USA* 97: 10144-10149.
- Dumoutier, L., et al. 2000. Cloning and characterization of IL-10-related T cell-derived inducible factor (IL-TIF), a novel cytokine structurally related to IL-10 and inducible by IL-9. *J. Immunol.* 164: 1814-1819.
- Kotenko, S.V., et al. 2000. Identification of the functional IL-TIF (IL-22) receptor complex: the IL-10R2 chain (IL-10R β) is a shared component of both IL-10 and IL-TIF (IL-22) receptor complexes. *J. Biol. Chem.* 276: 2725-2732.

CHROMOSOMAL LOCATION

Genetic locus: IL22 (human) mapping to 12q15.

PRODUCT

IL-22 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see IL-22 shRNA Plasmid (h): sc-39664-SH and IL-22 shRNA (h) Lentiviral Particles: sc-39664-V as alternate gene silencing products.

For independent verification of IL-22 (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-39664A, sc-39664B and sc-39664C.

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 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-22 siRNA (h) is recommended for the inhibition of IL-22 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 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-22 gene expression knockdown using RT-PCR Primer: IL-22 (h)-PR: sc-39664-PR (20 μ l, 503 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

- Li, C., et al. 2018. Interleukin-22 (IL-22) regulates apoptosis of paclitaxel-resistant non-small cell lung cancer cells through C-Jun N-terminal kinase signaling pathway. *Med. Sci. Monit.* 24: 2750-2757.
- Li, Z., et al. 2020. Interleukin-22 modulates cisplatin sensitivity of osteosarcoma cells by regulating the Stat3 signaling pathway. *Exp. Ther. Med.* 19: 1379-1387.

RESEARCH USE

For research use only, not for use in diagnostic procedures.