Supplementary Table 1: Order of Proteins in Heatmap

Gene.ID	Symbol	order
41281852	AMPH	1
21314824	ATP6V1F	2
158854016	LOC728622	3
116089273	GDI2	4
299522842	DCTN2	5
194328708	OXR1	6
117606375	Septin 3	7
6755995	WDR1	8
84579909	MAPK1	9
6671672	CAPZA2	10
33563266	NDUFA4	11
86439977	RBBP9	12
153792001	RANBP1	13
6996917	G6PD	14
126521835	CCT2	15
6755120	Septin 4	16
31982186	**MDH2 ***	**17**
33859560	GDI1	18
30794450	RPL4	19
6679345	PRKCB	20
84662736	RPL6	21
30794164	CLTB	22
34328471	RALA	23
309268051	Gm4332	24
6755901	TUBA1A	25
21313536	DLST	26
257153448	PCSK1N	27
291291010	CAMK2B	28
309272895	LOC100503302	29
122939198	CLTA	30
39204499	NEFL	31
158187517	AKAP5	32
33186863	**LOC388344 $**	**33**
311771692	AK1	34
38198665	NSFL1C	35
16945962	RPH3A	36
33859488	TUBB2A	37
6679937	Gapdh	38
225637533	NRCAM	39
7710086	RAB10	40
34328251	DBN1	41
116256514	HNRNPD	42
31542143	RHOA	43
165972305	STXBP1	44
158508501	Septin 5	45
6678467	TUBA4A	46
6679261	PDHA1	47
254587947	PPP2R4	48
170650630	**SIRT2 #**	**49**
78711838	**AP2B1 $**	**50**
6678365	**RAN $**	**51**
110625979	**EEF1G $**	**52**
117938332	SPTBN1	53
134288917	DYNC1H1	54
9845265	**Gm11808 $**	**55**
45598372	BASP1	56
134031994	PSMA2	57
116063570	**DNM1 $**	**58**
162461907	HSPA9	59
31981690	HSPA8	60
295054271	SPTAN1	61
6680836	CALR	62
9789995	STMN1	63
6679439	PPIA	64
171543853	MAP1B	65
40254525	TPM3	66
83715998	ATP5I	67
6680954	CNTN1	68
28173550	Septin 7	69
293597567	ALDOA	70
6755963	VDAC1	71
94399113	LOC675851	72
160298217	Gsta4	73
21314838	SH3GLB2	74
256773220	SYNJ1	75
24418919	PYGB	76
6679299	PHB	77
13386026	C14orf166	78
70608131	IMMT	79
27734986	AHCYL1	80

114145505	HSPH1	81
16716343	COX6C	82
21312012	NDUFA8	83
19526814	NDUFV1	84
46593021	UQCRC1	85
6679066	NIPSNAP1	86
295821212	SFXN3	87
37574048	UQCR10	88
72004262	NDUFS5	89
10946574	**CKB #**	**90**
13384810	ACYP1	91
226423907	**CNP $**	**92**
160707901	SYN1	93
312922373	EPB41L2	94
27532959	ALDH1L1	95
6753530	CRYAB	96
6678768	**MARCKS #**	**97**
13195624	NDUFA10	98
46195430	NDUFS8	99
6679583	RAB11B	100
253314542	MAPRE2	101
6754240	HPCA	102
84781779	NDUFB6	103
31982847	GAD1	104
255003777	GLOD4	105
13470090	RAB3C	106
31980767	**PVALB ***	**107**
45598396	PRKAR2B	108
12963569	PPP1R7	109
112181182	COX5A	110
254692859	NDUFA9	111
21312950	NDUFS7	112
31981304	ATP6V0D1	113
12025532	ATP6V0A1	114
27369581	**SLC25A12 ***	**115**
6671561	**AP2A1 ***	**116**
31560731	ATP6V1A	117
6677839	S100B	118
23956058	PLP1	119
11528518	SV2A	120
6754614	MAG	121

29892322	NDUFS1	122
6754036	GOT2	123
13385090	COX6B1	124
225735584	HK1	125
6680748	ATP5A1	126
31543349	NSF	127
113199771	**MOG %**	**128**
7305287	**MT3 $**	**129**
161168987	SYN2	130
15147224	**SFXN1 $**	**131**
46195711	**EPN1 $**	**132**
84794552	PEBP1	133
31982864	ATPIF1	134
291327470	**ITPR1 #**	**135**
31980648	**ATP5B #**	**136**
6680718	ARF3	137
258547119	**CYFIP1 ***	**138**
40254595	**DPYSL2 ***	**139**
291045426	MAP1A	140
183396771	HSPD1	141
309265178	LOC100503183	142
188219614	UCHL1	143
163310765	**ALB %**	**144**
6754974	PACSIN1	145
28916677	**CAMK2A ***	**146**
226958349	TPI1	147
84370355	Mapt	148
51491845	CLTC	149
6753050	**BIN1 $**	**150**
6755588	SNAP25	151
22507355	SLC8A2	152
145301578	**HBA1 %**	**153**
31982300	**HBB %**	**154**
45597447	SOD1	155
10946620	CEND1	156
13937391	GNB2	157
255069715	LAP3	158
6755256	PYGM	159
6680083	GRB2	160
33469051	TPPP	161
12746424	**DPYSL5 $**	**162**

Supplementary Table 1: Order of Proteins in Heatmap (depicted in Figure S2C). As mentioned in Section 3.5 regarding the proteins highlighted proteins identified in the Venn diagram in Figure 4B: (*) in the table above represents unique proteins in WT^{RT}:WT^{CT}; (#) in the table above represents unique proteins in KO^{CT}:WT^{CT}; ($) represents unique proteins in KO^{RT}:KO^{CT}; and (%) represents common proteins among all the comparisons.

Supplementary Table 2: Immunoblot Densitometry of Biological Replicate Samples

	Protein	Comparison	n	Density	Std Dev	Std Error	CI
1	**ATP5a**	Wtrt_WTct	3	0.89	0.06	0.04	0.16
2	**ATP5a**	Koct_WTct	3	1.02	0.11	0.07	0.28
3	**ATP5a**	Kort_Koct	3	1.07	0.22	0.13	0.54
4	**ATP5a**	Kort_WTrt	3	1.20	0.17	0.10	0.43
5	**Dnm1**	Wtrt_WTct	3	0.98	0.08	0.04	0.19
6	**Dnm1**	Koct_WTct	3	1.03	0.08	0.05	0.20
7	**Dnm1**	Kort_Koct	3	0.94	0.06	0.04	0.15
8	**Dnm1**	Kort_WTrt	3	0.99	0.11	0.07	0.28
9	**Hspa8**	Wtrt_WTct	3	0.92	0.04	0.02	0.10
10	**Hspa8**	Koct_WTct	3	0.91	0.06	0.03	0.14
11	**Hspa8**	Kort_Koct	3	1.01	0.02	0.01	0.05
12	**Hspa8**	Kort_WTrt	3	1.00	0.03	0.02	0.08
13	**Mapt**	Wtrt_WTct	3	0.90	0.09	0.05	0.23
14	**Mapt**	Koct_WTct	3	1.04	0.18	0.11	0.45
15	**Mapt**	Kort_Koct	3	1.63	0.66	0.38	1.64
16	**Mapt**	Kort_WTrt	3	1.91	0.87	0.50	2.17
17	**MOG**	Wtrt_WTct	3	1.25	0.21	0.12	0.53
18	**MOG**	Koct_WTct	3	1.36	0.45	0.26	1.11
19	**MOG**	Kort_Koct	3	0.93	0.26	0.15	0.65
20	**MOG**	Kort_WTrt	3	0.97	0.24	0.14	0.59
21	**Pacsin**	Wtrt_WTct	3	0.98	0.06	0.04	0.15
22	**Pacsin**	Koct_WTct	3	0.97	0.12	0.07	0.31
23	**Pacsin**	Kort_Koct	3	1.03	0.02	0.01	0.05
24	**Pacsin**	Kort_WTrt	3	1.02	0.06	0.03	0.14
25	**Ppia**	Wtrt_WTct	3	0.99	0.04	0.02	0.10
26	**Ppia**	Koct_WTct	3	1.04	0.15	0.09	0.38
27	**Ppia**	Kort_Koct	3	0.91	0.09	0.05	0.23
28	**Ppia**	Kort_WTrt	3	0.95	0.04	0.02	0.09
29	**Snap25**	Wtrt_WTct	3	0.82	0.09	0.05	0.22
30	**Snap25**	Koct_WTct	3	0.86	0.10	0.06	0.25
31	**Snap25**	Kort_Koct	3	1.06	0.06	0.03	0.14
32	**Snap25**	Kort_WTrt	3	1.11	0.11	0.07	0.28
33	**SOD1**	Wtrt_WTct	3	1.08	0.13	0.08	0.32
34	**SOD1**	Koct_WTct	3	1.00	0.03	0.02	0.07
35	**SOD1**	Kort_Koct	3	0.99	0.04	0.02	0.10
36	**SOD1**	Kort_WTrt	3	0.94	0.16	0.09	0.39
37	**Stmn1**	Wtrt_WTct	3	0.90	0.18	0.10	0.44
38	**Stmn1**	Koct_WTct	3	0.92	0.39	0.22	0.96
39	**Stmn1**	Kort_Koct	3	1.50	0.58	0.34	1.45
40	**Stmn1**	Kort_WTrt	3	1.60	1.02	0.59	2.52
41	**Uchl1**	Wtrt_WTct	3	0.99	0.03	0.02	0.07
42	**Uchl1**	Koct_WTct	3	1.01	0.08	0.05	0.20
43	**Uchl1**	Kort_Koct	3	1.00	0.07	0.04	0.18
44	**Uchl1**	Kort_WTrt	3	1.02	0.04	0.03	0.11

Supplementary Table 3: Proteins associated with Neurological disorders in WT^{RT}:WT^{CT}

Gene ID	Symbol	Gene Name	Peptides (95%)	Type	Cellular Location	Ratio	p Value
40254595	Dpysl2	Dihydropyrimidinase-related protein 2	58	Enzyme	C	2.91	0.012
23956058	Plp1	Myelin proteolipid protein	24	Other	PM	1.99	0.028
27369581	Slc25a12	Solute carrier family 25	12	Transporter	C	1.94	0.002
31560731	Atp6v1a	ATPase, H+ transporting, lysosomal 70kDa, V1 subunit A	20	Transporter	C	1.90	0.027
113199771	Mog	Myelin-oligodendrocyte glycoprotein	11	Other	PM	1.67	0.014
225735584	Hk1	Hexokinase 1	16	Kinase	C	1.65	0.009
31980767	Pvalb	parvalbumin	10	Other	C	1.47	0.046
45598396	Prkar2b	cAMP-dependent protein kinase type II-beta regulatory subunit	4	Kinase	C	1.45	0.028
295054271	Sptan1	Spectrin alpha nonerythrocytic-1	36	Other	PM	0.70	0.037
84794552	Pebp1	Phosphatidylethanolamine-binding protein1	21	Other	C	0.58	0.026
6754974	Pacsin1	Protein kinase C and casein kinase substratein neurons protein 1	19	Kinase	C	0.58	0.000
163310765	Alb	Serum albumin precursor	12	Transporter	ECS	0.55	0.0003
9789995	Stmn1	Stathmin 1	11	Other	C	0.55	0.0008
28916677	Camk2a	Calcium/calmodulin-dependent protein kinase type II subunit alpha isoform 2	24	Kinase	C	0.53	0.049
6680836	Calr	Calreticulin	12	Transcription Regulator	C	0.50	0.023
6679439	Ppia	Peptidylpropyl isomerase A	22	Enzyme	C	0.47	0.025
226958349	Tpi1	Triosephosphate isomerase	23	Enzyme	C	0.465	0.023

188219614	Uchl1	Ubiquitin carboxyl-terminal hydrolase isozyme L1	11	Peptidase	C	0.340	0.029
84370355	Mapt	Microtubule-associated protein tau isoform b	15	Other	PM	0.298	0.0009
45597447	Sod1	Superoxide dismutase [Cu-Zn]	13	Enzyme	C	0.265	0.008

Supplementary Table 4: Proteins associated with Neurological disorders in KO^{CT}: WT^{CT}

Gene ID	Symbol	Gene Name	Peptides (95%)	Type	Cellular Location	Ratio	p Value
6755588	Snap25	Synaptosomal-associated protein, 25kDa	16	Transporter	PM	2.77	0.049
291327470	Itpr1	Inositol 1,4,5-trisphosphate receptor, type 1	6	Ion Channel	C	2.75	0.019
31560731	Atp6v1a	ATPase, H+ transporting, lysosomal 70kDa, V1 subunit A	20	Transporter	C	1.83	0.007
23956058	Plp1	Myelin proteolipid protein	24	Other	PM	1.75	0.042
225735584	Hk1	Hexokinase 1	16	Kinase	C	1.69	0.007
31543349	Nsf	N-ethylmaleimide-sensitive factor	23	Transporter	C	1.59	0.042
113199771	Mog	Myelin-oligodendrocyte glycoprotein	11	Other	PM	1.53	0.025
6678768	Marcks	Myristoylated alanine-rich protein kinase C substrate	3	Other	PM	1.49	0.045
10946574	Ckb	Creatine kinase, brain	63	Kinase	C	1.14	0.034
165972305	Stxbp1	Syntaxin binding protein 1	36	Transporter	C	0.71	0.011
31542143	Rhoa	Ras homolog family member A	5	Enzyme	C	0.70	0.0049
158508501	Septin 5	Septin 5	5	Enzyme	C	0.68	0.026
163310765	Alb	Serum albumin precursor	12	Transporter	ECS	0.62	0.002
6679261	Pdha1	Pyruvate dehydrogenase (lipoamide) alpha 1	17	Enzyme	C	0.57	0.039
226958349	Tpi1	Triosephosphate isomerase	23	Enzyme	C	0.54	0.009
188219614	Uchl1	Ubiquitin carboxyl-terminal hydrolase isozyme L1	11	Peptidase	C	0.54	0.013
6754974	Pacsin 1	Protein kinase C and casein kinase substratein neurons protein 1	19	Kinase	C	0.53	0.000
45597447	Sod1	Superoxide dismutase [Cu-Zn]	13	Enzyme	C	0.48	0.006
145301578	Hba1	Haemoglobin alpha 1	17	Transporter	C	0.47	0.002
9789995	Stmn1	Stathmin 1	11	Other	C	0.46	0.004
84370355	Mapt	Microtubule-associated protein tau isoform b	15	Other	PM	0.45	0.0009
6679439	Ppia	Peptidylpropyl isomerase A	22	Enzyme	C	0.41	0.005
161168987	Syn2	Synapsin II	6	Other	PM	0.30	0.030
170650630	Sirt2	Sirtuin 2	3	Enzyme	C	0.09	0.016

Supplementary Table 5: Proteins associated with Neurological disorders in KO^{RT}:KO^{CT}

Gene ID	Symbol	Gene Name	Peptides (95%)	Type	Cellular Location	Ratio	p Value
6755588	Snap25	Synaptosomal-associated protein, 25kDa	16	Transporter	PM	3.19	0.021
145301578	Hba1	Hemoglobin alpha 1	17	Transporter	C	2.70	0.000
6753050	Bin1	Bridging Integrator 1	11	Other	Nucleus	2.51	0.039
110625979	Eef1g	eukaryotic translation elongation factor 1 gamma	10	Translation Regulator	C	2.26	0.019
6678365	Ran	RAN, member RAS oncogene family	7	Enzyme	Nucleus	2.26	0.045
226958349	Tpi1	triosephosphate isomerase	23	Enzyme	C	2.04	0.002
116063570	Dnm1	Dynamin 1	35	Enzyme	C	1.95	0.002
225735584	Hk1	Hexokinase 1	16	Kinase	C	1.92	0.003
45597447	Sod1	superoxide dismutase [Cu-Zn]	13	Enzyme	C	1.87	0.007
6679261	Pdha1	Pyruvate dehydrogenase (lipoamide) alpha 1	17	Enzyme	C	1.85	0.018
45598372	Basp1	brain abundant, membrane attached signal protein 1	28	Translation Regulator	Nucleus	1.80	0.048
6680748	Atp5a1	ATP synthase, H+ transporting, mitochondrial F1 complex, alpha subunit 1, cardiac muscle	41	Transporter	C	1.79	0.011
163310765	Alb	Albumin	12	Transporter	ECS	1.74	0.0007
134288917	Dync1h1	Dyenin cytoplasmic 1 heavy chain 1	25	Peptidase	C	1.72	0.001
6754974	Pacsin 1	Protein kinase C and casein kinase substratein neurons protein 1	19	Kinase	C	1.69	0.001
295054271	Sptan1	spectrin, alpha, non-erythrocytic 1 (alpha-fodrin)	36	Other	PM	1.66	0.0009
31981690	Hspa8	heat shock 70kDa protein 8	68	Enzyme	C	1.51	0.018
158508501	Septin 5	septin 5	5	Enzyme	C	1.45	0.021
165972305	Stxbp1	syntaxin binding protein 1	36	Transporter	C	1.44	0.011
113199771	Mog	myelin-oligodendrocyte glycoprotein	11	Other	PM	1.38	0.033
33186863	Rpl13	Ribosomal protein L13	2	Other	C	1.27	0.043
84370355	Mapt	microtubule-associated protein tau isoform b	15	Other	PM	1.16	0.009
84794552	Pebp1	phosphatidylethanolamine binding protein 1	21	Other	C	0.77	0.023
226423907	Cnp	2',3'-cyclic nucleotide 3' phosphodiesterase	47	Enzyme	C	0.73	0.024
7305287	Mt3	metallothionein 3	2	Other	C	0.50	0.042

Supplementary Table 6: Proteins associated with Neurological disorders in KO^{RT}:WT^{RT}

Gene ID	Symbol	Gene Name	Peptides (95%)	Type	Cellular Location	Ratio	p Value
145301578	Hba 1	Hemoglobin alpha 1	17	Transporter	C	9.33	0.001
163310765	ALB	Albumin	12	Transporter	EC	3.13	0.0001
183396771	HSPD1	Heat shock 60kDa protein 1	18	Enzyme	C	3.10	0.0374
295054271	SPTAN1	Spectrin, alpha, nonerythrocytic 1	36	Other	PM	2.36	0.0012
6680836	CALR	Calreticulin	12	Transcriptional Regulator	C	2.24	0.0131
9789995	STMN1	Stathmin 1	11	Other	C	2.24	0.0412
6680836	Calr	Calreticulin	12	Transcriptional Regulator	C	2.23	0.013
45598372	BASP1	Brain abundant, membrane attached signal protein 1	28	Transcriptional Regulator	N	2.15	0.0250
134031994	Psma2	Proteosome subunit alpha type 2	2	Peptidase	C	2.15	0.003
6679937	Gapdh	Glyceraldehyde-3-phosphate dehydrogenase	50	Enzyme	C	1.56	0.0119
311771692	AK1	Adenylate kinase 1	2	Kinase	C	1.51	0.0157
31542143	RHOA	Ras homolog family member A	5	Enzyme	C	1.46	0.0131
16945962	RPH3A	Rabphilin 3A homolog	5	Transporter	PM	1.45	0.0277
225637533	NRCAM	Neuronal cell adhesion molecule	2	Other	PM	1.42	0.0001
291291010	CAMK2B	Calcium/calmodulin- dependent protein kinase II, beta	13	Kinase	C	1.28	0.0000
6755901	TUBA1A	Tubulin, alpha 1a	88	Other	C	1.25	0.0015
6679345	PRKCB	Protein kinase C, beta	3	Kinase	C	1.24	0.0142
30794164	CLTB	Clathrin light chain b	7	Other	PM	1.22	0.0345
39204499	NEFL	Neurofilament, light plypeptide	6	Other	C	1.20	0.0054
153792001	RANBP1	RNA binding protein 1	4	Other	N	1.18	0.0010
126521835	Cct2	Chaperonin containing Tcp 1, beta	5	Kinase	C	1.18	0.016
194328708	OXR1	Oxidation resistance 1	4	Other	C	1.16	0.0292
6755120	Sept 4	Septin 4	2	Enzyme	C	1.16	0.004
158187517	AKAP5	A kinase (PRKA) anchor protein 5	2	Other	PM	1.15	0.0278
6996917	G6PD	Glucose-6-phosphate dehydrogenase	2	Enzyme	C	1.15	0.0306
41281852	AMPH	Amphiphysin	10	Other	PM	1.14	0.0027
33859560	GDI1	GDP dissociation inhibitor 1	11	Other	C	1.12	0.0209
13195624	NDUFA10	NADH dehydrogenase 1 alpha subcomplex, 10, 42kDa	3	Transporter	C	0.57	0.0021
6677839	S100B	S100 calcium binding protein b	2	Other	C	0.53	0.0343
11528518	SV2A	Synaptic vesicle glycoprotein 2a	3	Transporter	C	0.47	0.0145

6754614	MAG	Myelin associated glycoprotein	4	Other	PM	0.46	0.0000
229892322	NDUFS1	NADH dehydrogenase Fe-S protein 1, 75kDa (NADH Q enzyme reductase)	8	Enzyme	C	0.46	0.0000
161168987	SYN2	Synapsin 2	6	Other	PM	0.32	0.0309
6680954	CNTN1	Contactin 1	7	Enzyme	PM	1.88	0.0038
40254525	TPM3	Tropomyosin 3	7	Other	C	1.74	0.0040
134288917	DYNC1H1	Dyenin, cytoplasmic 1, heavy chain 1	25	Peptidase	C	1.72	0.0402
6678467	TUBA4A	Tubulin, alpha 4a	81	Other	C	1.72	0.0133
171543853	MAP1B	Microtubule-associated protein 1b	13	Other	C	1.70	0.0013
31981690	HSPA8	Heat shock 70kDa protein 8	68	Enzyme	C	2.66	0.0012
33859488	TUBB2A	Tubulin, beta 2a class IIa	108	Other	C	1.61	0.0003
84579909	Mapk1	Mitogen activated protein kinase 1	7	Kinase	C	1.12	0.012
113199771	MOG	Myelin-oligodendrocyte glycoprotein	11	Other	PM	0.82	0.046
6754240	HPCA	Hippocalcin	6	Other	C	0.60	0.0205
31982847	GAD1	Glutamate decarboxylase 1 (brain 67 kDa)	2	Enzyme	C	0.62	0.0202
46195430	NDUFS8	NADH dehydrogenase Fe-S protein 8, 23kDa (NADH Q enzyme reductase)	3	Enzyme	C	0.62	0.0266
112181182	COX5A	Cytochrome c oxidase subunit Va	12	Enzyme	C	0.66	0.0097
84781779	NDUFB6	NADH dehydrogenase 1 alpha subcomplex, 6, 17kDa	3	Enzyme	C	0.68	0.0060
254692859	NDUFA9	NADH dehydrogenase 1 alpha subcomplex, 9, 39kDa	3	Enzyme	C	0.69	0.0005
21312950	NDUFS7	NADH dehydrogenase Fe-S protein 7, 20kDa (NADH Q enzyme reductase)	2	Enzyme	C	0.73	0.0015
6753530	CRYAB	Crystallin, alpha b	3	Other	N	0.75	0.0011
72004262	NDUFS5	NADH dehydrogenase Fe-S protein 5, 15kDa (NADH Q enzyme reductase)	3	Enzyme	C	0.77	0.0192
45598396	PRKAR2B	Protein kinase, cAMP-dependent, regulatory type II beta	4	Kinase	C	0.78	0.0181
19526814	NDUFV1	NADH dehydrogenase flavoprotein 1, 51kDa	6	Enzyme	C	0.82	0.0085
27734986	AHCYL1	Adenosylhomocysteinase-like 1	8	Enzyme	C	0.83	0.0135
37574048	UQCR10	Ubiquinol-cytochrome c	2	Enzyme	C	0.83	0.0000

		reductase, complex III subunit x					
21312012	NDUFA8	NADH dehydrogenase 1 alpha subcomplex, 8, 19kDa	5	Enzyme	C	0.84	0.0008
46593021	UQCRC1	Ubiquinol-cytochrome c reductase core protein 1	18	Enzyme	C	0.85	0.0479
114145505	HSPH1	Heat shock 105kDA/110kDa protein 1	6	Other	C	0.86	0.0234
256773220	SYNJ1	Synaptojanin 1	6	Phosphatase	C	0.86	0.0191
16716343	COX6C	Cytochrome c oxidase subunit VIc	5	Enzyme	C	0.87	0.0157
160707901	SYN1	Synapsin 1	20	Transporter	PM	0.89	0.0153
6755963	VDAC1	Voltage dependent anion channel 1	13	Other	ECS	0.89	0.0147