SANTA CRUZ BIOTECHNOLOGY, INC.

IL-1F9 siRNA (h): sc-72176

BACKGROUND

IL-1 (interleukin-1) is a cytokine responsible for initiating a variety of activities through the activation of transcription factors, NFκB and AP-1, thereby promoting host response to injury or infection. The IL-1 superfamily is comprised of several ligands and receptors. IL-1F9, also known as interleukin-1 family member 9 (IL-1εF9), interleukin-1 homolog 1 (IL-1H1) or interleukin-1 ε (IL-1ε), is a secreted ligand belonging to this superfamily. IL-1F9 is highly expressed in skin, stomach, lung and esophagus. IL-1F9 activates the IL-1Rrp2 and IL-1RAcP-dependent pathway leading to NFκB activation. IL-1F5, another member of the IL-1 superfamily, acts as an antagonist, inhibiting the IL-1F9 response. Similar to other family members, IL-1F9 can be regulated by bacterial lipopolysaccharide (LPS). Expression of this protein is stimulated by IFN-γ, TNFα and IL-1β.

REFERENCES

1. Smith, D.E., et al. 2000. Four new members expand the interleukin-1 superfamily. J. Biol. Chem. 275: 1169-1175.
2. Debets, R., et al. 2001. Two novel IL-1 family members, IL-1δ and IL-1ε, function as an antagonist and agonist of NFκB activation through the orphan IL-1 receptor-related protein 2. J. Immunol. 167: 1440-1446.
3. Gao, W., et al. 2002. Innate immunity mediated by the cytokine IL-1 homologue 4 (IL-1H4/ IL-1F7) induces IL-12-dependent adaptive and profound antitumor immunity. J. Immunol. 170: 107-113.
4. Berglöf, E., et al. 2003. IL-1Rrp2 expression and IL-1F9 (IL-1H1) actions in brain cells. J. Neuroimmunol. 139: 36-43.
5. Towne, J.E., et al. 2004. Interleukin (IL)-1F6, IL-1F8, and IL-1F9 signal through IL-1Rrp2 and IL-1RAcP to activate the pathway leading to NFκB and MAPKs. J. Biol. Chem. 279: 13677-13688.

CHROMOSOMAL LOCATION

Genetic locus: IL36G (human) mapping to 2q13.

PRODUCT

IL-1F9 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-1F9 shRNA Plasmid (h): sc-72176-SH and IL-1F9 shRNA (h) Lentiviral Particles: sc-72176-V as alternate gene silencing products.

For independent verification of IL-1F9 (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-72176A, sc-72176B and sc-72176C.

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 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-1F9 siRNA (h) is recommended for the inhibition of IL-1F9 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-1F9 (Y-12): sc-80056 is recommended as a control antibody for monitoring of IL-1F9 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor IL-1F9 gene expression knockdown using RT-PCR Primer: IL-1F9 (h)-PR: sc-72176-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.