SANTA CRUZ BIOTECHNOLOGY, INC.

Nop56 (Q-24): sc-133839

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Nop1p (nucleolar protein 1) is a phylogenetically conserved protein essential for efficient processing of pre-rRNA through its association with a class of small nucleolar RNAs during ribosomal biogenesis. Small nucleolar RNAs (snoRNAs) are associated in ribonucleoprotein particles localized to the nucleolus (snoRNPs). Nop1p is structurally and functionally homologous to vertebrate fibrillarin and is essential for viability. The *Saccharomyces cerevisiae* NOP1 gene encodes a protein resembling the dense fibrillar region of mammalian nucleoli. Nop5p functions with Nop1p in the execution of early pre-rRNA processing steps that lead to formation of 18 S rRNA. In Archaea, fibrillarin and Nop5p comprise the core complex of box C/D snoRNAs, which are responsible for site-specific 2'-hydroxyl methylation of ribosomal and transfer RNAs. Nop56p is a component of the box C/D small nucleolar ribonucleoprotein complexes that direct 2'-O-methylation of pre-rRNA during its maturation.

REFERENCES

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2. Lafontaine, DL. et al. 2000. Synthesis and assembly of the box C+D small nucleolar RNPs. Mol. Cell. Biol. 20: 2650-2659.
3. Nelson, SA. et al. 2000. Multiple growth factor induction of a murine early response gene that complements a lethal defect in yeast ribosome biogenesis. J. Biol. Chem. 275: 13835-13841.
4. Verheggen, C. et al. 2001. Box C/D small nucleolar RNA trafficking involves small nucleolar RNP proteins, nucleolar factors and a novel nuclear domain. EMBO J. 20: 5480-5490.
5. Aittaleb, M. et al. 2003. Structure and function of archaeal box C/D sRNP core proteins. Nat. Struct. Biol. 10: 256-263.
6. Hayano, T. et al. 2003. Proteomic analysis of human Nop56p-associated pre-ribosomal ribonucleoprotein complexes. Possible link between Nop56p and the nucleolar protein treacle responsible for Treacher Collins syndrome. J. Biol. Chem. 278: 34309-34319.
7. Bortolin, ML. et al. 2003. *In vitro* RNP assembly and methylation guide activity of an unusual box C/D RNA, *cis*-acting archaeal pre-tRNA(Trp). Nucleic Acids Res. 31: 6524-6535.
8. Aittaleb, M. et al. 2004. Structural and thermodynamic evidence for a stabilizing role of Nop5p in S-adenosyl-L-methionine binding to fibrillarin. J. Biol. Chem. 279: 41822-41829.
9. Hardin, JW. et al. 2006. The bipartite architecture of the sRNA in an archaeal box C/D complex is a primary determinant of specificity. Nucleic Acids Res. 34: 5039-5051.

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.

CHROMOSOMAL LOCATION

Genetic locus: NOL5A (human) mapping to 20p13; Nol5a (mouse) mapping to 2 F1.

SOURCE

Nop56 (Q-24) is an affinity purified rabbit polyclonal antibody raised against synthetic Nop56 peptide of human origin.

PRODUCT

Each vial contains 50 µg IgG in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

Nop56 (Q-24) is recommended for detection of Nop56 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Nop56 siRNA (h): sc-106309, Nop56 siRNA (m): sc-150033, Nop56 shRNA Plasmid (h): sc-106309-SH, Nop56 shRNA Plasmid (m): sc-150033-SH, Nop56 shRNA (h) Lentiviral Particles: sc-106309-V and Nop56 shRNA (m) Lentiviral Particles: sc-150033-V.

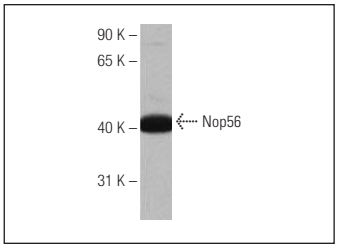
Molecular Weight of Nop56: 66 kDa.

Positive Controls: human fetal lung tissue extract.

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).

DATA



Nop56 (Q-24): sc-133839. Western blot analysis of Nop56 expression in human fetal lung tissue extract.

PROTOCOLS

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