

# NF45 (H-4): sc-365283

## 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).

## CHROMOSOMAL LOCATION

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

## SOURCE

NF45 (H-4) 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>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NF45 (H-4) is available conjugated to agarose (sc-365283 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365283 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365283 PE), fluorescein (sc-365283 FITC), Alexa Fluor<sup>®</sup> 488 (sc-365283 AF488), Alexa Fluor<sup>®</sup> 546 (sc-365283 AF546), Alexa Fluor<sup>®</sup> 594 (sc-365283 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-365283 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-365283 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-365283 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

NF45 (H-4) 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), 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: K-562 nuclear extract: sc-2130, HeLa nuclear extract: sc-2120 or Jurkat nuclear extract: sc-2132.

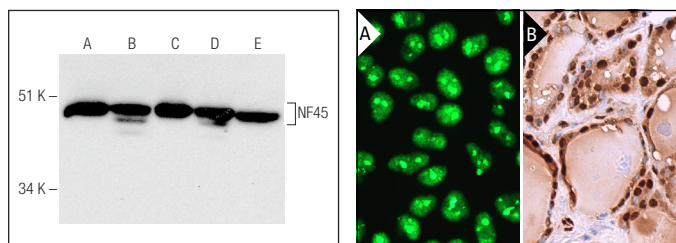
## RESEARCH USE

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

## STORAGE

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

## DATA



NF45 (H-4): sc-365283. Western blot analysis of NF45 expression in Jurkat (A), HeLa (B), K-562 (C), Hep G2 (D) and NIH/3T3 (E) nuclear extracts.

NF45 (H-4): sc-365283. Immunofluorescence staining of methanol-fixed HeLa cells showing nucleolar and nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing nuclear and cytoplasmic staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

- Huang, Q., et al. 2014. Expression of NF45 correlates with malignant grade in gliomas and plays a pivotal role in tumor growth. *Tumour Biol.* 35: 10149-10157.
- Wandrey, F., et al. 2015. The NF45/NF90 heterodimer contributes to the biogenesis of 60S ribosomal subunits and influences nucleolar morphology. *Mol. Cell. Biol.* 35: 3491-3503.
- Hia, F., et al. 2019. Codon bias confers stability to human mRNAs. *EMBO Rep.* 20: e48220.
- Wu, T.H., et al. 2019. Inducible expression of immediate early genes is regulated through dynamic chromatin association by NF45/ILF2 and NF90/NF110/ILF3. *PLoS ONE* 14: e0216042.
- Jin, J., et al. 2019. Enterovirus 71 represses interleukin enhancer-binding factor 2 production and nucleus translocation to antagonize ILF2 antiviral effects. *Viruses* 12: 22.
- Shiu, T.Y., et al. 2021. CRNDE-h transcript/miR-136-5p axis regulates interleukin enhancer binding factor 2 expression to promote hepatocellular carcinoma cell proliferation. *Life Sci.* 284: 119708.
- Lai, S., et al. 2022. NF90-NF45 is essential for  $\beta$  cell compensation under obesity-inducing metabolic stress through suppression of p53 signaling pathway. *Sci. Rep.* 12: 8837.

## PROTOCOLS

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