SANTA CRUZ BIOTECHNOLOGY, INC.

IRF-5 siRNA (m): sc-72045

BACKGROUND

Interferon regulatory factor 5 (IRF-5), belongs to the IRF family of DNA-binding factors, which includes IRF-1, IRF-2, IRF-3, IRF-4, IRF-6, IRF-7, ISGF-3γ p48 and IFN consensus sequence-binding protein (ICSBP). The IRF family regulate both interferon and interferon-inducible genes. IRF-5, like IRF-3 and IRF-7, is a direct transducer of virus-mediated signaling and plays a role in the expression of multiple cytokines/chemokines. Although IRF-5 is a direct target of p53, its cell cycle regulatory and proapoptotic effects are p53 independent.

REFERENCES

1. Darnell, J.E., Jr., et al. 1994. JAK-Stat pathways and transcriptional activation in response to IFNs and other extracellular signaling proteins. Science 264: 1415-1421.
2. Mamane, Y., et al. 1999. Interferon regulatory factors: the next generation. Gene 237: 1-14.
3. Barnes, B.J., et al. 2001. Virus-specific activation of a novel interferon regulatory factor, IRF-5, results in the induction of distinct interferon α genes. J. Biol. Chem. 276: 23382-23390.
4. Mori, T., et al. 2002. Identification of the interferon regulatory factor 5 gene (IRF-5) as a direct target for p53. Oncogene 21: 2914-2918.
5. Barnes, B.J., et al. 2002. Multiple regulatory domains of IRF-5 control activation, cellular localization, and induction of chemokines that mediate recruitment of T lymphocytes. Mol. Cell. Biol. 22: 5721-5740.
6. Barnes, B.J., et al. 2003. Virus-induced heterodimer formation between IRF-5 and IRF-7 modulates assembly of the IFNA enhanceosome *in vivo* and transcriptional activity of IFNA genes. J. Biol. Chem. 278: 16630-16641.
7. Barnes, B.J., et al. 2003. Interferon regulatory factor 5, a novel mediator of cell cycle arrest and cell death. Cancer Res. 63: 6424-6431.

CHROMOSOMAL LOCATION

Genetic locus: Irf5 (mouse) mapping to 6 A3.3.

PRODUCT

IRF-5 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 IRF-5 shRNA Plasmid (m): sc-72045-SH and IRF-5 shRNA (m) Lentiviral Particles: sc-72045-V as alternate gene silencing products.

For independent verification of IRF-5 (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-72045A, sc-72045B and sc-72045C.

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

IRF-5 siRNA (m) is recommended for the inhibition of IRF-5 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.

GENE EXPRESSION MONITORING

IRF-5 (10T1): sc-56714 is recommended as a control antibody for monitoring of IRF-5 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor IRF-5 gene expression knockdown using RT-PCR Primer: IRF-5 (m)-PR: sc-72045-PR (20 µl, 596 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Sharma, M.D., et al. 2018. Activation of p53 in immature myeloid precursor cells controls differentiation into Ly6c^{+}CD103^{+} monocytic antigen-presenting cells in tumors. Immunity 48: 91-106.

RESEARCH USE

For research use only, not for use in diagnostic procedures.