SANTA CRUZ BIOTECHNOLOGY, INC.

IFN-κ siRNA (h): sc-39608

BACKGROUND

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

REFERENCES

1. Adolf, G.R. 1987. Antigenic structure of human interferon ω1 (interferon-α 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-α 7, -α 14, and -α 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-α, -β and -ω. J. Immunol. Methods 195: 55-61.
4. LaFleur, D.W., Nardelli, B., Tsareva, T., Mather, D., Feng, P., Semenuk, M., Taylor, K., Buergin, M., Chinchilla, D., Roshke, V., Chen, G., Ruben, S.M., Pitha, P.M., Coleman, T.A. and Moore, P.A. 2001. Interferon-κ, 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. Regulaptory effect of IFN-κ, 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 (human) mapping to 9p21.2.

PRODUCT

IFN-κ 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 IFN-κ shRNA Plasmid (h): sc-39608-SH and IFN-κ shRNA (h) Lentiviral Particles: sc-39608-V as alternate gene silencing products.

For independent verification of IFN-κ (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-39608A, sc-39608B and sc-39608C.

PROTOCOLS

See our web site at 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 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

IFN-κ siRNA (h) is recommended for the inhibition of IFN-κ 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor IFN-κ gene expression knockdown using RT-PCR Primer: IFN-κ (h)-PR: sc-39608-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.