

## IFN- $\kappa$ siRNA (m): sc-155908

### BACKGROUND

Type I interferons (IFNs) include IFN- $\alpha$ , IFN- $\beta$ , IFN- $\gamma$ , IFN- $\delta$ , IFN- $\omega$  and IFN- $\kappa$ . These cytokines induce potent anti viral activity. IFN- $\alpha$  and - $\beta$  exert a variety of other biological effects, including antitumor and immuno modulatory activities. IFN- $\omega$  is a component of natural mixtures of IFN species produced by virus-induced leukocytes or Burkitt's lymphoma cells. IFN- $\kappa$  is selectively expressed in epidermal keratinocytes. IFN- $\kappa$  is upregulated in re-sponse to IFN- $\gamma$ , IFN- $\beta$  viral infection and double-stranded RNA. IFN- $\kappa$  may play a role in regulating immune cell function. In both monocytes and dendritic cells, IFN- $\kappa$  induction stimulates the release of several cytokines. The gene encoding human IFN- $\kappa$  maps to the short arm of chromosome 9p21.2.

### REFERENCES

1. Adolf, G.R. 1987. Antigenic structure of human interferon  $\omega$ 1 (interferon- $\alpha$  II1): comparison with other human interferons. J. Gen. Virol. 68: 1669-1676.
2. Hussain, M., Gill, D.S. and Liao, M.J. 1996. Identification of interferon- $\alpha$  7, - $\alpha$  14, and - $\alpha$  21 variants in the genome of a large human population. J. Interferon Cytokine Res. 16: 853-859.
3. Mire-Sluis, A.R., Page, L.A., Meager, A., Igaki, J., Lee, J., Lyons, S. and Thorpe, R. 1996. An anti-cytokine bioactivity assay for interferons- $\alpha$ , - $\beta$  and - $\omega$ . J. Immunol. Methods 195: 55-61.
4. LaFleur, D.W., Nardelli, B., Tsareva, T., Mather, D., Feng, P., Semenuk, M., Taylor, K., Buerger, M., Chinchilla, D., Roshke, V., Chen, G., Ruben, S.M., Pitha, P.M., Coleman, T.A. and Moore, P.A. 2001. Interferon- $\kappa$ , a novel type I interferon expressed in human keratinocytes. J. Biol. Chem. 276: 39765-39771.
5. Nardelli, B., Zaritskaya, L., Semenuk, M., Cho, Y.H., LaFleur, D.W., Shah, D., Ullrich, S., Girolomoni, G., Albanesi, C. and Moore, P.A. 2002. Regulatory effect of IFN- $\kappa$ , a novel type I IFN, on cytokine production by cells of the innate immune system. J. Immunol. 169: 4822-4830.

### CHROMOSOMAL LOCATION

Genetic locus: Ifnk (mouse) mapping to 4 A5.

### PRODUCT

IFN- $\kappa$  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 IFN- $\kappa$  shRNA Plasmid (m): sc-155908-SH and IFN- $\kappa$  shRNA (m) Lentiviral Particles: sc-155908-V as alternate gene silencing products.

For independent verification of IFN- $\kappa$  (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-155908A and sc-155908B.

### PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ 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

IFN- $\kappa$  siRNA (m) is recommended for the inhibition of IFN- $\kappa$  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.

### RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor IFN- $\kappa$  gene expression knockdown using RT-PCR Primer: IFN- $\kappa$  (m)-PR: sc-155908-PR (20  $\mu$ l). 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.