

NF45 siRNA (h): sc-62683

BACKGROUND

NF45 (ILF2, nuclear factor of activated T cells 45 kDa) is a transcription factor that interacts with NF90 (ILF3, DRBP76) to regulate gene expression. NF45 and NF90 are proteins that belong to the double-stranded RNA-binding protein family and both are substrates for the dsRNA-activated protein kinase, PKR. The NF45/NF90 heterodimer is mainly involved in regulating IL-2 expression by binding to the antigen receptor response element (ARRE) target sequence of the IL-2 enhancer. In neuronal cells, the NF45/NF90 heterodimer can repress human rhinovirus type 2 replication by binding to a 5' untranslated region of the viral RNA that encodes the internal ribosome entry site (IRES).

REFERENCES

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2. Langland, J.O., et al. 1999. Nuclear factor 90 of activated T cells: A double-stranded RNA-binding protein and substrate for the double-stranded RNA-dependent protein kinase, PKR. *Biochemistry* 38: 6361-6368.
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4. Reichman, T.W., et al. 2002. The RNA binding protein nuclear factor 90 functions as both a positive and negative regulator of gene expression in mammalian cells. *Mol. Cell. Biol.* 22: 343-356.
5. Shin, H.J., et al. 2002. Host cell proteins binding to the encapsidation signal ϵ in hepatitis B virus RNA. *Arch. Virol.* 147: 471-491.
6. Reichman, T.W., et al. 2003. Selective regulation of gene expression by nuclear factor 110, a member of the NF90 family of double-stranded RNA-binding proteins. *J. Mol. Biol.* 332: 85-98.
7. Zhao, G., et al. 2005. NF45/ILF2 tissue expression, promoter analysis, and interleukin-2 transactivating function. *Exp. Cell Res.* 305: 312-323.
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CHROMOSOMAL LOCATION

Genetic locus: ILF2 (human) mapping to 1q21.3.

PRODUCT

NF45 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NF45 shRNA Plasmid (h): sc-62683-SH and NF45 shRNA (h) Lentiviral Particles: sc-62683-V as alternate gene silencing products.

For independent verification of NF45 (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-62683A, sc-62683B and sc-62683C.

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

NF45 siRNA (h) is recommended for the inhibition of NF45 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 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.

GENE EXPRESSION MONITORING

NF45 (H-4): sc-365283 is recommended as a control antibody for monitoring of NF45 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 NF45 gene expression knockdown using RT-PCR Primer: NF45 (h)-PR: sc-62683-PR (20 μ l, 537 bp). 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.