

# IP-10 siRNA (m): sc-108021

## BACKGROUND

Chemokines are members of a superfamily of inducible, secreted, pro-inflammatory cytokines. Members of the chemokine family exhibit 20% to 50% homology in their predicted amino acid sequences and are divided into four subfamilies: C-C, C-X-C, C and C-X3-C. In the C-X-C or  $\alpha$  subfamily, the first two of four cysteine motifs are separated by another amino acid residue. In the second subfamily, designated C-C or  $\beta$ , the first cysteines are adjacent. C subfamily members, also designated  $\gamma$  chemokines, lack the first and third cysteine residues of the conserved motif. In the C-X3-C, or  $\delta$  subfamily, members have three amino acids between the two cysteines. The C-X-C chemokine subfamily includes IL-8, GRO $\alpha/\beta/\gamma$  (and the murine homologs KC, MIP-2 $\alpha$  and MIP-2 $\beta$ ), platelet basic protein, ENA-78, GCP-2, PF4, IP-10 (and its murine homolog, CRG) and MIG.

## REFERENCES

1. Oppenheim, J.J., et al. 1991. Properties of the novel proinflammatory supergene "intercrine" cytokine family. *Annu. Rev. Immunol.* 9: 617-648.
2. Schall, T.J. 1991. Biology of the RANTES/SIS cytokine family. *Cytokine* 3: 165-183.
3. Miller, M.D., et al. 1992. Biology and biochemistry of the chemokines: a family of chemotactic and inflammatory cytokines. *Crit. Rev. Immunol.* 12: 17-46.
4. Taub, D.D., et al. 1993. Review of the chemokine meeting of the Third International Symposium of Chemotactic Cytokines. *Cytokine* 5: 175-179.
5. Godiska, R., et al. 1995. Chemokine expression in murine experimental allergic encephalomyelitis. *J. Neuroimmunol.* 58: 167-176.

## CHROMOSOMAL LOCATION

Genetic locus: Cxcl10 (mouse) mapping to 5 E2.

## PRODUCT

IP-10 siRNA (m) is a pool of 2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see IP-10 shRNA Plasmid (m): sc-108021-SH and IP-10 shRNA (m) Lentiviral Particles: sc-108021-V as alternate gene silencing products.

For independent verification of IP-10 (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-108021A and sc-108021B.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

IP-10 siRNA (m) is recommended for the inhibition of IP-10 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  $\mu$ M in 66  $\mu$ l. 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

IP-10 (E-2): sc-374092 is recommended as a control antibody for monitoring of IP-10 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-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 IP-10 gene expression knockdown using RT-PCR Primer: IP-10 (m)-PR: sc-108021-PR (20  $\mu$ l, 452 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS

1. Sen, T., et al. 2020. Aberrant ER-stress induced neuronal-IFN $\beta$  elicits white matter injury due to microglial activation and T-cell infiltration after TBI. *J. Neurosci.* 40: 424-446.

## 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.