Fibrillarin (Nop1p), Mouse Monoclonal Antibody

Catalog no. 480009

(See product label for lot information)

Product Description
Mouse monoclonal antibody

Clone/PAD: 38F3
Isotype: IgG_1
Qty: 100µl

Formulation
total IgG fraction contains 10 mM sodium azide.

Purification Method:
Total IgG fraction.

Validation
See www.invitrogen.com/antibodies for protocols
Validated for use in WB and IF.

WB: 1:1,000 IF: 1:500

Reactivity
This product had been directly tested for reactivity with Human, rat, plant, Drosophila, *C. elegans* and *S. pombe*. .

Immunogen
Yeast nuclear preparations.

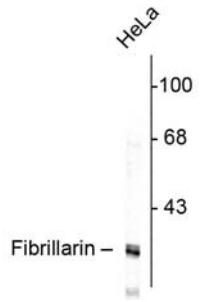
Storage
Store at -20°C. Avoid repeated freezing and thawing.

Expiration Date
See product label

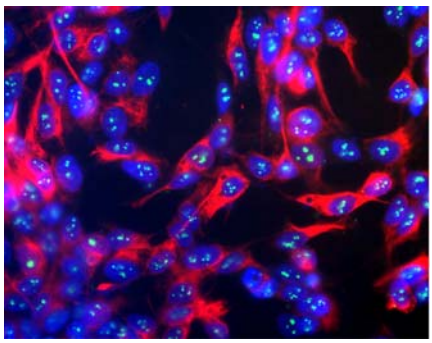
Explanation of symbols

Symbol	Description	Symbol	Description
REF	Catalogue Number	LOT	Batch code
RUO	Research Use Only	IVD	*In vitro* diagnostic medical device
	Use by		Temperature limitation
	Manufacturer	EC REP	European Community authorised representative
[-]	Without, does not contain	[+]	With, contains
	Protect from light		Consult accompanying documents
	Directs the user to consult instructions for use (IFU), accompanying the product.		

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).



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.

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).

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