

# NSUN2 (N-19): sc-83445



The Power to Question

## 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., Ucla, C., Guipponi, M. and Reymond, A. 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., Schmidt, M., Makalowska, I., Jarmolowski, A., Pienkowska, J. and Szweykowska-Kulinska, Z. 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., Auxilien, S., Grosjean, H. and Golinelli-Pimpaneau, B. 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

NSUN2 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of NSUN2 of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-83445 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-83445 X, 200 µg/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.

## APPLICATIONS

NSUN2 (N-19) 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 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); non cross-reactive with other NSUN family members.

NSUN2 (N-19) is also recommended for detection of NSUN2 in additional species, including equine, canine, bovine 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 (N-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

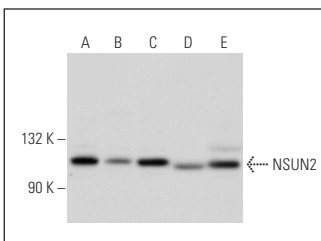
Molecular Weight of NSUN2: 100 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, Hep G2 cell lysate: sc-2227 or HeLa whole cell lysate: sc-2200.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



NSUN2 (N-19): sc-83445. Western blot analysis of NSUN2 expression in HeLa (A), Hep G2 (B), MCF7 (C), U-251-MG (D) and U-698-M (E) whole cell lysates.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.