SANTA CRUZ BIOTECHNOLOGY, INC.

p54/nrb (A-9): sc-166704

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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., et al. 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., et al 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., et al. 2002. Paraspeckles: a novel nuclear domain. Curr. Biol. 12: 13-25.
5. Shav-Tal, Y. and Zipori, D. 2002. PSF and p54/nrb/NonO—multi-functional nuclear proteins. FEBS Lett. 531: 109-114.

CHROMOSOMAL LOCATION

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

SOURCE

p54/nrb (A-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1-40 at the N-terminus of p54/nrb of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-166704 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-166704 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

p54/nrb (A-9) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p54/nrb (A-9) is also recommended for detection of p54/nrb in additional species, including equine, canine, bovine and porcine.

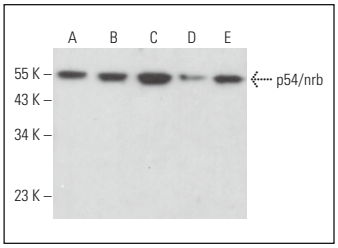
Suitable for use as control antibody for p54/nrb siRNA (h): sc-38163, p54/nrb siRNA (m): sc-38164, p54/nrb shRNA Plasmid (h): sc-38163-SH, p54/nrb shRNA Plasmid (m): sc-38164-SH, p54/nrb shRNA (h) Lentiviral Particles: sc-38163-V and p54/nrb shRNA (m) Lentiviral Particles: sc-38164-V.

p54/nrb (A-9) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

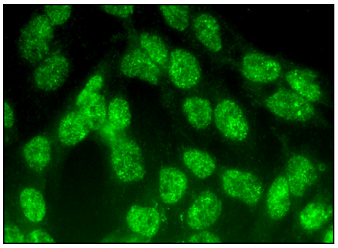
Molecular Weight of p54/nrb: 54 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, MCF7 nuclear extract: sc-2149 or HUV-EC-C whole cell lysate: sc-364180.

DATA



p54/nrb (A-9): sc-166704. Western blot analysis of p54/nrb expression in HeLa (**A**), F9 (**B**), HUV-EC-C (**C**) and TK-1 (**D**) whole cell lysates and MCF7 nuclear extract (**E**).



p54/nrb (A-9): sc-166704. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Acosta-Alvear, D., et al. 2018. The unfolded protein response and endoplasmic reticulum protein targeting machineries converge on the stress sensor IRE1. Elife 7: e43036.
2. Yi, T., et al. 2020. Generation of a NONO homozygous knockout human induced pluripotent stem cell line by CRISPR/Cas9 editing. Stem Cell Res. 47: 101893.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.