SANTA CRUZ BIOTECHNOLOGY, INC.

IL-17RB siRNA (h): sc-39964

BACKGROUND

Cytokines are small, soluble proteins with pleiotropic effects on a variety of cell types. Cytokines have a regulatory function over the immune system and mediate aspects of inflammatory response. They exert their biological effects through the binding of membrane-bound receptors which, in turn, initiate signal transduction cascades and elicit physiological changes in their target cell. IL-17RB is a member of the cytokine receptor family and acts as a receptor for the proinflammatory cytokines IL-17B and IL-17E. It may play a role in hematopoietic cell differentiation and growth. IL-17RB expression is high in liver, colon, brain, kidney and testis. IL-17RB is detected in fibroblast-like synoviocytes of rheumatoid arthritis patients.

REFERENCES

1. Arend, W.P., Malyak, M., Smith, M.F., Jr., Whisenand, T.D., Slack, J.L., Sims, J.E., Giri, J.G. and Dower, S.K. 1994. Binding of IL-1α, IL-1β, and IL-1 receptor antagonist by soluble IL-1 receptors and levels of soluble IL-1 receptors in synovial fluids. J. Immunol. 153: 4766-4774.
2. Okamura, H., Tsutsui, H., Komatsu, T., Yutsudo, M., Hakura, A., Tanimoto, T., Torigoe, K., Okura, T., Nukada, Y., Hattori, K., Akita, K., Namba, M., Tanabe, F., Konishi, K., Fukuda, S. and Kurimoto. M. 1995. Cloning of a new cytokine that induces IFN-γ production by T cells. Nature 378: 88-91.
3. Cohen, M.C. and Cohen, S. 1996. Cytokine function: a study in biologic diversity. Am. J. Clin. Pathol. 105: 589-598.
4. Ihle, J.N. 1996. Janus kinases in cytokine signalling. Philos. Trans. R. Soc. Lond., B, Biol. Sci. 351: 159-166.
5. Tian, E., Sawyer, J.R., Largaespada, D.A., Jenkins, N.A., Copeland, N.G. and Shaughnessy, J.D., Jr. 2000. EVI27 encodes a novel membrane protein with homology to the IL-17 receptor. Oncogene 19: 2098-2109.
6. Hwang, S.Y., Kim, J.Y., Kim, K.W., Park, M.K., Moon, Y., Kim, W.U. and Kim, H.Y. 2004. IL-17 induces production of IL-6 and IL-8 in rheumatoid arthritis synovial fibroblasts via NFκB- and PI 3-kinase/Akt-dependent pathways. Arthritis Res. Ther. 6: R120-R128.

CHROMOSOMAL LOCATION

Genetic locus: IL17RB (human) mapping to 3p21.1.

PRODUCT

IL-17RB 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-17RB shRNA Plasmid (h): sc-39964-SH and IL-17RB shRNA (h) Lentiviral Particles: sc-39964-V as alternate gene silencing products.

For independent verification of IL-17RB (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-39964A, sc-39964B and sc-39964C.

RESEARCH USE

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

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-17RB siRNA (h) is recommended for the inhibition of IL-17RB 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor IL-17RB gene expression knockdown using RT-PCR Primer: IL-17RB (h)-PR: sc-39964-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. Alinejad, V., Hossein Somi, M., Baradaran, B., Akbarzadeh, P., Atyabi, F., Kazerooni, H., Samadi Kafil, H., Aghebati Maleki, L., Siah Mansouri, H. and Yousefi, M. 2016. Co-delivery of IL17RB siRNA and doxorubicin by chitosan-based nanoparticles for enhanced anticancer efficacy in breast cancer cells. Biomed. Pharmacother. 83: 229-240.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.