SANTA CRUZ BIOTECHNOLOGY, INC.

NF90 (A-3): sc-377406

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

NF90 (nuclear factor of activated T-cells 90 kDa), also known as NFAR, DRBF, DRBP76 (double-stranded RNA-binding protein 76), MPP4, MPHOSPH4 (M-phase phosphoprotein 4), ILF3 (interleukin enhancer binding factor 3) or TCP80 (translational control protein 80), is a ubiquitously expressed nuclear protein that exists in a heterodimer with NF45. NF90 contains two DRBM (double-stranded RNA(dsRNA-)-binding) domains and one DZF domain and, in association with NF45 primarily participates in the regulation of 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). NF45 and NF90 belong to the double-stranded RNA-binding protein family and both are substrates for the dsRNA-activated protein kinase, PKR. Due to alternative splicing events, six isoforms exist for NF90, namely NFAR-2 (or ILF3-E), NFAR-1 (or DRBP76), isoform 3, DRBP76α (or ILF3-A), DRBP76δ (also known as DRBP76γ or ILF3-C) and isoform 6.

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.

CHROMOSOMAL LOCATION

Genetic locus: ILF3 (human) mapping to 19p13.2; Ilf3 (mouse) mapping to 9 A3.

SOURCE

NF90 (A-3) is a mouse monoclonal antibody raised against amino acids 112-195 mapping near the N-terminus of NF90 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NF90 (A-3) is available conjugated to agarose (sc-377406 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-377406 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377406 PE), fluorescein (sc-377406 FITC), Alexa Fluor® 488 (sc-377406 AF488), Alexa Fluor® 546 (sc-377406 AF546), Alexa Fluor® 594 (sc-377406 AF594) or Alexa Fluor® 647 (sc-377406 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377406 AF680) or Alexa Fluor® 790 (sc-377406 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

NF90 (A-3) is recommended for detection of NF90 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).

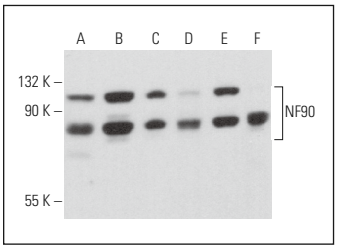
NF90 (A-3) is also recommended for detection of NF90 in additional species, including canine and porcine.

Suitable for use as control antibody for NF90 siRNA (h): sc-106301, NF90 siRNA (m): sc-149941, NF90 shRNA Plasmid (h): sc-106301-SH, NF90 shRNA Plasmid (m): sc-149941-SH, NF90 shRNA (h) Lentiviral Particles: sc-106301-V and NF90 shRNA (m) Lentiviral Particles: sc-149941-V.

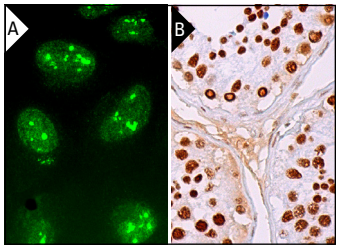
Molecular Weight of NF90 isoforms: 90/110/120 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, F9 cell lysate: sc-2245 or Hep G2 cell lysate: sc-2227.

DATA



NF90 (A-3): sc-377406. Western blot analysis of NF90 expression in F9 (**A**), Hep G2 (**B**), WI-38 (**C**), HeLa (**D**), HL-60 (**E**) and Jurkat (**F**) whole cell lysates.



NF90 (A-3): sc-377406. Immunofluorescence staining of methanol-fixed HeLa cells showing nucleolar and nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear staining of cells in seminiferous ducts and Leydig cells (**B**).

SELECT PRODUCT CITATIONS

1. Shen, Y., et al. 2017. Nuclear retention of the lncRNA SNHG1 by doxorubicin attenuates hnRNPC-p53 protein interactions. EMBO Rep. 18: 536-548.
2. Jin, S.H., et al. 2019. RNA enhancement by lncRNA promotes translation through recruitment of ILF3 and EIF4A1 to the target mammalian mRNAs. Mol. Biol. 53: 64-73.
3. Chen, T., et al. 2020. SALL4 promotes tumor progression in breast cancer by targeting EMT. Mol. Carcinog. 59: 1209-1226.
4. Xie, F., et al. 2024. Smooth muscle NF90 deficiency ameliorates diabetic atherosclerotic calcification in male mice via FBXW7-AGER1-AGEs axis. Nat. Commun. 15: 4985.

RESEARCH USE

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