

NF45 (E-19): sc-54918

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

1. Aoki, Y., Zhao, G., Qiu, D., Shi, L. and Kao, P.N. 1998. CsA-sensitive purine-box transcriptional regulator in bronchial epithelial cells contains NF45, NF90 and Ku. *Am. J. Physiol.* 275: L1164-L1172.
2. Langland, J.O., Kao, P.N. and Jacobs, B.L. 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.
3. Parker, L.M., Fierro-Monti, I. and Mathews, M.B. 2001. Nuclear factor 90 is a substrate and regulator of the eukaryotic initiation factor 2 kinase double-stranded RNA-activated protein kinase. *J. Biol. Chem.* 276: 32522-32530.
4. Reichman, T.W., Muñoz, L.C. and Mathews, M.B. 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., Kim, S.S., Cho, Y.H., Lee, S.G. and Rho, H.M. 2002. Host cell proteins binding to the encapsidation signal ϵ in hepatitis B virus RNA. *Arch. Virol.* 147: 471-491.
6. Reichman, T.W., Parrott, A.M., Fierro-Monti, I., Caron, D.J., Kao, P.N., Lee, C.G., Li, H. and Mathews, M.B. 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., Shi, L., Qiu, D., Hu, H. and Kao, P.N. 2005. NF45/ILF2 tissue expression, promoter analysis and interleukin-2 transactivating function. *Exp. Cell Res.* 305: 312-323.
8. Merrill, M.K. and Gromeier, M. 2006. The double-stranded RNA binding protein 76:NF45 heterodimer inhibits translation initiation at the rhinovirus type 2 internal ribosome entry site. *J. Virol.* 80: 6936-6942.

CHROMOSOMAL LOCATION

Genetic locus: ILF2 (human) mapping to 1q21.3; Ilf2 (mouse) mapping to 3 F1.

SOURCE

NF45 (E-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NF45 of human origin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-54918 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NF45 (E-19) is recommended for detection of NF45 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

NF45 (E-19) is also recommended for detection of NF45 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for NF45 siRNA (h): sc-62683, NF45 siRNA (m): sc-62684, NF45 shRNA Plasmid (h): sc-62683-SH, NF45 shRNA Plasmid (m): sc-62684-SH, NF45 shRNA (h) Lentiviral Particles: sc-62683-V and NF45 shRNA (m) Lentiviral Particles: sc-62684-V.

Molecular Weight of NF45: 45 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Jurkat nuclear extract: sc-2132 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

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



Try **NF45 (H-4): sc-365283** or **NF45 (G-3): sc-365068**, our highly recommended monoclonal alternatives to NF45 (E-19).