

IFN- α B siRNA (m): sc-146168

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, α and β , 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. The α and β IFNs appear to compete with one another for binding to a common cell surface receptor while immune IFN (IFN γ) binds to a distinct receptor. IFN- α B (interferon α B), is a 190 amino acid protein that is encoded by a gene that maps to murine chromosome 4 C4.

REFERENCES

1. Daugherty, B., et al. 1984. Isolation and bacterial expression of a murine α leukocyte interferon gene. *J. Interferon Res.* 4: 635-643.
2. Su, Y.H., et al. 1993. Mapping the genetic region coding for herpes simplex virus resistance to mouse interferon α/β . *J. Gen. Virol.* 74: 2325-2332.
3. Politis, A.D., et al. 1993. Multiple pathways of interferon-induced gene expression in murine macrophages. *J. Leukoc. Biol.* 53: 583-590.
4. Hertzog, P.J., et al. 1994. Role of interferons in the regulation of cell proliferation, differentiation, and development. *Mol. Reprod. Dev.* 39: 226-232.
5. Schiavoni, G., et al. 2004. Type I IFN protects permissive macrophages from *Legionella pneumophila* infection through an IFN- γ -independent pathway. *J. Immunol.* 173: 1266-1275.
6. Chen, J., et al. 2004. Diversity and relatedness among the type I interferons. *J. Interferon Cytokine Res.* 24: 687-698.
7. Honda, K., et al. 2004. Negative regulation of IFN- α/β signaling by IFN regulatory factor 2 for homeostatic development of dendritic cells. *Proc. Natl. Acad. Sci. USA* 101: 2416-2421.

CHROMOSOMAL LOCATION

Genetic locus: *Ifnab* (mouse) mapping to 4 C4.

PRODUCT

IFN- α B 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see IFN- α B shRNA Plasmid (m): sc-146168-SH and IFN- α B shRNA (m) Lentiviral Particles: sc-146168-V as alternate gene silencing 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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

IFN- α B siRNA (m) is recommended for the inhibition of IFN- α B 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 μ M in 66 μ 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- α B gene expression knockdown using RT-PCR Primer: IFN- α B (m)-PR: sc-146168-PR (20 μ 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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.