

# NF45 (A-8): sc-271718

## 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., et al. 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., 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.
3. Parker, L.M., et al. 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

NF45 (A-8) is a mouse monoclonal antibody raised against amino acids 21-205 mapping near the N-terminus of NF45 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

NF45 (A-8) is recommended for detection of NF45 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 120-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

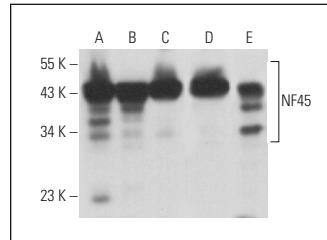
Molecular Weight of NF45: 45 kDa.

Positive Controls: KNRK nuclear extract: sc-2141, Jurkat nuclear extract: sc-2132 or RAT2 whole cell lysate: sc-364198.

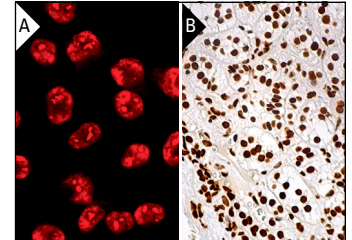
## RECOMMENDED SUPPORT REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



NF45 (A-8): sc-271718. Western blot analysis of NF45 expression in 3611-RF (A) and RAT2 (B) whole cell lysates, KNRK (C) and Jurkat (D) nuclear extracts and rat spleen tissue extract (E).



NF45 (A-8): sc-271718. Immunofluorescence staining of methanol-fixed HeLa cells showing nucleolar and nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing nuclear staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

1. Schweitzer, C.J., et al. 2013. Proteomic analysis of early HIV-1 nucleoprotein complexes. *J. Proteome Res.* 12: 559-572.
2. Zhu, X., et al. 2016. Cold-inducible RBM3 inhibits PERK phosphorylation through cooperation with NF90 to protect cells from endoplasmic reticulum stress. *FASEB J.* 30: 624-634.
3. Li, Y. and Belshan, M. 2016. NF45 and NF90 bind HIV-1 RNA and modulate HIV gene expression. *Viruses* 8: 47.
4. Wen, X., et al. 2018. Long non-coding RNA DANCR stabilizes HIF-1α and promotes metastasis by interacting with NF90/NF45 complex in nasopharyngeal carcinoma. *Theranostics* 8: 5676-5689.
5. Spadotto, V., et al. 2020. PRMT1-mediated methylation of the microprocessor-associated proteins regulates microRNA biogenesis. *Nucleic Acids Res.* 48: 96-115.

## STORAGE

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

## RESEARCH USE

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