SANTA CRUZ BIOTECHNOLOGY, INC.

p54/nrb (3): sc-136296

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 (3) is a mouse monoclonal antibody raised against amino acids 368-471 of p54/nrb of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol, and 0.04% stabilizer protein.

STORAGE

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

RESEARCH USE

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

APPLICATIONS

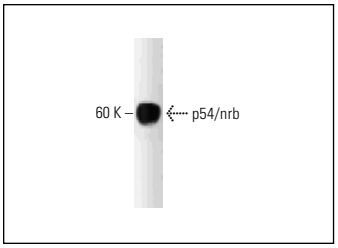
p54/nrb (3) is recommended for detection of p54/nrb of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for 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: Jurkat whole cell lysate: sc-2204, HeLa nuclear extract: sc-2120 or HeLa whole cell lysate: sc-2200.

DATA



p54/nrb (3): sc-136296. Western blot analysis of p54/nrb expression in Jurkat whole cell lysate.

SELECT PRODUCT CITATIONS

1. Du, C., et al. 2014. The adipogenic transcriptional cofactor ZNF638 interacts with splicing regulators and influences alternative splicing. J. Lipid Res. 55: 1886-1896.
2. Li, D., et al. 2018. Ets-1 promoter-associated noncoding RNA regulates the NONO/ERG/Ets-1 axis to drive gastric cancer progression. Oncogene 37: 4871-4886.
3. Xu, X., et al. 2021. Knockout of the NONO gene inhibits neointima formation in a mouse model of vascular injury. arterioscler. Thromb. Vasc. Biol. 41: 1428-1445.

PROTOCOLS

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