

Supporting Information

Defining the Caprin-1 interactome in unstressed and stressed conditions

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Table S6 - Protein lists corresponding to Venn diagrams in Figure S4A – S4D.

Table S7 - Protein lists corresponding to the Venn diagram comparing RNA binding proteins and significant high confidence Caprin-1 interactors from Figure 3C.

Figure S1

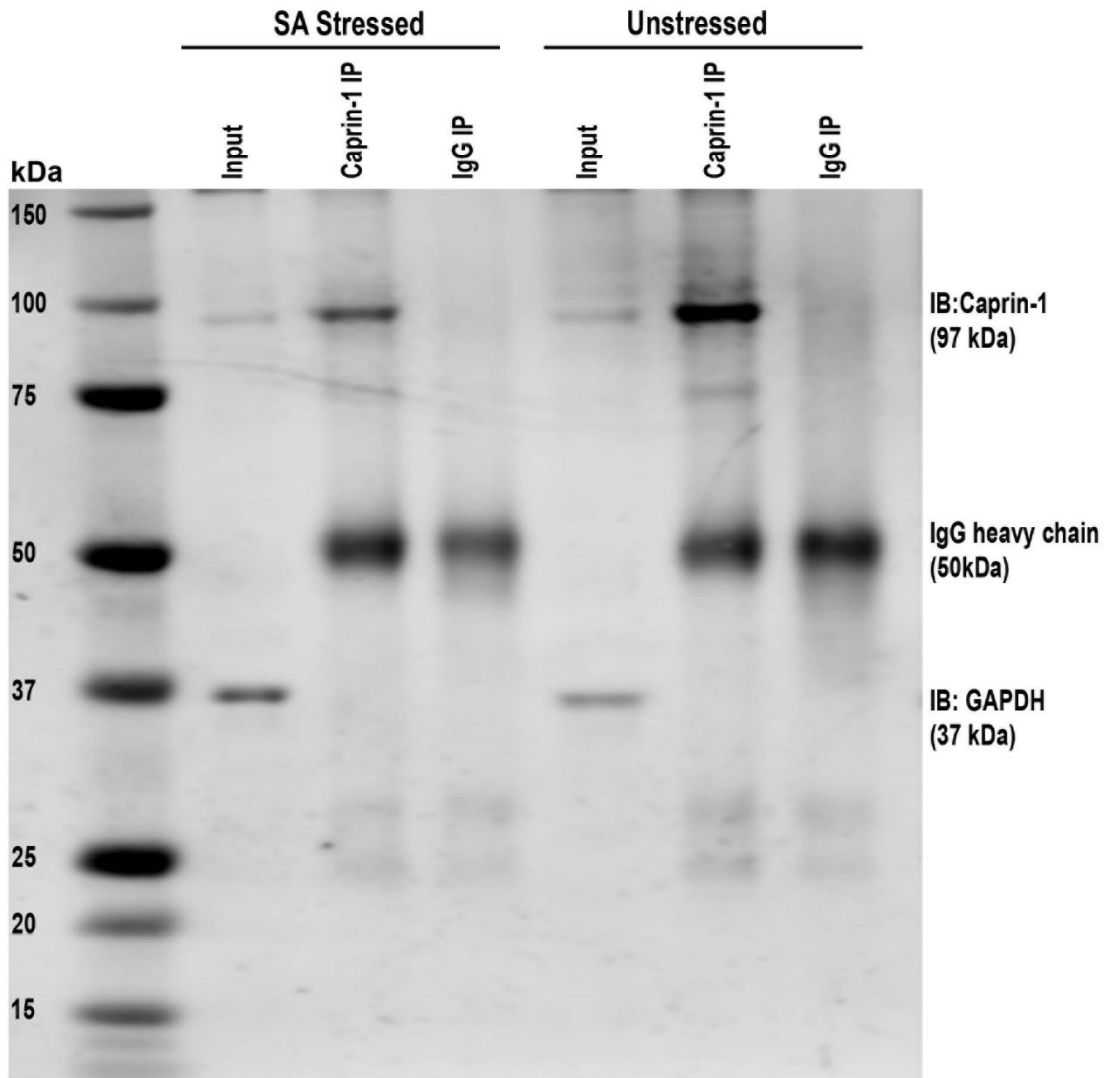


Figure S1: Western blot membrane of the Caprin-1 and IgG immuno-precipitated (IP) fractions: Immunoblot of Caprin-1 in the Caprin-1 IP and IgG IP fractions from lysates derived from both stressed and unstressed conditions in HeLa cells, demonstrating the presence of Caprin-1 only in the Caprin-1 IP and not in the IgG IP control. GAPDH was used as a loading control.

Figure S2

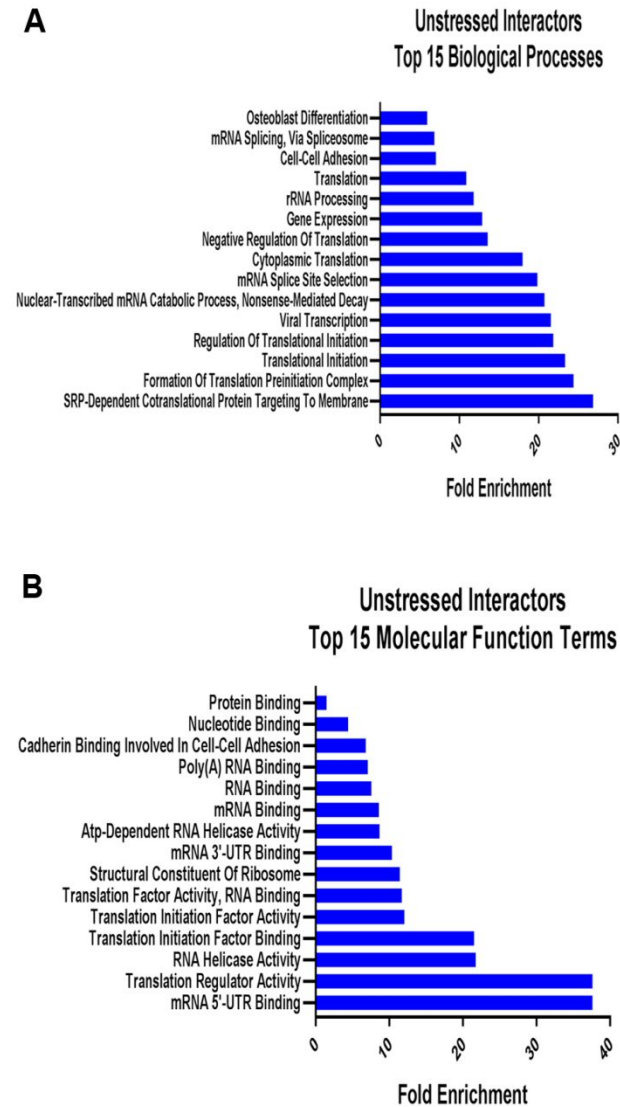


Figure S2: Gene ontology analysis using DAVID on the unstressed interactors of Caprin-1. A) The top 15 biological processes and B) top 15 Molecular functions terms. Benjamini-Hochberg correction was applied and all terms shown exhibited $p < 0.05$.

Figure S3

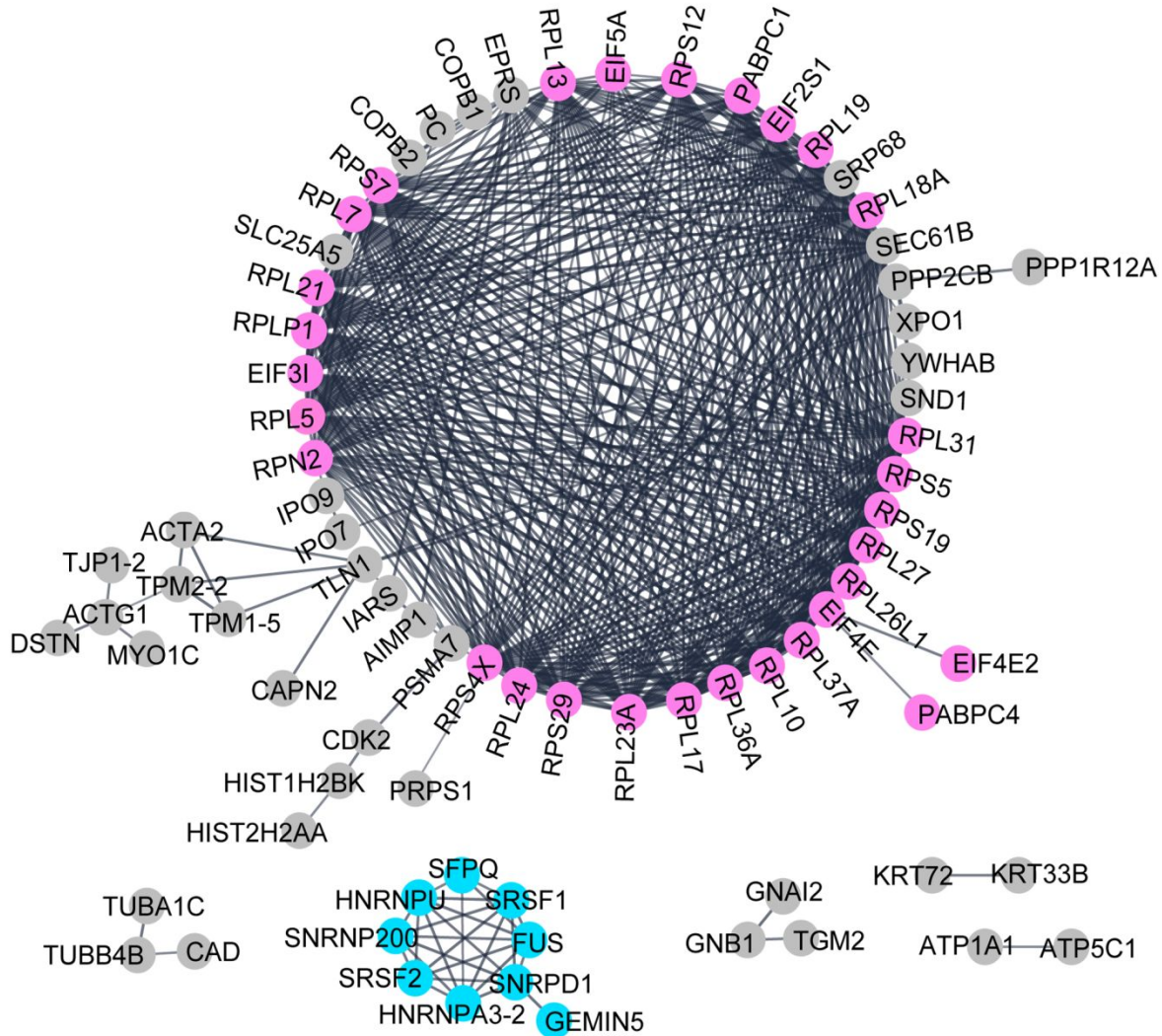


Figure S3: Known protein-protein interactions for SA-stress dependent Caprin-1 interactors. StringDB analysis demonstrating protein-protein interactions between the stressed dependent interactors of Caprin-1 with distinct clusters annotated to the RNA binding proteins (pink) and splicing factors (blue). All other interactors are labeled in gray.

Figure S4

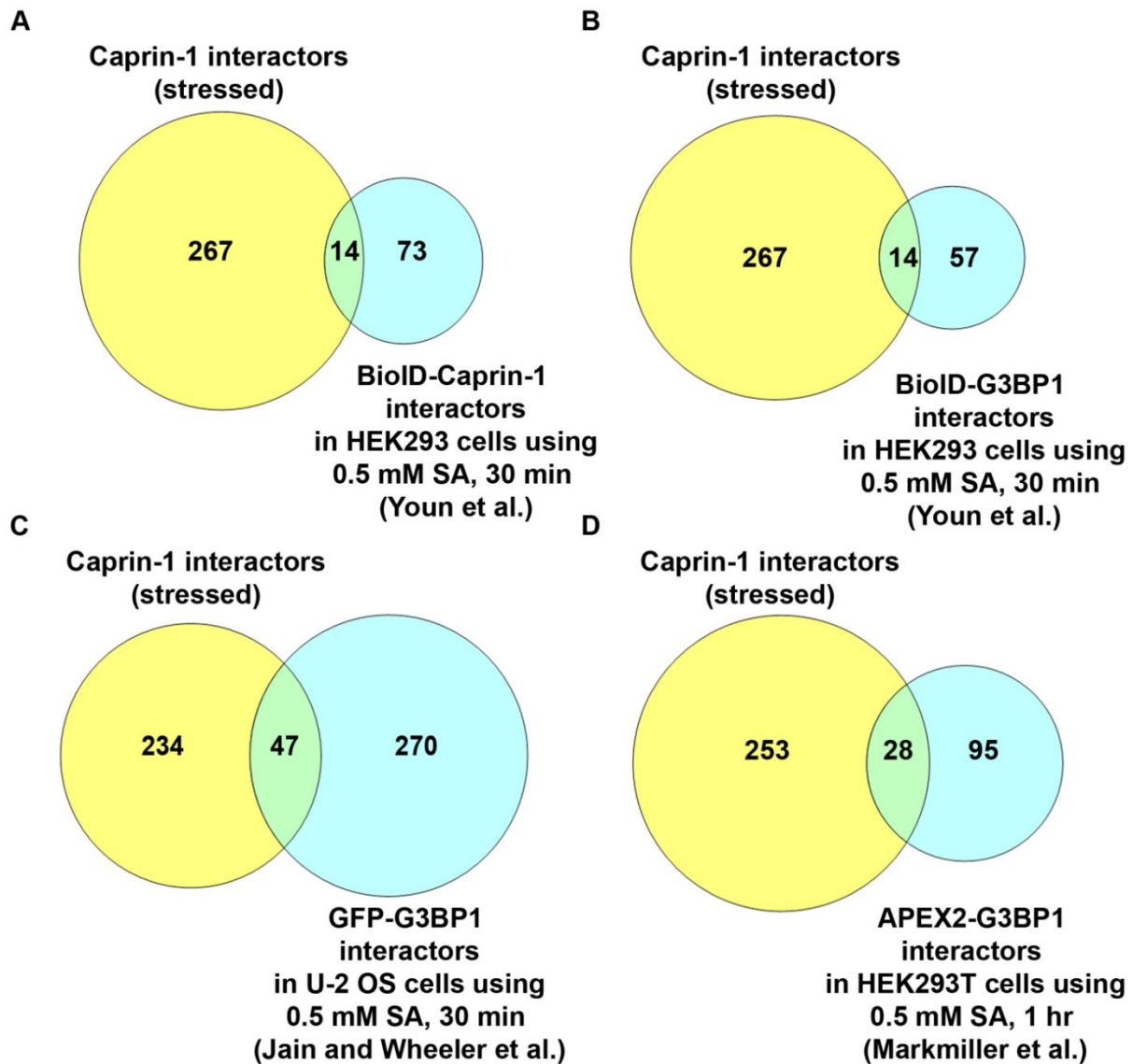


Figure S4: Comparison of stress-dependent Caprin-1 interactome with previously published SG interactomes. A) Comparison with BioID-based Caprin-1 interactome in HEK293 cells following acute SA stress for 30 mins. B) Comparison with BioID-based G3BP1 interactome of SGs in HEK293 cells following acute SA stress for 30 mins. C) Comparison with SG interactome in U2OS cells probed by a GFP-tagged G3BP1 following acute SA stress for 30 mins. D) Apex-G3BP1 labelling based SG interactome in HEK293T cells following SA stress for 1 hr.

Figure S5

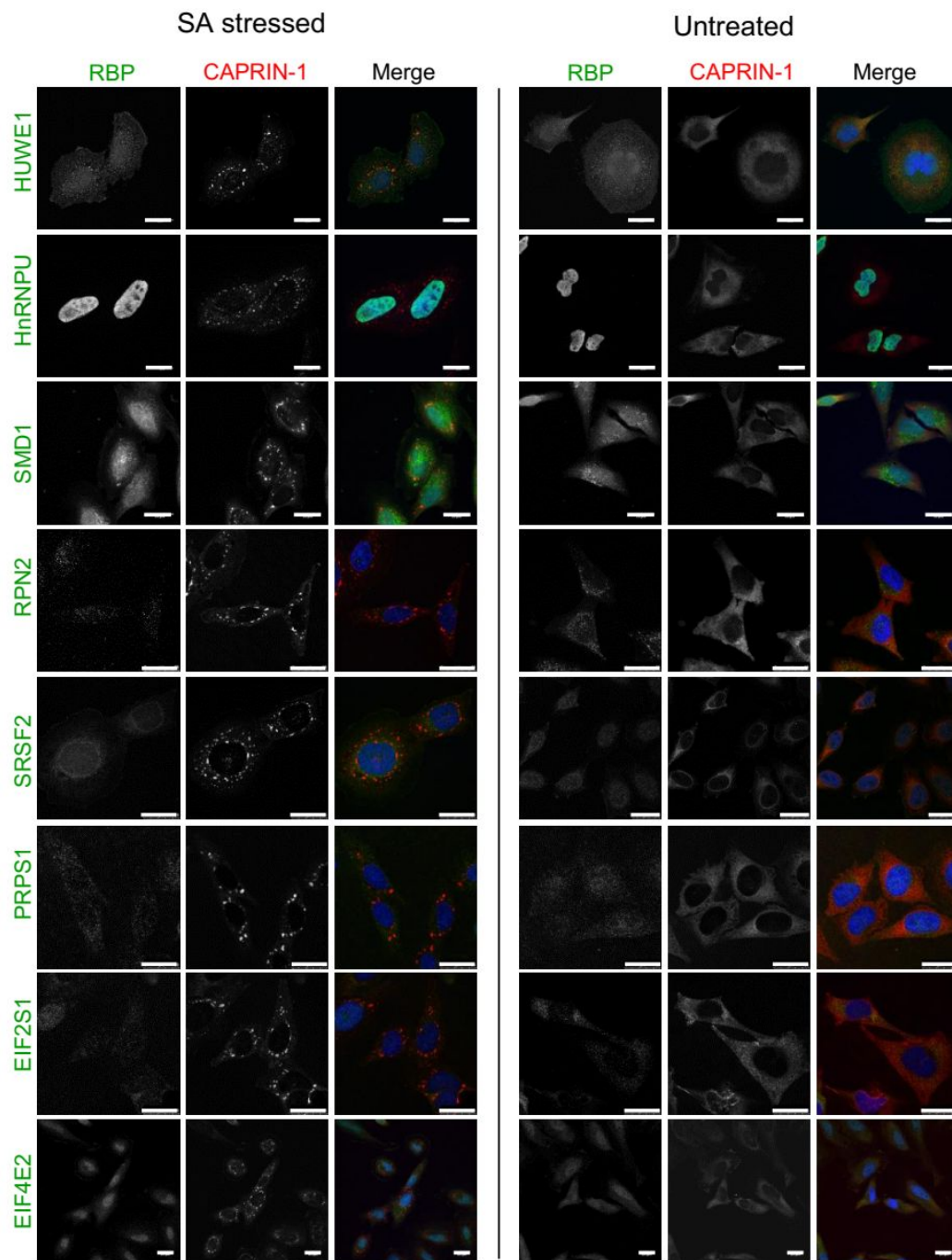


Figure S5: Shortlisted Caprin-1 interactors which did not co-localize with SGs in HeLa cells subjected to oxidative stress. HeLa cells were either stressed with 0.5mM SA (left panel) or unstressed (right panel) and co-stained with Caprin-1 and the respective candidate proteins. Nuclei were visualized with DAPI. Scale bar, 25 μ m.

Figure S6

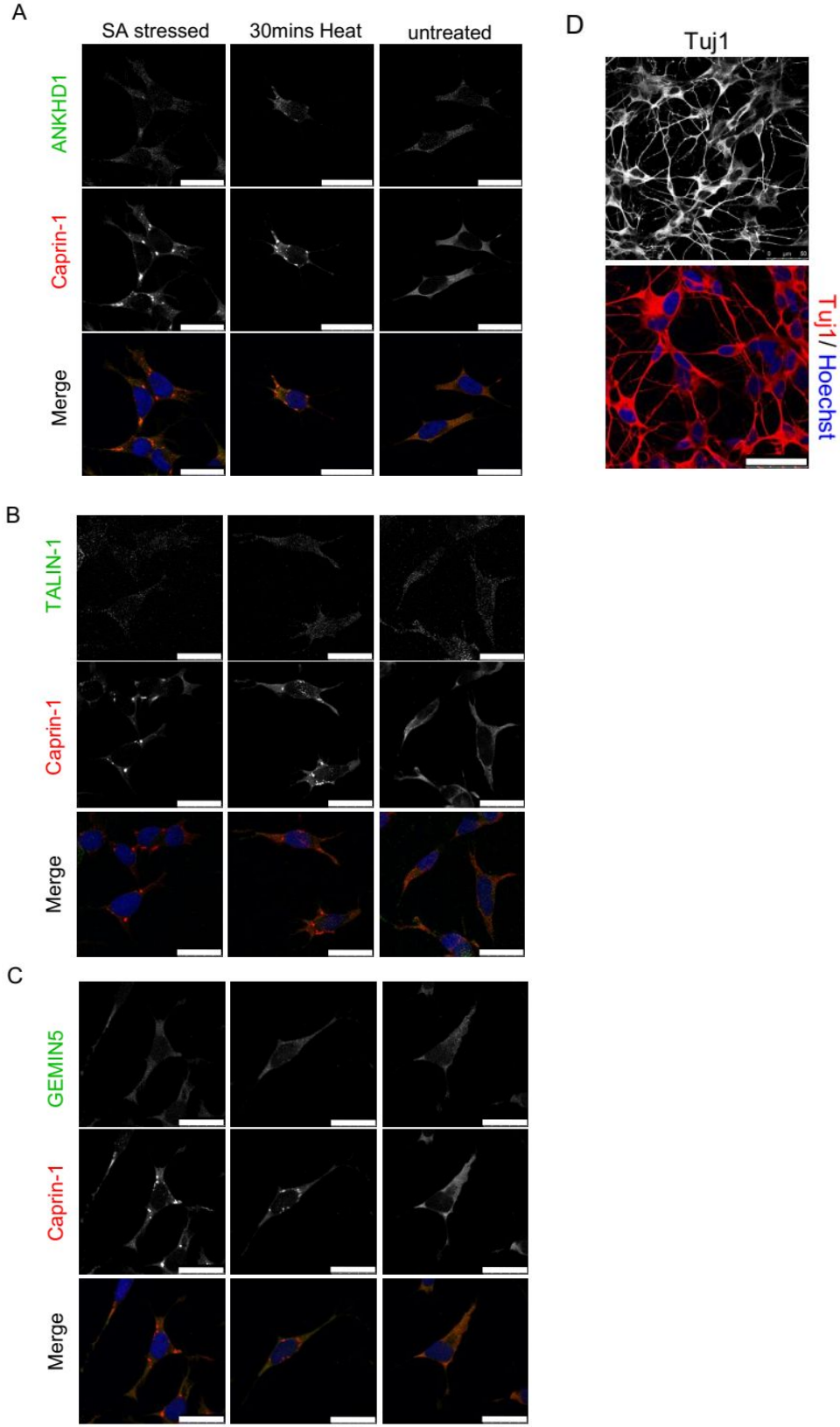


Figure S6: Imaging of ANKHD1, TALIN-1 and GEMIN5 with stress granules in SH-SY5Y cells. SH-SY5Y cells were stressed with either or 0.5mM SA (left) or 30 mins heat at 43°C (middle) or left untreated (right) and co-labelled for Caprin-1 and A) ANKHD1, B) Talin-1, and C) GEMIN5. Nuclei were visualized with Hoechst. Scale bar, 25 µm. D) Differentiated SH-SY5Y cells were labelled with Tuj1 and Hoechst. Scale bar, 50 µm.