

AM08249PU-N**Monoclonal Antibody to FBL - Ig Fraction****Alternate names:**

FIB1, FLRN, Fibrillarin, LOT3, NOP1, Nucleolar Marker, Nucleolar protein 1, RNU3IP1, U3 small nucleolar RNA-associated protein NOP1, rRNA 2'-O-methyltransferase fibrillarin

Quantity:

0.1 ml

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).

Uniprot ID:

[P15646](#)

NCBI:

[NP_010270](#)

GeneID:

[851548](#)

Host / Isotype:

Mouse / IgG1

Clone:

38F3

Immunogen:

Yeast nuclear preparations.

Format:

State: Liquid Total IgG fraction
Preservatives: 10 mM Sodium Azide

Applications:

Western Blot: 1/1,000.
Immunofluorescence: 1/500.
Immunohistochemistry.

Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity:

Specific for the ~34kDa Fibrillarin /Nop1p protein.
This antibody is becoming widely used as a convenient marker for nucleoli in a wide variety of species (e.g. 4-6).

Species Reactivity:

Tested: Human, Rat, Plant, *Drosophila*, *C. elegans* and *S. pombe*.
Expected from sequence similarity: Mammals.

Storage:

Upon receipt, store (in aliquots) at -20°C to -80°C.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch.

General Readings:

1. Ochs RL, Lischwe MA, Spohn WH, Busch H. Fibrillarin: a new protein of the nucleolus identified by autoimmune sera. *Biol Cell*. 1985;54(2):123-33. PubMed PMID: 2933102.
2. Aris JP, Blobel G. Identification and characterization of a yeast nucleolar protein that is similar to a rat liver nucleolar protein. *J Cell Biol*. 1988 Jul;107(1):17-31. PubMed PMID: 3292539.
3. Newton K, Petfalski E, Tollervey D, Cáceres JF. Fibrillarin is essential for early development and required for accumulation of an intron-encoded small nucleolar RNA in the mouse. *Mol Cell Biol*. 2003 Dec;23(23):8519-27. PubMed PMID: 14612397.
4. Tyagi S, Alsmadi O. Imaging native beta-actin mRNA in motile fibroblasts. *Biophys J*. 2004 Dec;87(6):4153-62. Epub 2004 Sep 17. PubMed PMID: 15377515.
5. Paeschke 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 Genet*. 2005 Jul;1(1):96-108. Epub 2005 Jul 25. PubMed PMID: 16103923.

Pictures:

Figure 2. 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.

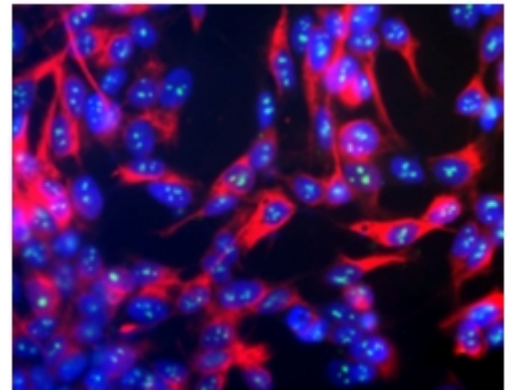


Figure 1. Western blot of HeLa lysate showing specific immunolabeling of the ~ 34k Fibrillar protein.

