

p54/nrb (B-3): sc-377421

BACKGROUND

Found in both primary and transformed human cells, paraspeckles are discrete bodies in the interchromatin nucleoplasmic space which contain p54/nrb (nuclear RNA-binding protein) and at least two other RNA-binding proteins, paraspeckle protein 1 (PSP1) and paraspeckle protein 2 (PSP2). Paraspeckles often co-localize with splicing speckles, which are the site of splicing factor accumulation. Paraspeckle proteins, including p54/nrb, move dynamically between the nucleolus and paraspeckles and translocate to distinct caps in the nucleolar periphery when transcription is inhibited. Originally purified from HeLa cells, the nuclear p54/nrb has two RNA recognition motifs and shares extensive homology with both the human splicing factor PSF and *Drosophila* NONA/BJ6, which is required for normal vision and courtship. The shared domain between these proteins is termed a DBHS (*Drosophila* behavior, human splicing) domain and may play a role in regulating various pathways at the level of pre-mRNA splicing.

REFERENCES

1. Dong, B., Horowitz, D.S., Kobayashi, R. and Krainer, A.R. 1993. Purification and cDNA cloning of HeLa cell p54^{nrb}, a nuclear protein with two RNA recognition motifs and extensive homology to human splicing factor PSF and *Drosophila* NONA/BJ6. *Nucleic Acids Res.* 21: 4085-4092.
2. Brown, C.J., Carrel, L. and Willard, H.F. 1997. Expression of genes from the human active and inactive X chromosomes. *Am. J. Hum. Genet.* 60: 1333-1343.
3. Zhang, Z. and Carmichael, G.G. 2001. The fate of dsRNA in the nucleus: a p54^{nrb}-containing complex mediates the nuclear retention of promiscuously A-to-I edited RNAs. *Cell* 106: 465-475.
4. Fox, A.H., Lam, Y.W., Leung, A.K., Lyon, C.E., Andersen, J., Mann, M. and Lamond, A.I. 2002. Paraspeckles: a novel nuclear domain. *Curr. Biol.* 12: 13-25.

CHROMOSOMAL LOCATION

Genetic locus: NONO (human) mapping to Xq13.1; Nono (mouse) mapping to X D.

SOURCE

p54/nrb (B-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 419-453 near the C-terminus of p54/nrb of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-377421 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

p54/nrb (B-3) is recommended for detection of p54/nrb 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).

p54/nrb (B-3) is also recommended for detection of p54/nrb in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for p54/nrb siRNA (h): sc-38163, p54/nrb siRNA (m): sc-38164, p54/nrb shRNA Plasmid (h): sc-38163-SH, p54/nrb shRNA Plasmid (m): sc-38164-SH, p54/nrb shRNA (h) Lentiviral Particles: sc-38163-V and p54/nrb shRNA (m) Lentiviral Particles: sc-38164-V.

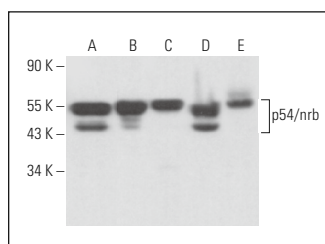
Molecular Weight of p54/nrb: 54 kDa.

Positive Controls: A549 cell lysate: sc-2413, F9 cell lysate: sc-2245 or A-10 cell lysate: sc-3806.

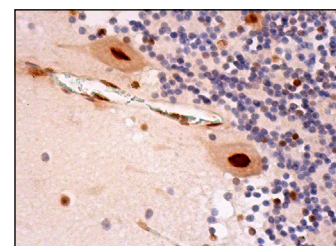
RECOMMENDED SUPPORT REAGENTS

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



p54/nrb (B-3): sc-377421. Western blot analysis of p54/nrb expression in A549 (A), F9 (B) and A-10 (C) whole cell lysates, NIH/3T3 nuclear extract (D) and rat ovary tissue extract (E).



p54/nrb (B-3): sc-377421. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing nuclear and cytoplasmic staining of Purkinje cells and nuclear staining of subset of cells in granular layer and subset of cells in molecular layer.

RESEARCH USE

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