SANTA CRUZ BIOTECHNOLOGY, INC.

IL-22Rα1 siRNA (m): sc-146217

BACKGROUND

IL-22Rα1 (interleukin 22 receptor, α1), 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-22Rα1 is a component of IL-20, IL-22 and IL-24 receptors, and exists as a heterodimer with IL-10Rβ and IL-20Rβ. Expressed in lung, liver kidney, colon and pancreas, IL-22Rα1 is also found in keratinocytes of normal skin and psoriatic skin lesions, normal blood brain barrier endothelial cells, and is strongly expressed in inflitrated multiple sclerosis lesions of central nervous system vessels. IL-22Rα1 increases the innate immune responses in inflammatory diseases, and IL-22Rα1 defects are associated with severe chronic rhinosinusitis. Containing two fibronectin type-III domains, IL-22Rα1 is encoded by a gene which maps to human chromosome 1p36.11.

REFERENCES

1. 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.
2. Kotenko, S.V., et al. 2001. Identification of the functional interleukin-22 (IL-22) receptor complex: the IL-10R2 chain (IL-10Rβ) 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.
3. Wolk, K., et al. 2004. IL-22 increases the innate immunity of tissues. Immunity 21: 241-254.
4. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 605457. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Bleicher, L., et al. 2008. Crystal structure of the IL-22/IL-22R1 complex and its implications for the IL-22 signaling mechanism. FEBS Lett. 582: 2985-2992.

CHROMOSOMAL LOCATION

Genetic locus: Il22ra1 (mouse) mapping to 4 D3.

PRODUCT

IL-22Rα1 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see IL-22Rα1 shRNA Plasmid (m): sc-146217-SH and IL-22Rα1 shRNA (m) Lentiviral Particles: sc-146217-V as alternate gene silencing products.

For independent verification of IL-22Rα1 (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-146217A, sc-146217B and sc-146217C.

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-22Rα1 shRNA (m) Plasmid is recommended for the inhibition of IL-22Rα1 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor IL-22Rα1 gene expression knockdown using RT-PCR Primer: IL-22Rα1 (m)-PR: sc-146217-PR (20 µl, 600 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.