Supplemental Materials

Molecular Biology of the Cell

Ravel-Chapuis et al.

Staufen1 Impairs Stress Granule Formation in Skeletal Muscle Cells from Myotonic Dystrophy type 1 Patients

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Supplemental Material

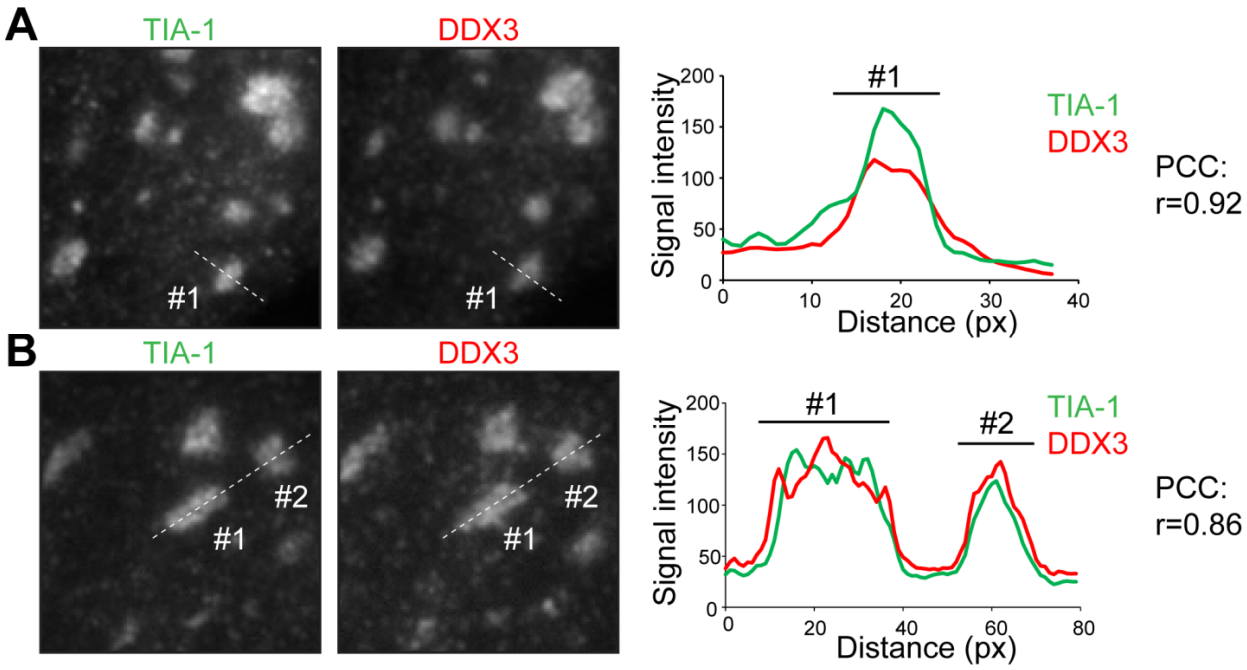

Figure S1: TIA-1 and DDX3 perfectly colocolize in C2C12 myoblasts and human primary fibroblasts. (A-B) Magnification of arsenite-treated mouse C2C12 from Figure 1A (A) and arsenite-treated human fibroblasts from Figure 5A.**(B)** Signal intensity histograms along a line segment crossing SGs showing a perfect overlap of TIA-1 and DDX3 immunostainings. Pearson's Correlation Coefficient (PCC) were measured on these magnifications.

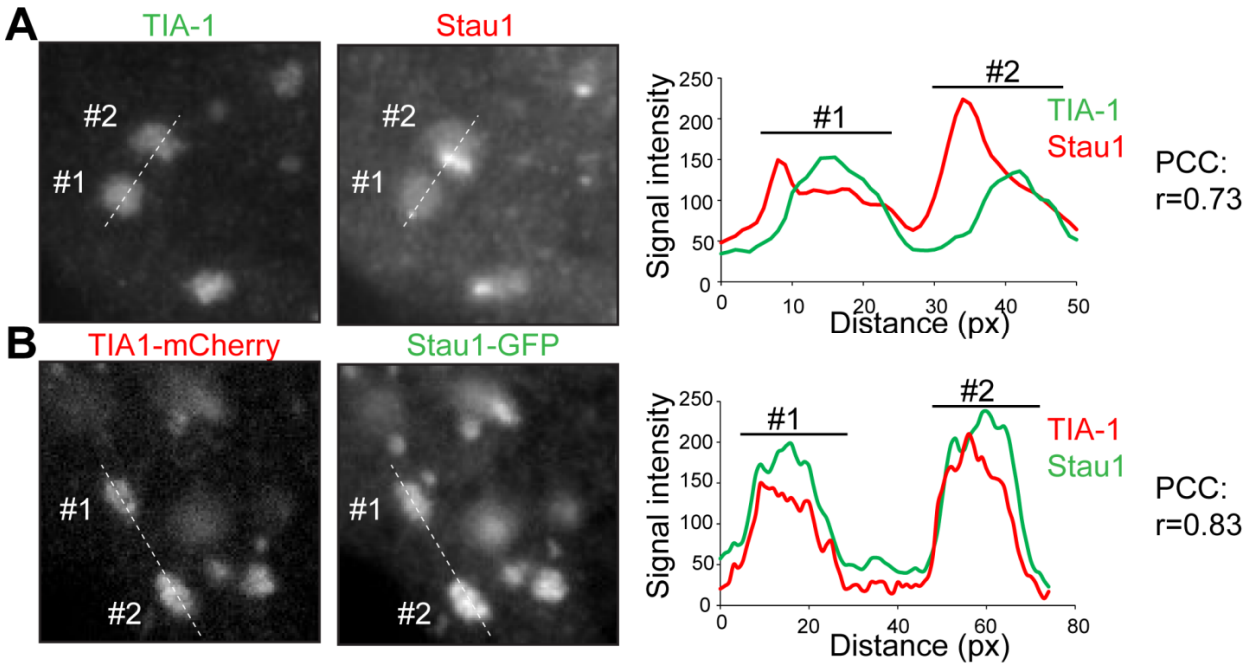

Figure S2: TIA-1 and Staufen1 colocolize in C2C12 myoblasts. (A-B) Magnification of arsenite-treated mouse C2C12 from Figure 2A (A) and arsenite-treated transfected C2C12 from from Figure 3A.**(B)** Signal intensity histograms along a line segment crossing SGs showing overlap of TIA-1 and Staufen1. Pearson's Correlation Coefficient (PCC) were measured on these magnifications.

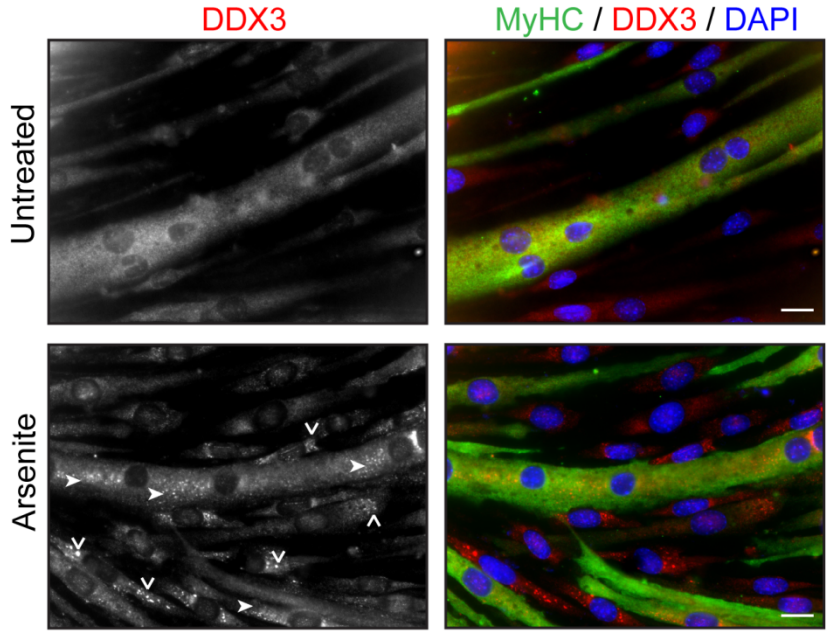

Figure S3: Arsenite induces formation of SGs in Myotubes. Three-day differentiated myotubes were untreated or treated with 0.5 mMarsenite for 45 min. Co-immunofluorescence staining was performed using DDX3 antibodies to visualize SGs and pan-MyHC antibodies to delineate differentiated myotubes. DAPI was used to stain nuclei. Plain and open arrowheads show SGs in myotubes and quiescent cells, respectively. Scale bars, 20 μm.

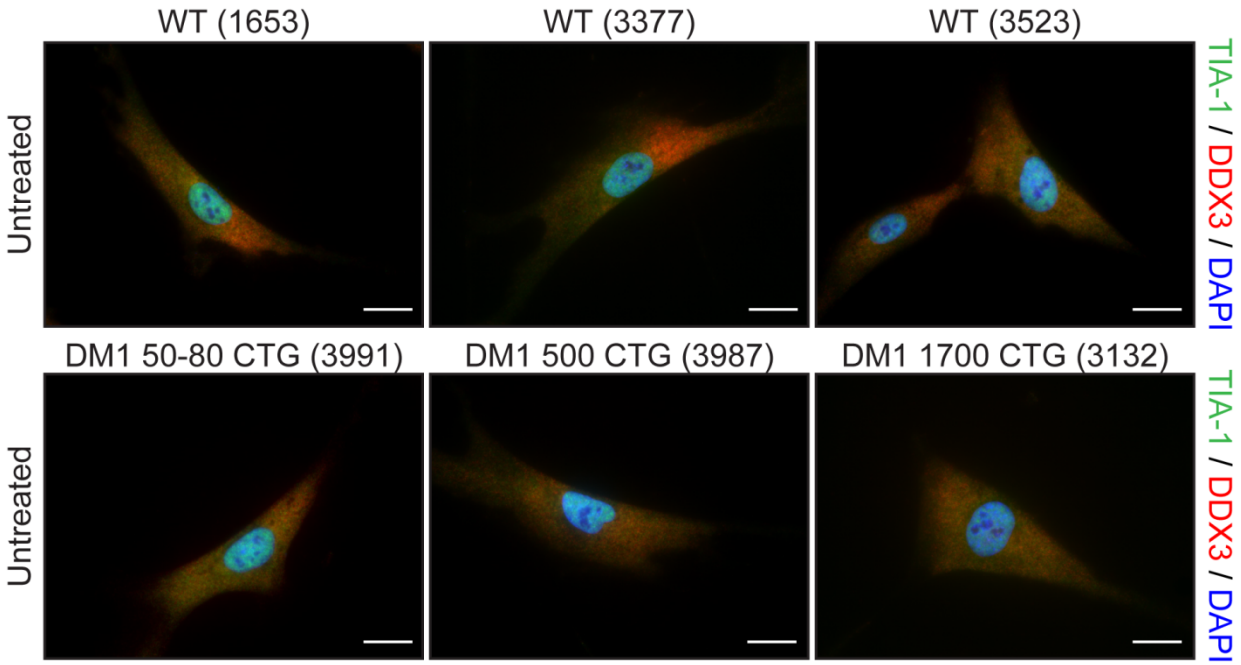

Figure S4: DM1 fibroblasts do not form spontaneous DDX3 or TIA1 cytoplasmic aggregates. Proliferative untreated wildtype (WT) and DM1 fibroblasts were stained with TIA-1 and DDX3 antibodies. DAPI was used to stain nuclei. Scale bars, 20 μm.

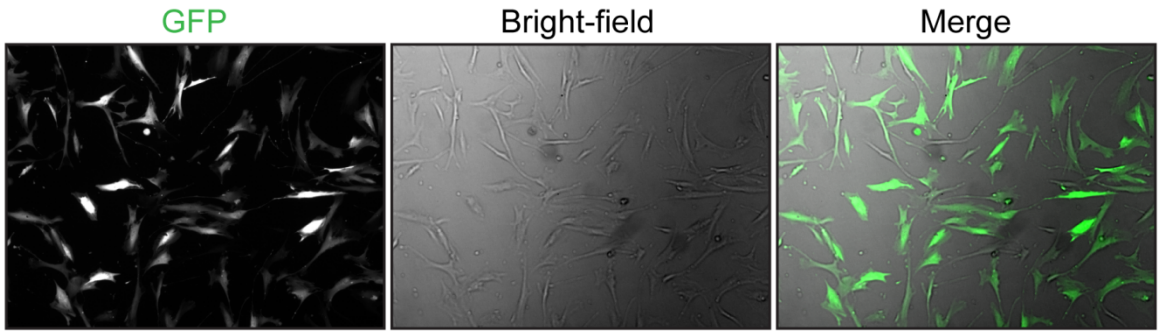

Figure S5: Control infection of human primary fibroblasts by a GFP-lentivirus. Proliferative fibroblasts were infected with a GFP-lentivirus. Representative microscopy image showing 100% infection of human fibroblasts by the GFP-lentivirus.

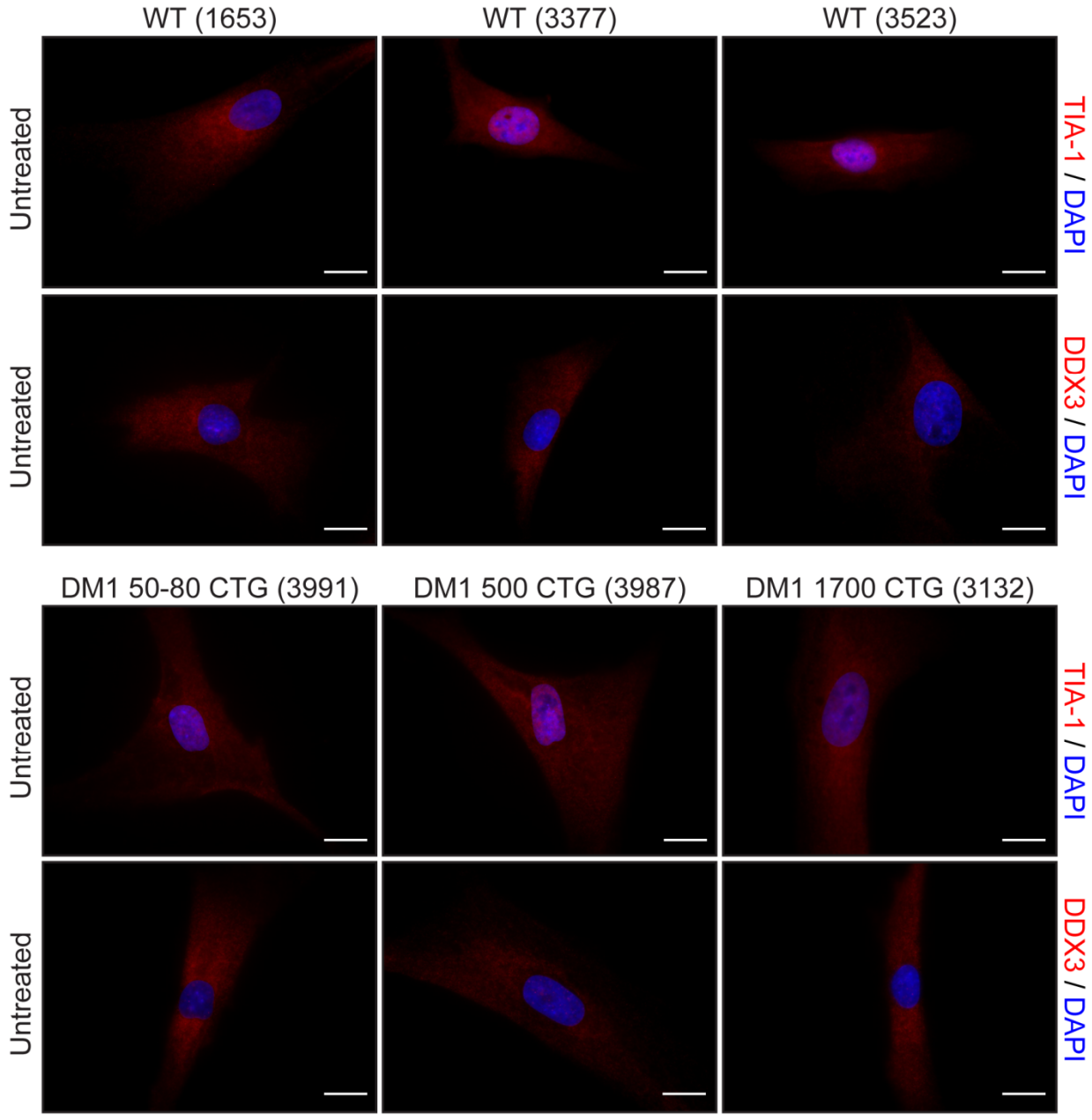

Figure S6: DM1 myoblasts do not form spontaneous DDX3 or TIA1 aggregates. WT and DM1 fibroblasts were converted into myoblasts by MyoD lentivirus infection. Immunofluorescence were performed using TIA-1 or DDX3 antibodies. DAPI was used to stain nuclei. Scale bar, 20 μm.

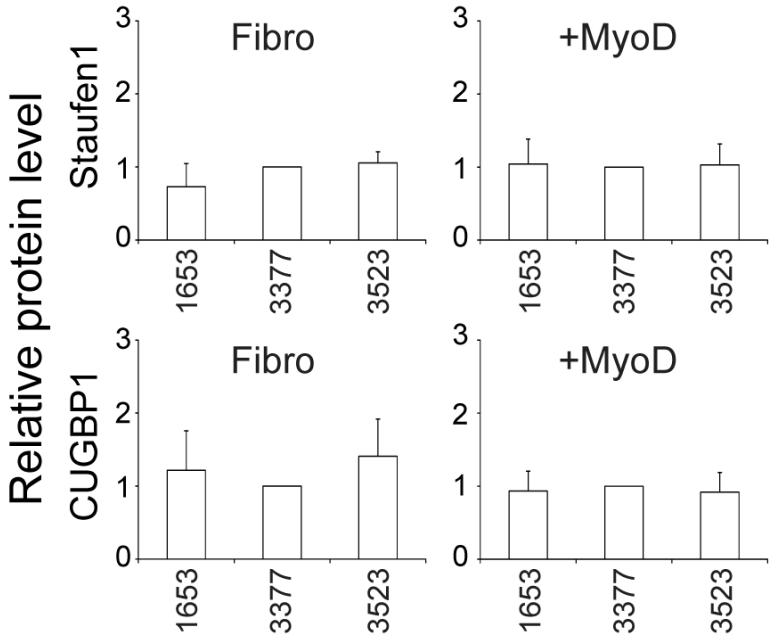

Figure S7: No difference in Staufen1 and CUGBP1 levels in wild-type control fibroblasts and MyoD-converted cells. Quantifications of Western blots from Figure 7D. n=3 to 4 independent experiments. T-tests revealed no significant difference between control cell lines.