

## IL-1F5 siRNA (h): sc-72166

### 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-1F5, also known as IL-1δ, IL-1 like protein 1 (IL-1L1), IL-1HY1, IL-1ra (receptor antagonist) homolog 1 or IL-1 related protein 3 (IL-1rp3), is a secreted ligand belonging to this superfamily. IL-1F5 is expressed in monocytes and macrophages and is activated by endotoxins. It shares 47% sequence identity with IL-1ra and similarly lacks the loop between the fourth and fifth β-strands. IL-1F5 acts as an antagonist, inhibiting the IL-1F9 activation of NFκB. Similar to other family members, IL-1F5 can be regulated by bacterial lipopolysaccharide (LPS).

### REFERENCES

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2. Smith, D.E., et al. 2000. Four new members expand the interleukin-1 superfamily. *J. Biol. Chem.* 275: 1169-1175.
3. Kumar, S., et al. 2000. Identification and initial characterization of four novel members of the interleukin-1 family. *J. Biol. Chem.* 275: 10308-10314.
4. Busfield, S.J., et al. 2000. Identification and gene organization of three novel members of the IL-1 family on human chromosome 2. *Genomics* 66: 213-216.
5. Debets, R., et al. 2001. Two novel IL-1 family members, IL-1 antagonist and agonist of NFκB activation through the orphan IL-1 receptor-related protein 2. *J. Immunol.* 167: 1440-1446.
6. Dunn, E.F., et al. 2003. High-resolution structure of murine interleukin 1 homologue IL-1F5 reveals unique loop conformations for receptor binding specificity. *Biochemistry* 42: 10938-10944.
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8. Towne, J.E., et al. 2004. Interleukin (IL)-1F6, IL-1 to activate the pathway leading to NFκB and MAPKs. *J. Biol. Chem.* 279: 13677-13688.

### CHROMOSOMAL LOCATION

Genetic locus: IL36RN (human) mapping to 2q13.

### PRODUCT

IL-1F5 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-1F5 shRNA Plasmid (h): sc-72166-SH and IL-1F5 shRNA (h) Lentiviral Particles: sc-72166-V as alternate gene silencing products.

For independent verification of IL-1F5 (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-72166A, sc-72166B and sc-72166C.

### 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-1F5 siRNA (h) is recommended for the inhibition of IL-1F5 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-1F5 (D-11): sc-398515 is recommended as a control antibody for monitoring of IL-1F5 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-1F5 gene expression knockdown using RT-PCR Primer: IL-1F5 (h)-PR: sc-72166-PR (20 μl). 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.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.