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Fibrillarin (Nop1p) Antibody
Mouse monoclonal antibody
Catalog # AN1141

Specification

Fibrillarin (Nop1p) Antibody - Product Information

Application	**WB, IF**
Primary Accession	P15646
Reactivity	**Human, Rat**
Host	**mouse**
Clonality	**monoclonal**
Isotype	**IgG1**
Calculated MW	**34 KDa**

Fibrillarin (Nop1p) Antibody - Additional Information

Gene ID	**851548**
Gene Name	**NOP1**

Other Names
rRNA 2'-O-methyltransferase fibrillarin, 211-, Histone-glutamine methyltransferase, U3 small nucleolar RNA-associated protein NOP1, Nucleolar protein 1, U3 snoRNA-associated protein NOP1, NOP1, LOT3

Target/Specificity
Yeast nuclear preparations.

Dilution
WB~~ 1:1000
IF~~ 1:500

Format
Total IgG fraction

Antibody Specificity
Specific for the ~34kDa Fibrillarin /Nop1p protein.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Fibrillarin (Nop1p) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

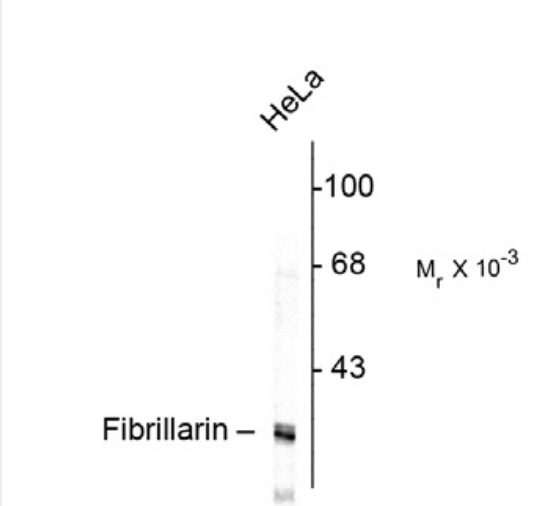
Shipping
Blue Ice

Fibrillarin (Nop1p) Antibody - Protocols

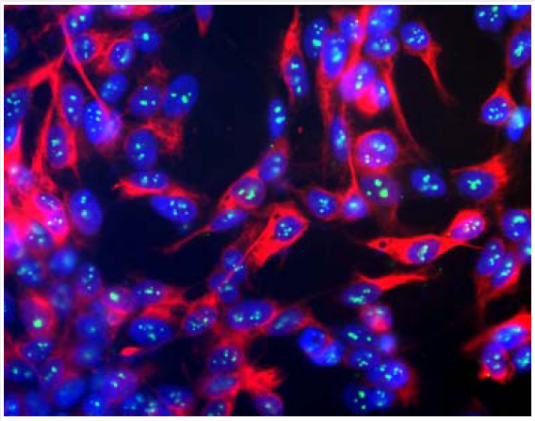
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Fibrillarin (Nop1p) Antibody - Images



Western blot of HeLa lysate showing specific immunolabeling of the ~ 34k fibrillarin protein.



Human SH-SY5Y cells stained with mouse-anti-fibrillarin, showing prominent specular nucleolar staining. The nuclei are counter stained with blue DAPI DNA stain, so these spots appear very pale blue.

Fibrillarin (Nop1p) Antibody - Background

Nop1p was originally identified as a nucleolar protein of bakers yeast, Saccharomyces cerevisiae. The Nop1p protein is 327 amino acids in size (34.5kDa), is essential for yeast viability, and is localized in the nucleoli (1). The systematic name for S. cerevisiae Nop1 is YDL014W, and it is now known to be part of the small subunit processome complex, involved in the processing of pre-18S ribosomal RNA. Nop1p is the yeast homologue of a protein found in all eukaryotes and archea

generally called fibrillarin (2). Fibrillarin/Nop1p is extraordinarily conserved, so that the yeast and human proteins are 67% identical, and the human protein can functionally replace the yeast protein. Patients with the autoimmune disease scleroderma often have strong circulating autoantibodies to a ~34kDa protein which was subsequently found to be fibrillarin. Recent studies show that knock-out of the fibrillarin gene in mice results in embryonic lethality, although mice with only one functional fibrillarin/Nop1p gene were viable (3). This antibody is becoming widely used as a convenient marker for nucleoli in a wide variety of species (e.g. 4-6).

Fibrillarin (Nop1p) Antibody - References

1. Ochs RL, Lischwe MA, Spohn WH, Busch H. Fibrillarin: a new protein of the nucleolus identified by autoimmune sera. Biol Cell 54:123-133 (1985).
2. Aris JP and Blobel G. Identification and characterization of a yeast nucleolar protein that is similar to a rat liver nucleolar protein. J. Cell Biol. 107:17-31 (1988).
3. Newton K, Petfalski E, Tollervey D, Caceres JF. Fibrillarin is essential for early development and required for accumulation of an intron-encoded small nucleolar RNA in the mouse. Mol Cell Biol. 23:8519-8527 (2003).
4. Tyagi S and Alsmadi O. Imaging native beta-actin mRNA in motile fibroblasts. Biophys J. 87:4153-62 (2004).
5. Paeschke1 K, Simonsson T, Postberg J, Rhodes D, Lipps H-J. Telomere end-binding proteins control the formation of G-quadruplex DNA structures in vivo Nature Structural & Molecular Biology 12, 847-854 (2005).
6. Vermaak D, Henikoff S, Malik HS. Positive selection drives the evolution of rhino, a member of the heterochromatin protein 1 family in Drosophila. PLoS Genetics 1:96-108 (2005).