

IL-22R α 1 siRNA (h): sc-88174

BACKGROUND

IL-22R α 1 (interleukin 22 receptor, α 1), whose alternative names include IL-22R, cytokine receptor family 2 member 9, CRF2-9 or IL22R1, is a 574 amino acid single-pass type I membrane protein belonging to the type II cytokine receptor family. IL-22R α 1 is a component of IL-20, IL-22 and IL-24 receptors, and exists as a heterodimer with IL-10R β and IL-20R β . Expressed in lung, liver kidney, colon and pancreas, IL-22R α 1 is also found in keratinocytes of normal skin and psoriatic skin lesions, normal blood brain barrier endothelial cells, and is strongly expressed in infiltrated multiple sclerosis lesions of central nervous system vessels. IL-22R α 1 increases the innate immune responses in inflammatory diseases, and IL-22R α 1 defects are associated with severe chronic rhinosinusitis. Containing two fibronectin type-III domains, IL-22R α 1 is encoded by a gene which maps to human chromosome 1p36.11.

REFERENCES

- 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.
- Kotenko, S.V., et al. 2001. Identification of the functional interleukin-22 (IL-22) receptor complex: the IL-10R2 chain (IL-10R β) is a common chain of both the IL-10 and IL-22 (IL-10-related T cell-derived inducible factor, IL-TIF) receptor complexes. *J. Biol. Chem.* 276: 2725-2732.
- Wolk, K., et al. 2004. IL-22 increases the innate immunity of tissues. *Immunity* 21: 241-254.
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CHROMOSOMAL LOCATION

Genetic locus: IL22RA1 (human) mapping to 1p36.11.

PRODUCT

IL-22R α 1 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-22R α 1 shRNA Plasmid (h): sc-88174-SH and IL-22R α 1 shRNA (h) Lentiviral Particles: sc-88174-V as alternate gene silencing products.

For independent verification of IL-22R α 1 (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-88174A, sc-88174B and sc-88174C.

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.

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-22R α 1 siRNA (h) is recommended for the inhibition of IL-22R α 1 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.

GENE EXPRESSION MONITORING

IL-22R α 1 (3-RE40): sc-134366 is recommended as a control antibody for monitoring of IL-22R α 1 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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-22R α 1 gene expression knockdown using RT-PCR Primer: IL-22R α 1 (h)-PR: sc-88174-PR (20 μ l, 588 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.