

# IFN- $\alpha$ 4 siRNA (m): sc-146163

## BACKGROUND

Interferons (IFNs) are a group of pleiotropic cytokines that were originally discovered as a result of their antiviral activity. IFNs exert their effects by binding to specific receptors on target cells. The type I interferons,  $\alpha$  and  $\beta$ , are a group of structurally and functionally related proteins that are induced by either viruses or double stranded RNA, and defined by their ability to confer an antiviral state in cells. IFN- $\alpha$ 4 (interferon alpha-4), also known as INFA4, interferon alpha-4B, interferon alpha-M1 or interferon alpha-76, is a 189 amino acid secreted protein that possesses antiviral activity and is produced by macrophages. The gene encoding IFN- $\alpha$ 4 maps to human chromosome 9p21.3 and mouse chromosome 4 C4.

## REFERENCES

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- Tiefenbrun, N., et al. 1996. Alpha interferon suppresses the cyclin D3 and Cdc25A genes, leading to a reversible G<sub>0</sub>-like arrest. *Mol. Cell. Biol.* 16: 3934-3944.
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- Yokota, S., et al. 2004. Induction of suppressor of cytokine signaling-3 by herpes simplex virus type 1 contributes to inhibition of the interferon signaling pathway. *J. Virol.* 78: 6282-6286.

## CHROMOSOMAL LOCATION

Genetic locus: Ifna4 (mouse) mapping to 4 C4.

## PRODUCT

IFN- $\alpha$ 4 siRNA (m) is a target-specific 19-25 nt siRNA 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- $\alpha$ 4 shRNA Plasmid (m): sc-146163-SH and IFN- $\alpha$ 4 shRNA (m) Lentiviral Particles: sc-146163-V as alternate gene silencing products.

## 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- $\alpha$ 4 siRNA (m) is recommended for the inhibition of IFN- $\alpha$ 4 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- $\alpha$ 4 gene expression knockdown using RT-PCR Primer: IFN- $\alpha$ 4 (m)-PR: sc-146163-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.