

NF90 (21): sc-136197

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, DRBP76 α (or ILF3-A), DRBP76 δ (also known as DRBP76 γ or ILF3-C) and isoform 6.

REFERENCES

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- 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.
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- Reichman, T.W., et al. 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.
- Zhao, G., et al. 2005. NF45/ILF2 tissue expression, promoter analysis, and interleukin-2 transactivating function. *Exp. Cell Res.* 305: 312-323.

CHROMOSOMAL LOCATION

Genetic locus: ILF3 (human) mapping to 19p13.2.

SOURCE

NF90 (21) is a mouse monoclonal antibody raised against amino acids 592-695 of NF90 of human origin.

PRODUCT

Each vial contains 50 μ g IgG₁ in 0.5 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

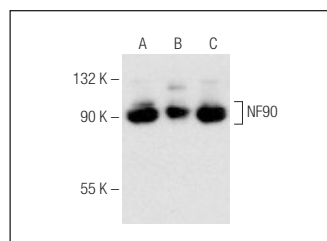
NF90 (21) is recommended for detection of NF90 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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

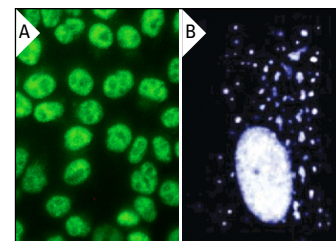
Molecular Weight of NF90 isoforms: 90/110/120 kDa.

Positive Controls: WI-38 whole cell lysate: sc-364260, Hep G2 cell lysate: sc-2227 or HeLa whole cell lysate: sc-2200.

DATA



NF90 (21): sc-136197. Western blot analysis of NF90 expression in Hep G2 (A), WI-38 (B) and HeLa (C) whole cell lysates.



NF90 (21): sc-136197. Immunofluorescence staining of methanol-fixed HeLa (A) and WI-38 (B) cells showing nuclear localization.

SELECT PRODUCT CITATIONS

- 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.
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- Cheung, C.Y., et al. 2022. Unconventional tonicity-regulated nuclear trafficking of NFAT5 mediated by KPNB1, XPOT and RUVBL2. *J. Cell Sci.* 135: jcs259280.

STORAGE

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