

NSUN4 (L-14): sc-83448

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. NSUN4 (NOL1/NOP2/Sun domain family member 4), also known as putative methyltransferase NSUN4, is a 384 amino acid protein belonging to the RsmB/NOP family and methyltransferase superfamily. NSUN4 exists as three alternatively spliced isoforms that are encoded by a gene mapping to human chromosome 1p33. Chromosome 1 houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome. Aberrations in chromosome 1 are found in a variety of cancers, including head and neck cancer, malignant melanoma and multiple myeloma.

REFERENCES

1. Eudy, J.D., et al. 1998. Mutation of a gene encoding a protein with extracellular matrix motifs in Usher syndrome type IIa. *Science* 280: 1753-1757.
2. Lau, E.K., et al. 1999. Two novel polymorphic sequences in the glucocerebrosidase gene region enhance mutational screening and founder effect studies of patients with Gaucher disease. *Hum. Genet.* 104: 293-300.
3. Plasilova, M., et al. 2004. Exclusion of an extracolonic disease modifier locus on chromosome 1p33-36 in a large Swiss familial adenomatous polyposis kindred. *Eur. J. Hum. Genet.* 12: 365-371.
4. Betarbet, R., et al. 2008. FAS-associated factor 1 and Parkinson's disease. *Neurobiol. Dis.* 31: 309-315.
5. Urov, Y.B., et al. 2008. The schizophrenia brain exhibits low-level aneuploidy involving chromosome 1. *Schizophr. Res.* 98: 139-147.
6. Gratacòs, M., et al. 2009. Identification of new putative susceptibility genes for several psychiatric disorders by association analysis of regulatory and non-synonymous SNPs of 306 genes involved in neurotransmission and neurodevelopment. *Am. J. Med. Genet. B Neuropsychiatr. Genet.* 150B: 808-816.
7. Balcárková, J., et al. 2009. Gain of chromosome arm 1q in patients in relapse and progression of multiple myeloma. *Cancer Genet. Cytogenet.* 192: 68-72.
8. Yokoi, T., et al. 2009. Analysis of the vitreous membrane in a case of type 1 Stickler syndrome. *Graefes Arch. Clin. Exp. Ophthalmol.* 247: 715-718.

CHROMOSOMAL LOCATION

Genetic locus: NSUN4 (human) mapping to 1p33; Nsun4 (mouse) mapping to 4 D1.

SOURCE

NSUN4 (L-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NSUN4 of human origin.

STORAGE

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

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-83448 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-83448 X, 200 µg/0.1 ml.

APPLICATIONS

NSUN4 (L-14) is recommended for detection of NSUN4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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.

NSUN4 (L-14) is also recommended for detection of NSUN4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for NSUN4 siRNA (h): sc-75966, NSUN4 siRNA (m): sc-75967, NSUN4 shRNA Plasmid (h): sc-75966-SH, NSUN4 shRNA Plasmid (m): sc-75967-SH, NSUN4 shRNA (h) Lentiviral Particles: sc-75966-V and NSUN4 shRNA (m) Lentiviral Particles: sc-75967-V.

NSUN4 (L-14) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of NSUN4: 43 kDa.

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) 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.

RESEARCH USE

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

PROTOCOLS

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