SANTA CRUZ BIOTECHNOLOGY, INC.

ISGF-3γ p48 siRNA (m): sc-38014

BACKGROUND

Interferon signaling to the cell nucleus operates through phosphorylation on Tyrosine of proteins that have been designated Stats (signal transducers and activators of transcription). The first members of this family to be described include Stat1α p91, Stat1β p84 (a form of p91 that lacks 38 COOH-terminal amino acids) and Stat2 p113. Other members of the family include Stat3, which becomes activated through phosphorylation on Tyrosine as a DNA binding protein in response to epidermal growth factor (EGF) and interleukin-6 (IL-6) but not interferon γ (IFN-γ) and Stat4. Stat1α p91 (or Stat1β p84) and p113 form a complex (designated ISGF-3) with p48, a protein that has been shown by sequence analysis to be a member of the interferon regulatory (IRF) family of DNA binding proteins.

REFERENCES

1. Fu, X., et al. 1993. Transcription factor p91 interacts with the epidermal growth factor receptor and mediates activation of the c-Fos gene promoter. Cell 74: 1135-1145.
2. Shuai, K., et al. 1993. A single phosphotyrosine residue of Stat91 required for gene activation by interferon-γ. Science 261: 1744-1746.
3. Zhong, Z., et al. 1994. Stat3: a STAT family member activated by tyrosine phosphorylation in response to epidermal growth factor and interleukin-6. Science 264: 95-98.
4. Darnell, J.E., et al. 1994. Jak-STAT pathways and transcriptional activation in response to IFNs and other extracellular signaling proteins. Science 264: 1415-1421.
5. Akira, S., et al. 1994. Molecular cloning of APRF, a novel IFN-stimulated gene factor 3 p91-related transcription factor involved in the gp130-mediated signaling pathway. Cell 77: 63-71.
6. Harada, H., et al. 1994. Structure and regulation of the human interferon regulatory factor 1 (IRF-1) and IRF-2 genes: implications for a gene network in the interferon system. Mol. Cell. Biol. 14: 1500-1509.
7. Yamamoto, K., et al. 1994. Stat4, a novel γ interferon activation site-binding protein expressed in early myeloid differentiation. Mol. Cell. Biol. 14: 4342-4349.

CHROMOSOMAL LOCATION

Genetic locus: Irf9 (mouse) mapping to 14 C3.

PRODUCT

ISGF-3γ p48 siRNA (m) 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 ISGF-3γ p48 shRNA Plasmid (m): sc-38014-SH and ISGF-3γ p48 shRNA (m) Lentiviral Particles: sc-38014-V as alternate gene silencing products.

For independent verification of ISGF-3γ p48 (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-38014A, sc-38014B and sc-38014C.

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

ISGF-3γ p48 siRNA (m) is recommended for the inhibition of ISGF-3γ p48 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 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 ISGF-3γ p48 gene expression knockdown using RT-PCR Primer: ISGF-3γ p48 (m)-PR: sc-38014-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.

PROTOCOLS

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