

**Supplemental Table 1.** qRT-PCR analysis of the steady-state RNA levels for C7orf30, mitochondrial RNAs, and MRPL14.

Sample name / Relative gene expression*	c7orf30	ND1	ND2	ND3	ND4/4L	ND5	ND6	cyt b	COXI	COXII	COXIII	ATP6/8	12S	16S	MRPL14
Control	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Control+c7orf30-FLAG	35.5	1.19	1.26	1.06	1.13	1.01	1.03	0.98	0.96	1.00	1.03	1.05	0.97	0.91	1.03
shRNA-A2-C2	0.03	1.48	1.52	1.46	0.94	0.74	0.76	1.34	0.74	1.14	1.42	1.07	1.09	0.70	0.69
shRNA-A2-C2+c7orf30-FLAG	0.71	0.82	1.01	0.92	0.74	0.80	0.70	0.80	0.72	0.78	0.78	0.82	0.70	0.58	0.63

\*Endogenous controls: GAPDH and ACTB

**Supplemental Table 2.** LC/MS/MS analysis of eluates from anti-FLAG immunoprecipitation experiments using mitochondrial extracts from HEK293 cells expressing C7orf30-FLAG as input, with or without DSG-cross-linking.

LC/LC/MS Analysis of DSG-CLIP of C7orf30-FLAG			
	DSG-CLIP Experiment 1	DSG-CLIP Experiment 2	DSG-CLIP Experiment 3
C7orf30	386	486	460
MRPL14	377	428	295
MRPS18c	65	121	90
MRPL17	147	278	N/A
MRPS21	N/A	85	73
MRPL15	N/A	132	78
MRPS2	N/A	44	42

LC/LC/MS Analysis of DSP-CLIP of C7orf30-FLAG		
Mitochondrial Ribosomal Protein	Sample Score	Queries Matched
C7orf30	124	4
ICT1	125	3
MRPL14	320	15
MRPL15	320	8
MRPL9	290	15
MRPL53	287	19
MRPL43	281	14
MRPL13	275	15
MRPS27	216	6
MRPL38	212	11
MRPL21	191	12
MRPS28	182	8
MRPS9	179	6
MRPS17	178	5
MRPS22	168	5
MRPL50	139	12
MRPL28	139	5
MRPS34	136	9
MRPS29	135	4
MRPL10	122	4
MRPL16	112	5
MRPL46	112	5
MRPL41	108	5
MRPS18b	99	4
MRPS26	93	7
MRPS18a	81	4
MRPL3	69	3
MRPL54	58	4
MRPS12	55	4
MRPL55	50	1
MRPL27	40	2
MRPS5	38	2
MRPS14	36	2
MRPL34	33	1

LC/LC/MS: anti-FLAG IP : FLAG elution

Protein ID	Experiment 1		Experiment 2		Experiment 3	
	Score	Queries Matched	Scores	Queries Matched	Scores	Queries Matched
C7orf30	640	94	347	45	484	59
MRPL14	164	9	192	9	68	3

LC/LC/MS: DSG-X-link anti-FLAG IP : FLAG elution

Protein ID	Experiment 1		Experiment 2		Experiment 3	
	Score	Queries Matched	Scores	Queries Matched	Scores	Queries Matched
C7orf30	386	32	486	50	460	34
MRPL14	377	17	428	22	295	10

LC/LC/MS: DSG-X-link anti-FLAG IP : glycine elution

Protein ID	Experiment 1	
	Score	Queries Matched
C7orf30	124	4
MRPL14	320	15
MRPL15	320	8
MRPL9	290	15
MRPL53	287	19
MRPL43	281	14
MRPL13	275	15
MRPS27	216	6
MRPL38	212	11
MRPL21	191	12
MRPS28	182	8
MRPS9	179	6
MRPS17	178	5
MRPS22	168	5
MRPL50	139	12
MRPL28	139	5
MRPS34	136	9
MRPS29	135	4
ICT1	125	3
MRPL10	122	4
MRPL16	112	5
MRPL46	112	5
MRPL24	109	7
MRPL41	108	5
MRPS18b	99	4
MRPS26	93	7
MRPS18a	81	4
MRPL3	69	3
MRPL54	58	4
MRPS12	55	4
MRPL55	50	1

LC/LC/MS: DSG-X-link anti-FLAG IP : glycine elution

C7orf30	Experiment 1	
	Score	Queries Matched
C7orf30	124	4
MRPL14	320	15
MRPL15	320	8
MRPL9	290	15
MRPL53	287	19
MRPL43	281	14
MRPL13	275	15
MRPS27	216	6
MRPL38	212	11
MRPL21	191	12
MRPS28	182	8
MRPS9	179	6
MRPS17	178	5
MRPS22	168	5
MRPL50	139	12
MRPL28	139	5
MRPS34	136	9
MRPS29	135	4
ICT1	125	3
MRPL10	122	4
MRPL16	112	5
MRPL46	112	5
MRPL24	109	7
MRPL41	108	5
MRPS18b	99	4
MRPS26	93	7
MRPS18a	81	4
MRPL3	69	3
MRPL54	58	4
MRPS12	55	4
MRPL55	50	1