

NSUN2 (H-224): sc-366094

BACKGROUND

The nucleolus consists of a number of specific proteins that play a critical role in the assembly of ribosomes, as well as in the maintenance and structural integrity of the nucleolus. NSUN2 (NOL1/NOP2/Sun domain family, member 2), also known as MISU, SAKI, TRM4 (tRNA methyltransferase 4 homolog) or substrate of AIM1/Aurora kinase B is a 767 amino acid protein that belongs to the methyltransferase superfamily. NSUN2 is concentrated in the nucleolus during interphase and distributed in the perichromosome and cytoplasm during mitosis. Considered a RNA methyltransferase, NSUN2 methylates tRNAs, and possibly RNA polymerase III transcripts. It is suggested that NSUN2 may act downstream of Myc to regulate epidermal cell growth and proliferation.

REFERENCES

1. Merla, G., et al. 2002. Identification of additional transcripts in the Williams-Beuren syndrome critical region. *Hum. Genet.* 110: 429-438.
2. Frye, M. and Watt, F.M. 2006. The RNA methyltransferase Misu (NSun2) mediates Myc-induced proliferation and is upregulated in tumors. *Curr. Biol.* 16: 971-981.
3. Brzezicha, B., et al. 2006. Identification of human tRNA:m5C methyltransferase catalysing intron-dependent m5C formation in the first position of the anticodon of the pre-tRNA Leu (CAA). *Nucleic Acids Res.* 34: 6034-6043.
4. Walbott, H., et al. 2007. The carboxyl-terminal extension of yeast tRNA m5C methyltransferase enhances the catalytic efficiency of the amino-terminal domain. *J. Biol. Chem.* 282: 23663-23671.
5. Sakita-Suto, S., et al. 2007. Aurora-B regulates RNA methyltransferase NSUN2. *Mol. Biol. Cell* 18: 1107-1117.
6. Blanchard, Y., et al. 2007. The promoter of the rat 5 α -reductase type 1 gene is bidirectional and Sp1-dependent. *Mol. Cell. Endocrinol.* 264: 171-183.

CHROMOSOMAL LOCATION

Genetic locus: NSUN2 (human) mapping to 5p15.31; Nsun2 (mouse) mapping to 13 C1.

SOURCE

NSUN2 (H-224) is a rabbit polyclonal antibody raised against amino acids 497-720 mapping near the C-terminus of NSUN2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-366094 X, 200 μ g/0.1 ml.

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.

APPLICATIONS

NSUN2 (H-224) is recommended for detection of NSUN2 of mouse, rat and 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)], 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); non cross-reactive with other NSUN family members.

NSUN2 (H-224) is also recommended for detection of NSUN2 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for NSUN2 siRNA (h): sc-75964, NSUN2 siRNA (m): sc-75965, NSUN2 shRNA Plasmid (h): sc-75964-SH, NSUN2 shRNA Plasmid (m): sc-75965-SH, NSUN2 shRNA (h) Lentiviral Particles: sc-75964-V and NSUN2 shRNA (m) Lentiviral Particles: sc-75965-V.

NSUN2 (H-224) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

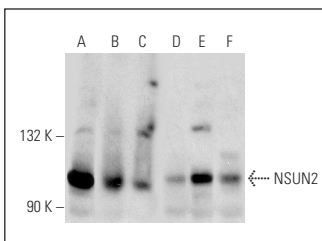
Molecular Weight of NSUN2: 100 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or MCF7 whole cell lysate: sc-2206.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



NSUN2 (H-224): sc-366094. Western blot analysis of NSUN2 expression in HeLa (A), MCF7 (B), SH-SY5Y (C), RT-4 (D), Jurkat (E) and IMR-32 (F) whole cell lysates.

PROTOCOLS

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