

**Table S1. Properties associated with stress granule and P-body proteins examined in this study, Related to Figures 1-6.**

<b>Stress granule and P-body proteins examined in study</b>							
<b>Gene</b>	<b>SGs/PBs</b>	<b>Essential?</b>	<b>Rescues SG?</b>	<b>SGs (Corelet)</b>	<b>[nM]//</b>	<b>RBDs?</b>	<b>RGG?</b>
CAPRIN1	SG	No	No	<b>Yes</b>	351.78	RGG	<b>Yes</b>
CIRBP	SG	Not tested	No	<b>Yes</b>	318.97	RGG	<b>Yes</b>
DCP1A	PB	Not tested	No	No	73.83	None	No
DDX3X	SG	Not tested	No	<b>Yes</b>	1129.34	Helicase	<b>Yes, small</b>
DDX6	Both	Not tested	No	Not tested	551.71	Helicase	No
EDC3	PB	Not tested	No	No	93.35	None	No
EIF3F	SG	Not tested	No	<b>Yes</b>	1029.1	EIF3 Complex	No
FUS	SG	Not tested	No	<b>Yes</b>	1400.44	RRM, RGG, Zn	<b>Yes</b>
FMR1/FXR1/2	SG	No	<b>Yes</b>	<b>Yes</b>	751.51	KH (2), RGG	<b>Yes</b>
G3BP1/2	SG	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	1446.31	RRM, RGG	<b>Yes</b>
HNRNPA1	SG	Not tested	No	<b>Yes</b>	7636.87	RRM (2), RGG	<b>Yes</b>
LSM14A/B	Both	Not tested	Not tested	<b>Yes</b>	329.72	RGG (2)	<b>Yes</b>
NUFIP2	SG	No	No	Not tested	178.98	Non-canonical	No
PABPC1/4	SG	Not tested	No	<b>Yes</b>	3149.78	RRM (4)	No
TDP43	SG	Not tested	No	Not tested	593.96	RRM (2)	No
TIA1/L1	SG	Not tested	No	<b>Yes</b>	203.36	RRM (3)	No
UBAP2/2L	SG*	<b>Yes/no</b>	<b>Yes</b>	<b>Yes</b>	762.08	RGG	<b>Yes</b>
UPF1	SG	Not tested	No	Not tested	294.36	Zn, helicase	No
USP10	SG	No	No	No	95.07	None	No
YBX1	SG	Not tested	No	<b>Yes</b>	1436.67	CSD	No
<b>*In P-bodies when G3BP is knocked out</b>				<b>//See Hein et al.</b>			

**Table S2. Generation of U2OS knockout cell lines and validation by Western blot, Related to Figures 1-6.**

<b>Protein</b>	<b>gRNA sequence</b>	<b>Antibody validation</b>
NUFIP2	5'- ATC ATC AAG TCG CTT ATC CC -3'	Bethyl A301-600A; PTG NUFIP2 17752-1-AP
FMR1	5'-AAG AGG CGG CAC ATA AGG AT-3'	PTG 13194-1-AP Santa Cruz sc-101048
FXR1	5'-TTC CTA GGA ATC TCG TTG GT-3'	Bethyl A303-892A; PTG 13194-1-AP
FXR2	5'-CCC CAT AGG TTC GAG TCG CA-3'	Santa Cruz sc-32266
CAPRIN1	5'-CTC CCG GAG GAA CCC GAC GG-3'	PTG 15112-1-AP
USP10	5'-GACTCCTCGATCTTCAGTTG-3'	Bethyl A300-900A1; Bethyl A300-901A
UBAP2L	5'-CAC CAC GAG CGC CTC TTC AA-3'	Bethyl A300-534A; Bethyl A300-533A
UBAP2 (pooled)	5'-TTT CCC GAG CAC CTC GAC AA-3' 5'-TGA GAC GGA GGT CGC TGC CG-3' 5'-GTT CGC GGT GTT CAT GCT AC-3' 5'-GTG AGC AGT GAC CAT TGT CG-3' 5'-GTC TCA AGT TCC GCA TCC TC-3' 5'-GCC GCG CCC TTG GTG ACC TC-3'	Bethyl A304-626A; Bethyl A304-627A