

# NF45 (G-3): sc-365068

## 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.
4. Shin, H.J., et al. 2002. Host cell proteins binding to the encapsidation signal epsilon in hepatitis B virus RNA. *Arch. Virol.* 147: 471-491.

## CHROMOSOMAL LOCATION

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

## SOURCE

NF45 (G-3) 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>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

NF45 (G-3) 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 100-500 µg of total protein (1 ml of cell lysate)], 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).

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.

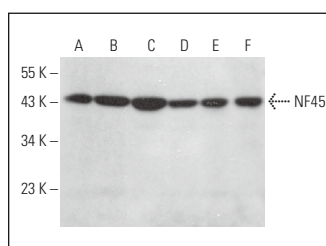
Molecular Weight of NF45: 45 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, SK-BR-3 cell lysate: sc-2218 or Raji whole cell lysate: sc-364236.

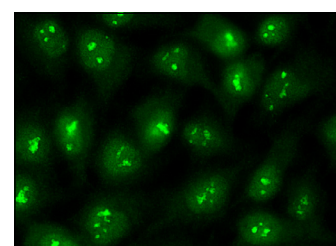
## RECOMMENDED SUPPORT REAGENTS

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.

## DATA



NF45 (G-3): sc-365068. Western blot analysis of NF45 expression in MCF7 (A), SK-BR-3 (B), Raji (C), WEHI-231 (D), Neuro-2A (E) and BYDP (F) whole cell lysates.



NF45 (G-3): sc-365068. Immunofluorescence staining of methanol-fixed HeLa cells showing nucleolar and nuclear localization.

## SELECT PRODUCT CITATIONS

1. Rossi, S., et al. 2015. Nuclear accumulation of mRNAs underlies G4C2-repeat-induced translational repression in a cellular model of C9orf72 ALS. *J. Cell Sci.* 128: 1787-1799.
2. Marchesini, M., et al. 2017. ILF2 is a regulator of RNA splicing and DNA damage response in 1q21-amplified multiple myeloma. *Cancer Cell* 32: 88-100.e6.
3. Tsai, H.I., et al. 2021. NF45/NF90-mediated rDNA transcription provides a novel target for immunosuppressant development. *EMBO Mol. Med.* 13: e12834.
4. Zhang, X., et al. 2021. Interleukin enhancer-binding factor 2 promotes cell proliferation and DNA damage response in metastatic melanoma. *Clin. Transl. Med.* 11: e608.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.