SANTA CRUZ BIOTECHNOLOGY, INC.

IL-1F9 siRNA (m): sc-146212

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.
6. Vos, J.B., et al. 2005. Transcriptional response of bronchial epithelial cells to *Pseudomonas aeruginosa:* identification of early mediators of host defense. Physiol. Genomics 21: 324-336.
7. Burger, D., et al. 2006. Is IL-1 a good therapeutic target in the treatment of arthritis? Best Pract. Res. Clin. Rheumatol. 20: 879-896.
8. Chackerian, A.A., et al. 2007. IL-1 receptor accessory protein and ST2 comprise the IL-33 receptor complex. J. Immunol. 179: 2551-2555.

CHROMOSOMAL LOCATION

Genetic locus: Il1f9 (mouse) mapping to 2 A3.

PRODUCT

IL-1F9 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-1F9 shRNA Plasmid (m): sc-146212-SH and IL-1F9 shRNA (m) Lentiviral Particles: sc-146212-V as alternate gene silencing products.

For independent verification of IL-1F9 (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-146212A, sc-146212B and sc-146212C.

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 (m) is recommended for the inhibition of IL-1F9 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-1F9 gene expression knockdown using RT-PCR Primer: IL-1F9 (m)-PR: sc-146212-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. Li, Q., et al. 2019. Spinal IL-36γ/IL-36R participates in the maintenance of chronic inflammatory pain through astroglial JNK pathway. Glia 67: 438-451.

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.