Ordering Information
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HGNC Name: FBL
UniProt: P22087
RRID: AB_2572264
Immunogen: Recombinant full length human fibrillarin sequence expressed in and purified from E. coli.
Format: Purified antibody at 1mg/mL in 50% PBS, 50% glycerol plus 5mM NaN_3
Storage: Store at 4°C for short term, for longer term store at -20°C
Recommended dilutions:
WB: 1:2,000. IF/ICC and IHC: 1:1,000-1:5,000.

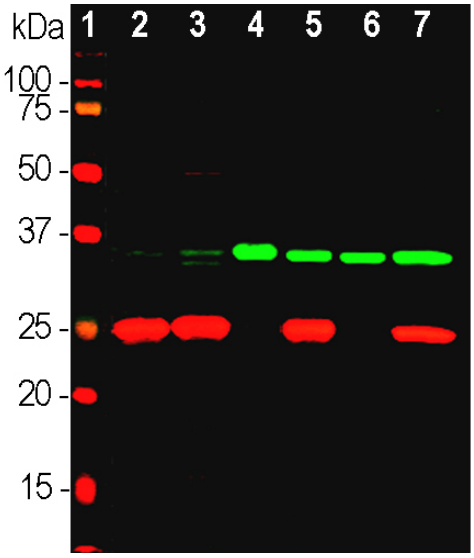
References:

1. 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).
2. Aris JP and Blobel G. cDNA cloning and sequencing of human fibrillarin, a conserved nucleolar protein recognized by autoimmune antisera. Proc. Natl. Acad. Sci. 88:931-5 (1991).
3. Ochs RL, Lischwe MA, Spohn WH, Busch H. Fibrillarin: a new protein of the nucleolus identified by autoimmune sera. Biol. Cell. 54:123-33 (1985).
4. 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. 23:8519-27 (2003).
5. Okano Y, Steen VD, Medsger TA. Autoantibody to U3 nucleolar ribonucleoprotein (fibrillarin) in patients with systemic sclerosis. Arth. Rheum. 35:95-100 (1992).

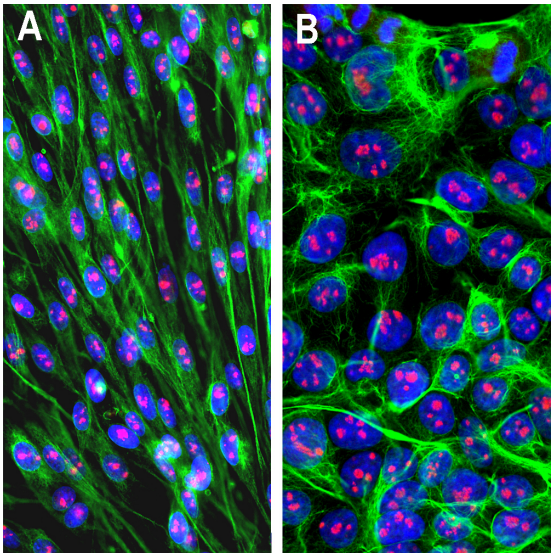
Fibrillarin Mouse Monoclonal Antibody

MCA-4A4

Applications	Host	Isotype	Molecular Wt.	Species Cross-Reactivity
WB, IF/ICC, IHC	Mouse	IgG1	34.5kDa	Hu, Rt, Ms



Western blot analysis of different tissue and cell line lysates using mouse mAb to fibrillarin MCA-4A4, dilution 1:2,000, in green: [1] protein standard (red), [2] rat whole brain, [3] mouse whole brain, [4] NIH-3T3 cells,[5] HEK293, [6] HeLa, and [7] SH-SY5Y cells. Strong band at ~35kDa corresponds to fibrillarin protein seen in all cell line lysates. A much weaker band is seen in tissue lysates since fibrillarin is more heavily expressed in rapidly dividing cells. The blot simultaneously was probed with rabbit pAb to UCHL1, RPCA-UCHL1, dilution 1:3,000, in red, revealing the ~25kDa UCHL1 protein in lysates of tissues containing neurons or cells with neuronal properties.



Immunofluorescent analysis of (A) C6 rat glioma cells and (B) HEK293 human embryonic kidney cells stained with mouse mAb to fibrillarin, MCA-4A4, dilution 1:1,000 in red, in both cases costained with chicken pAb to vimentin, CPCA-Vim, dilution 1:10,000 in green. The blue is DAPI staining of nuclear DNA. The MCA-4A4 antibody detects fibrillarin protein localized in nucleoli while the CPCA-Vim antibody produces strong staining of cytoplasmic intermediate filaments.

Background:

Fibrillarin is a highly conserved component of a nucleolar small ribonucleoprotein complex in mammals, involved in the processing of ribosomal RNA during ribosomal biogenesis. The protein runs at ~35kDa on SDS-PAGE and is very rich in basic amino acids having a PI of 9.8. Fibrillarin was originally identified in humans since autoantibodies staining nucleoli were seen in some patients with the autoimmune disease scleroderma (1). Subsequently the protein fibrillarin was found to be the human homologue of Nop1p, a *Saccharomyces cerevisiae* nucleolar protein, the two proteins being 67% identical (2,3). The MCA-38F3 antibody was made against a nuclear preparation from *S. cerevisiae* and found to bind the yeast protein Nop1p, and was then found to also bind human fibrillarin (2). The fibrillarin molecule consists of an N-terminal glycine and arginine rich region followed by a highly conserved globular domain. Embryonic knockout of the fibrillarin gene in mice is lethal, suggesting fundamental importance of this protein (4). Autoantibodies to fibrillarin are also seen in patients with the autoimmune disease systemic sclerocis (5).

The MCA-4A4 antibody was made against recombinant human fibrillarin expressed in and purified from *E. coli* and is superior on western blots of mammalian samples to the widely used MCA-38F3 antibody, which was originally raised against yeast Nop1p and later found to recognize fibrillarin, the mammalian homologue of the yeast protein. However MCA-38F3 has been documented to be usable as a marker of nucleoli in a wide variety of species, while MCA-4A4 has only been shown to work on mammalian species. We recently mapped the epitope for MCA-4A4 to TLEPYERDHAVVVGVYRPPP, amino acids 298-317 of the human sequence, at the C-terminal of the globular domain, see here. The KD is 4.22 X 10^{-10}M. We have also produced rabbit and chicken polyclonal antibodies to fibrillarin RPCA-Fib and CPCA-Fib also made against recombinant human fibrillarin.

Abbreviation Key:

mAb—Monoclonal Antibody pAb—Polyclonal Antibody WB—Western Blot IF—Immunofluorescence ICC—Immunocytochemistry IHC—Immunohistochemistry E—ELISA Hu—Human Mo—Monkey Do—Dog Rt—Rat Ms—Mouse Co—Cow Pi—Pig Ho—Horse Ch—Chicken Dr—D. rerio Dm—D. melanogaster Sm—S. mutans Ce—C. elegans Sc—S. cerevisiae Sa—S. aureus Ec—E. coli.

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