Datasheet for ABIN1580417

# anti-Fibrillarin antibody

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## Overview

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| Quantity: | 500 µL |
| Target: | Fibrillarin (FBL) |
| Reactivity: | Saccharomyces cerevisiae |
| Host: | Mouse |
| Clonality: | Monoclonal |
| Application: | Western Blotting (WB), Immunofluorescence (IF), Immunohistochemistry (IHC), Immunocytochemistry (ICC) |

## Product Details

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| Clone: | 38F3 |
| Isotype: | IgG1 |
| Purification: | conc. tissue culture supernatant |

## Target Details

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| Target: | Fibrillarin (FBL) |
| Alternative Name: | Nop1p, Fibrillarin (FBL Products) |
| Background: | Nop1p was originally identified as a nucleolar protein of bakers yeast, Saccharomyces cerevisiae (accession P15646). The Nop1p protein is 327 amino acids in size, is essential for yeast viability, and is localized in the nucleoli. 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 |

## Target Details

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| | apparently found in all eukaryotes and archea generally called fibrillarin. 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. This means that suitably cross-reactive antibodies to Nop1p/fibrillarin, like MCA-38F3, can be used to reveal nucleoli and study fibrillarin/Nop1p in all eukaryotes and archea tested to date. Human fibrillarin has been characterized (accession P22087) and the human fibrillarin gene is located on chromosome 19. Fibrillarin/Nop1p proteins have been cloned and sequenced from several other species (e.g. Mouse, accession P35550, Xenopus accession P22232, C. elegans accession Q22053, and S. pombe accession P35551. The N terminal approx. 80 amino acids contain multiple copies based on the peptide RGG, or arginine-glycine-glycine, sometimes referred to as GAR repeats, characteristic of the GAR family of molecules. The remaining approx. 240 amino acids consist of the so called fibrillarin domain. A fibrillarin homologue has also been identified in the genome of the archean Methanococcus (accession NC_000909). This protein lacks the RGG rich N-terminal extension but is clearly homologous to the other sequences throughout all of the fibrillarin domain. The 3D structure of this molecule has been determined and shown to consist of 2 extended beta,-sheets flanked by alpha,-helixes (Medline link). Patients with the autoimmune disease scleroderma often have strong circulating autoantibodies to a approx. 34 kDa 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. This antibody is becoming widely used as a convenient marker for nucleoli in a wide variety of species (e.g. 4-6). The HGNC name for this protein is FBL. |
| Pathways: | Ribonucleoside Biosynthetic Process |

## Application Details

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| Application Notes: | For western blots of yeast protein samples, use MCA-38F3 diluted 1/2,000 (cell lysates) to 1/10,000 (nuclear fractions), followed by chemiluminescent detection (ECL). For other (non-ECL) western detection methods, try MCA-38F3 diluted 1/1,000 to 1/5,000. To detect mammalian fibrillarin on western blots by ECL, try MCA-38F3 at 1/500 dilution. For immunofluorescence on yeast cells, use MCA-38F3 diluted 1/1,000 to 1/5,000. For IF of mammalian cells, try MCA-38F3 at 1/500. |
| Restrictions: | For Research Use only |

## Handling

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| Format: | Liquid |
| Handling Advice: | Avoid repeated freezing and thawing. |
| Storage: | 4 °C/-20 °C |
| Storage Comment: | Store at 4°C short term or -20°C long term. |

## Publications

Product cited in:

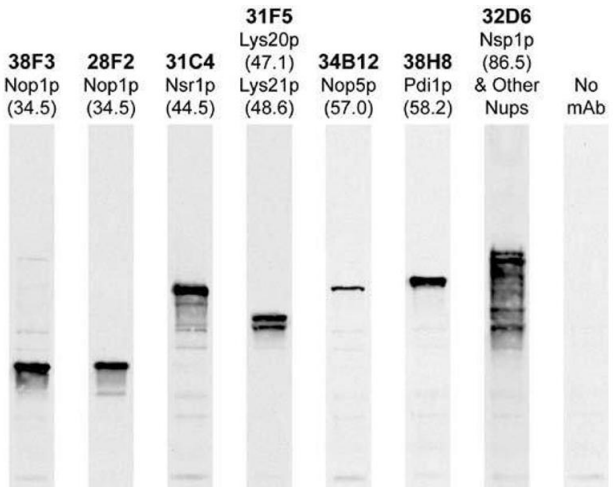
Kong, Xu, Yu, Zhu, Andrews, Yoon, Kuo: "Regulation of Ca2+-induced permeability transition by Bcl-2 is antagonized by Drpl and hFis1." in: **Molecular and cellular biochemistry**, Vol. 272, Issue 1-2, pp. 187-99, (2005) (PubMed).

Zhang, Ozawa, Lee, Wen, Tan, Wadzinski, Seto: "Histone deacetylase 3 (HDAC3) activity is regulated by interaction with protein serine/threonine phosphatase 4." in: **Genes & development**, Vol. 19, Issue 7, pp. 827-39, (2005) (PubMed).

DiPerna, Stack, Bowie, Boyd, Kotwal, Zhang, Arvikar, Latz, Fitzgerald, Marshall: "Poxvirus protein N1L targets the I-kappaB kinase complex, inhibits signaling to NF-kappaB by the tumor necrosis factor superfamily of receptors, and inhibits NF-kappaB and IRF3 signaling by toll-like receptors. " in: **The Journal of biological chemistry**, Vol. 279, Issue 35, pp. 36570-8, (2004) (PubMed).

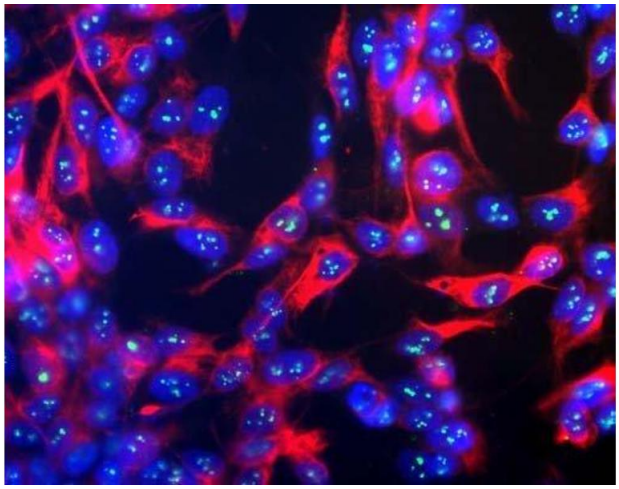
Lehtonen, Lehtonen, Kudlicka, Holthöfer, Farquhar: "Nephrin forms a complex with adherens junction proteins and CASK in podocytes and in Madin-Darby canine kidney cells expressing nephrin." in: **The American journal of pathology**, Vol. 165, Issue 3, pp. 923-36, (2004) (PubMed).

Tyagi, Agarwal, Harrison, Glode, Agarwal: "Silibinin causes cell cycle arrest and apoptosis in human bladder transitional cell carcinoma cells by regulating CDKI-CDK-cyclin cascade, and caspase 3 and PARP cleavages." in: **Carcinogenesis**, Vol. 25, Issue 9, pp. 1711-20, (2004) ( PubMed).




## Western Blotting

**Image 1.** Strip blots of yeast protein extracts stained with the indicated antibodies, ABIN1580417 is first lane on the left and stains a single band at ~34 kDa.



## Immunofluorescence

**Image 2.** Human SH-SY5Y cells stained with ABIN1580417, showing prominent specular nucleolar staining. The nuclei are counter stained with blue DAPI DNA stain, so these spots appear very pale blue. The cells are also stained with chicken antibody to neurofilament NF-H CPCA-NF- H. Diagram of Domain Structure: Generated from sequence of yeast Nop1p with SMART program from EMBL in Heidleberg. PFAM: fibrillarin refers to the fibrillarin domain. Scale is number of amino acids,