SANTA CRUZ BIOTECHNOLOGY, INC.

IL-8RA siRNA (h): sc-40026

BACKGROUND

IL-8 has been shown to function as a potent neutrophil chemostatic and activating peptide and is an important mediator of inflammatory diseases. Two distinct human IL-8 receptors, designated IL-8RA and IL-8RB have been characterized. Both are expressed at a high level on neutrophils and to a lesser extent on monocytes and myeloid cell lines. In addition, the IL-8RA subunit is expressed in T cells such as the Jurkat cell line. Both IL-8Rs are members of the seven-transmembrane domain rhodopsin superfamily of receptors and as such, couple G proteins for signal transduction. The two receptors share 77% amino acid identity. IL-8RA exhibits high-affinity binding for IL-8 and low-affinity MGSA binding, whereas IL-8RB has high-affinity binding for both IL-8 and MGSA.

CHROMOSOMAL LOCATION

Genetic locus: CXCR1 (human) mapping to 2q35.

PRODUCT

IL-8RA 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-8RA shRNA Plasmid (h): sc-40026-SH and IL-8RA shRNA (h) Lentiviral Particles: sc-40026-V as alternate gene silencing products.

For independent verification of IL-8RA (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-40026A, sc-40026B and sc-40026C.

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-8RA siRNA (h) is recommended for the inhibition of IL-8RA 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-8RA (B-1): sc-7303 is recommended as a control antibody for monitoring of IL-8RA 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-8RA gene expression knockdown using RT-PCR Primer: IL-8RA (h)-PR: sc-40026-PR (20 µl, 536 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Al-Alwan, L.A., et al. 2013. Differential roles of CXCL2 and CXCL3 and their receptors in regulating normal and asthmatic airway smooth muscle cell migration. J. Immunol. 191: 2731-2741.
2. Al-Alwan, L.A., et al. 2014. CXCL1 inhibits airway smooth muscle cell migration through the decoy receptor Duffy antigen receptor for chemokines. J. Immunol. 193: 1416-1426.
3. Lee, E.J., et al. 2014. Blockade of interleukin-8 receptor signalling inhibits cyst development in vitro, via suppression of cell proliferation in autosomal polycystic kidney disease. Nephrology 19: 471-478.
4. Hosono, M., et al. 2017. CXCL8 derived from tumor-associated macrophages and esophageal squamous cell carcinomas contributes to tumor progression by promoting migration and invasion of cancer cells. Oncotarget 8: 106071-106088.
5. Jung, J.H., et al. 2015. CXCR2 and its related ligands play a novel role in supporting the pluripotency and proliferation of human pluripotent stem cells. Stem Cells Dev. 24: 948-961.
6. Kurniyati, K., et al. 2025. A bipartite bacterial virulence factor targets the complement system and neutrophil activation. EMBO J. 44: 1154-1184.

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.