SANTA CRUZ BIOTECHNOLOGY, INC.

NFX1 siRNA (h): sc-92717

BACKGROUND

NFX1 (nuclear transcription factor, X-box binding 1), also known as NFX2, is a ubiquitously expressed nucleic acid binding protein. Localizing to the nucleus, NFX1 contains an R3H domain, a RING-type zinc finger and nine NFX1-type zinc fingers. NFX1 is induced by IFN-γ and functions as a transcriptional repressor, binding to the conserved X1 region within the X-box motif found in the promoter region of MHC class II genes. Acting as a potent repressor of MHC class II gene expression, NFX1 may be involved in regulating the duration of an inflammatory response. This suggests that NFX1 could be a useful target in the treatment of various diseases involving inflammation and autoimmunity. In addition, due to the presence of a RING-type finger domain, NFX1 may also function as an E3 ubiquitin-protein ligase. Two NFX1 isoforms, namely NFX1-91 and NFX1-123, exist due to alternative splicing events and differ in their C-termini.

REFERENCES

1. Hume, C.R. and Lee, J.S. 1989. Congenital immunodeficiencies associated with absence of HLA class II antigens on lymphocytes result from distinct mutations in *trans*-acting factors. Hum. Immunol. 26: 288-309.
2. Song, Z., et al. 1994. A novel cysteine-rich sequence-specific DNA-binding protein interacts with the conserved X-box motif of the human major histocompatibility complex class II genes via a repeated Cys-His domain and functions as a transcriptional repressor. J. Exp. Med. 180: 1763-1774.
3. Kunz, J., et al. 2000. Fap-1, a homologue of human transcription factor NFX1, competes with rapamycin for binding to FKBP12 in yeast. Mol. Microbiol. 37: 1480-1493.
4. Arlotta, P., et al. 2002. Murine NFX.1: isolation and characterization of its messenger RNA, mapping of its chromosomal location and assessment of its developmental expression. Immunology 106: 173-181.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603255. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: NFX1 (human) mapping to 9p13.3.

PRODUCT

NFX1 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 NFX1 shRNA Plasmid (h): sc-92717-SH and NFX1 shRNA (h) Lentiviral Particles: sc-92717-V as alternate gene silencing products.

For independent verification of NFX1 (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-92717A, sc-92717B and sc-92717C.

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

NFX1 siRNA (h) is recommended for the inhibition of NFX1 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.

GENE EXPRESSION MONITORING

NFX1 (Y-14): sc-100973 is recommended as a control antibody for monitoring of NFX1 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor NFX1 gene expression knockdown using RT-PCR Primer: NFX1 (h)-PR: sc-92717-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.