Supporting Information

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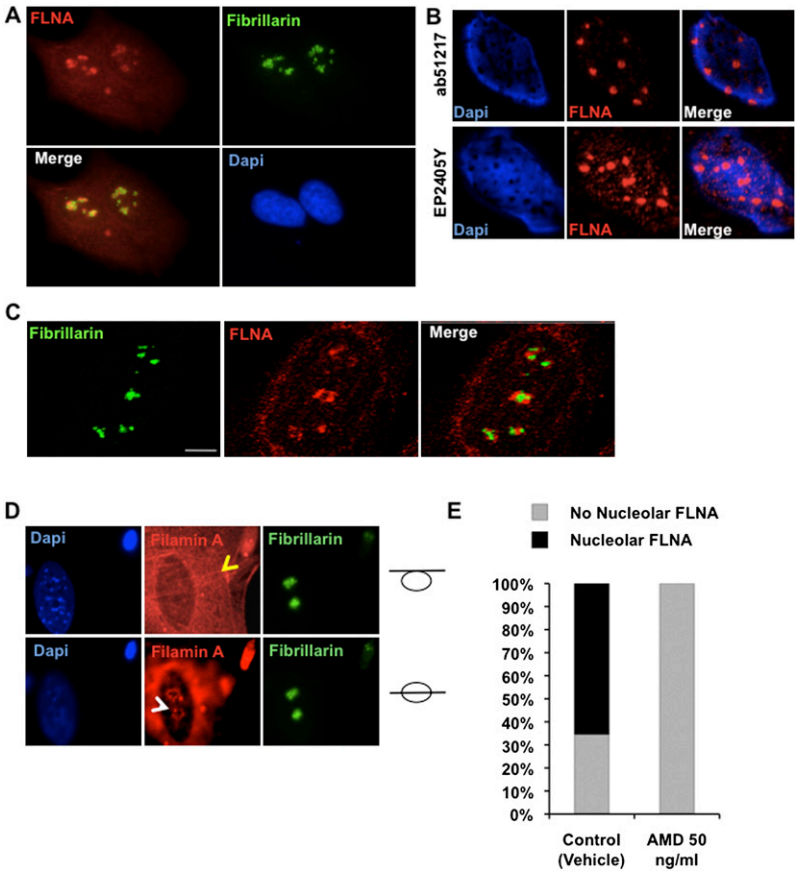

Fig. S1. Confocal microscopy showing filamin A (FLNA) in the nucleoli of HeLa cells and in primary cells. (*A*) Immunofluorescence microscopy showing co-localization of endogenous FLNA (red) and the nucleolar marker fibrillarin (green) in HeLa cells. (*B*) Nuclei isolated from SaOS-2 cells were stained with two different FLNA antibodies. The large discrete FLNA staining corresponds to the DAPI-deficient regions. The number and shape of the large discrete FLNA-containing bodies in each nucleus resembles the size and nuclear distribution of nucleoli. Ab51217 is a rabbit polyclonal antibody raised against a synthetic peptide around residue 2152 of human FLNA (Abcam). EP2405Y is a mouse monoclonal antibody raised against a synthetic peptide corresponding to residues in the C-terminal region of human FLNA (Abcam). (*C*) Immunofluorescence confocal microscopy showing colocalization of endogenous FLNA (red) and the nucleolar marker fibrillarin (green) in isolated nucleoli of SaOS-2 cells. (*D*) Immunofluorescence microscopy showing colocalization of endogenous FLNA (red) and the nucleolar marker fibrillarin (green) in primary mouse bone marrow stromal cells. (*Upper*) Apical section revealing the intense fibrillar staining of FLNA throughout the cell (yellow arrow). (*Lower*) Equatorial image of the same cell demonstrating that FLNA (white arrow) colocalizes with fibrillarin. (*E*) Graph showing the percentage of SaOS-2 cells containing nucleolar FLNA in the presence and absence of actinomycin D (AMD).

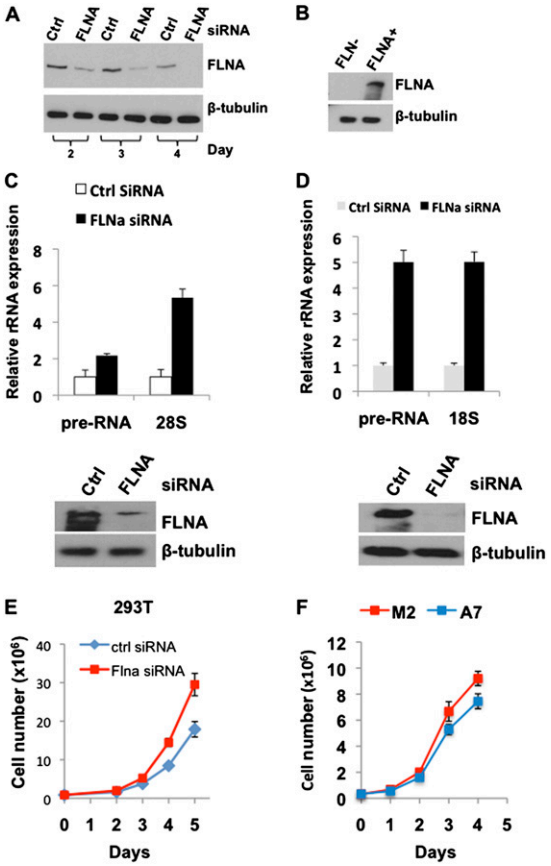

Fig. S2. Stable expression of FLNA shRNAs increases rRNA expression. (*A*) siRNA knockdown of FLNA. Immunoblots show the reduced expression of FLNA after transfection with FLNA siRNAs in SaOS-2 cells. (*B*) Immunoblot showing FLNA expression in M2 ($FLNA^{-}$) and A7 ($FLNA^{+}$) cells. (*C*) Quantitative RT-PCR (qRT-PCR) showing increased rRNA expression in SaOS-2 stably expressing FLNA shRNAs after lentivirus transduction. (*D*) qRT-PCR showing increased rRNA expression in 293T cells stably expressing FLNA shRNAs after lentivirus transduction. (*Lower*) Immunoblots of FLNA expression. (*E* and *F*) FLNA deficiency results in increased cell proliferation. 293T cells, stably expressing FLNA shRNAs (*E*) and M2 cells (*F*), proliferate at a faster rate than their FLNA-expressing counterparts do.