

# MNS1 (K-12): sc-138433

## BACKGROUND

MNS1 (meiosis-specific nuclear structural 1) is a 495 amino acid nuclear protein that is thought to play a role in meiotic division and germ cell differentiation. In mice, MNS1 is expressed during the pachytene stage of spermatogenesis and is a member of the MNS1 family. The gene encoding MNS1 maps to human chromosome 15q21.3 and mouse chromosome 9 D. Encoding more than 700 genes, chromosome 15 is made up of approximately 106 million base pairs and is about 3% of the human genome. Angelman and Prader-Willi syndromes are associated with loss of function or deletion of genes in the 15q11-q13 region. In the case of Angelman syndrome, this loss is due to inactivity of the maternal 15q11-q13 encoded UBE3A gene in the brain by either chromosomal deletion or mutation. In cases of Prader-Willi syndrome, there is a partial or complete deletion of this region from the paternal copy of chromosome 15. Tay-Sachs disease is a lethal disorder associated with mutations of the HEXA gene, which is encoded by chromosome 15. Marfan syndrome is associated with chromosome 15 through the FBN1 gene.

## REFERENCES

- Hurowitz, G.I., et al. 1993. Neuropsychiatric aspects of adult-onset Tay-Sachs disease: two case reports with several new findings. *J. Neuropsychiatry Clin. Neurosci.* 5: 30-36.
- Furukawa, K., et al. 1994. cDNA cloning and functional characterization of a meiosis-specific protein (MNS1) with apparent nuclear association. *Chromosome Res.* 2: 99-113.
- Hotta, Y., et al. 1995. Meiosis specific transcription and functional proteins. *Adv. Biophys.* 31: 101-115.
- Midla, G.S. 2008. Diagnosis and management of patients with Marfan syndrome. *JAAPA* 21: 21-25.
- Dan, B. 2009. Angelman syndrome: current understanding and research prospects. *Epilepsia* 50: 2331-2339.
- Ferrer-Bolufer, I., et al. 2009. Tyrosinemia type 1 and Angelman syndrome due to paternal uniparental isodisomy 15. *J. Inherit. Metab. Dis.* 32: S349-S53.

## CHROMOSOMAL LOCATION

Genetic locus: MNS1 (human) mapping to 15q21.3; Mns1 (mouse) mapping to 9 D.

## SOURCE

MNS1 (K-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MNS1 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-138433 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MNS1 (K-12) is recommended for detection of MNS1 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).

Suitable for use as control antibody for MNS1 siRNA (h): sc-90287, MNS1 siRNA (m): sc-149488, MNS1 shRNA Plasmid (h): sc-90287-SH, MNS1 shRNA Plasmid (m): sc-149488-SH, MNS1 shRNA (h) Lentiviral Particles: sc-90287-V and MNS1 shRNA (m) Lentiviral Particles: sc-149488-V.

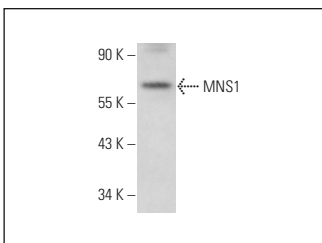
Molecular Weight of MNS1: 61 kDa.

Positive Controls: NIH/3T3 nuclear extract: sc-2138.

## 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



MNS1 (K-12): sc-138433. Western blot analysis of MNS1 expression in NIH/3T3 nuclear extract.

## 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.

## PROTOCOLS

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