Supplementary Figure 1

HEK293T cell lines stably expressing FLAG Numb were generated: (**A)** Immunoblot showing varied expression level in different clones of HEK293T cell lines stably expressing amino or carboxy terminal 3XFLAG-Numb p66 or p72. **(B)** Anti-FLAG immunoaffinity purified protein complexes from HEK293T cells stably expressing either p66, p72, or empty vector were separated by SDS-PAGE gel and then stained by Colloidal blue. Arrows indicate expression of FLAG-Numb p66 or p72. Bands from all three lanes were cut and digested in-gel prior to LC-MS/MS analysis.

Supplementary Figure 2:

SRM can be used to monitor endogenous Numb complexes in medulloblastoma cell lines: **(A)** Immunoblot showing endogenous levels of Numb in medulloblastoma cell lines Daoy, MED8A, ONS76, and HEK293T cells. **(B)** Indicated cell lines were lysed and a Numb antibody used to immunopurify endogenous Numb complexes. Proteins were trypsin digested and analyzed by SRM-MS. Average SRM signal relatively quantifying total Numb in each cell line is shown. Error bars represent standard error of the mean. Graphs are representation of three technical runs of three biological replicate experiments. **(C)** Numb associated complexes in indicated cancer cell lines were monitored by SRM. SRM signal was normalized to Numb level within each experiment, and plotted on the appropriate scale. Error bars represent standard error of the mean.

Supplementary Figure 3:

Eps15 and Numb isoforms are similarly recruited to clathrin coated vesicles:

PLA was performed using antibodies against **(A)** Flag (Numb) and Transferrin Receptor (TfR) or **(B)** Eps15 and TfR. Images are representative examples of images taken, PLA events were

quantified and illustrated in Figure 7. There was no significant difference found between the number of PLA events with either of the conditions or Numb isoforms tested (Figure 7D).

Supplementary Table 1: LC-MS/MS Analysis of Numb: Complete list of identified proteins from proteins identified by LC-MS/MS as co-immunoprecipitating with either 3XFLAG-Nbp66 3XFLAG-Nbp72 (amino and carboxy tags), for empty FLAG vector.

Supplementary Table 2:

SRM transitions were developed and optimized to monitor Numb and Numb interacting proteins: A summary table of the transitions designed and used for SRM analysis of Numb interacting proteins. hNb and hNbL transitions were only used for endogenous SRM analysis.

Raw data generated has been uploaded to Tranche Repository, and can be downloaded at www.tinyurl.com/kriegeretal

Supplementary Table 1

Identified Proteins	Accession Number	Molecular Weight	p66 Spectral Count	p66 Sequence Coverage	p66 Unique Peptides	p72 Spectral Count	p72 Sequence Coverage	p72 Unique Peptides	pFlag Spectral Count	pFlag Sequence Coverage	pFlag Unique Peptides
Keratin, type II cytoskeletal 1	IPI00220327	66 kDa	1326	45%	37	1673	37%	31	115	20%	15
Isoform 1 of Protein numb homolog	IPI00137943	71 kDa	253	32%	21	1060	41%	26	0	0%	0
Keratin, type I cytoskeletal 10	IPI00009865	60 kDa	572	37%	26	570	32%	22	53	17%	12
Keratin, type I cytoskeletal 9	IPI00019359	62 kDa	422	50%	20	603	43%	23	29	8%	3
Keratin, type II cytoskeletal 2 epidermal	IPI00021304	66 kDa	443	41%	26	497	33%	24	23	13%	12
Adaptor-related protein complex 2, alpha 2 subunit variant (Fragment)	IPI00016621	104 kDa	187	34%	36	671	36%	41	0	0%	0
Isoform 1 of AP-2 complex subunit beta-1	IPI00784156	105 kDa	178	35%	32	643	38%	40	0	0%	0
Kappa light chain variable region (Fragment)	IPI00743194	13 kDa	299	17%	2	488	17%	2	100	17%	2
Isoform 1 of Nucleophosmin	IPI00549248	33 kDa	132	60%	19	360	42%	10	21	43%	9
Isoform 1 of AP-2 complex subunit mu-1	IPI00022256	50 kDa	107	36%	17	375	55%	23	0	0%	0
Anti-colorectal carcinoma heavy chain	IPI00470657	51 kDa	227	17%	8	276	22%	10	57	17%	8
Isoform B of AP-2 complex subunit alpha-1	IPI00256684	105 kDa	127	21%	22	359	25%	25	0	0%	0
Heat shock 70 kDa protein 1	IPI00304925	70 kDa	107	25%	20	321	35%	22	57	29%	20
Nucleolin	IPI00604620	77 kDa	58	22%	24	279	35%	26	14	17%	9
Epidermal growth factor receptor substrate 15	IPI00292134	99 kDa	38	24%	17	294	41%	39	0	0%	0
Histone H1.2	IPI00217465	21 kDa	183	44%	15	130	34%	12	22	27%	9
Actin, cytoplasmic 2	IPI00021440	42 kDa	63	40%	14	60	32%	12	178	45%	16
Non-POU domain-containing octamer-binding protein	IPI00304596	54 kDa	62	34%	14	204	54%	22	0	0%	0
Isoform Long of Splicing factor, proline- and glutamine-rich	IPI00010740	76 kDa	7	12%	7	201	33%	20	71	15%	9
Isoform 1 of Heterogeneous nuclear ribonucleoprotein M	IPI00171903	78 kDa	40	23%	17	219	45%	28	2	4%	2

HSPA5 protein	IPI00003362	72 kDa	23	14%	9	257	45%	31	0	0%	0
RALBP1 associated Eps domain containing 1 isoform a	IPI00337532	87 kDa	75	18%	25	151	31%	27	0	0%	0
60S ribosomal protein L7a	IPI00299573	30 kDa	115	30%	10	83	30%	10	3	8%	2
Tubulin beta chain	IPI00011654	50 kDa	69	31%	15	98	31%	16	44	31%	14
60S ribosomal protein L4	IPI00003918	48 kDa	89	32%	16	92	27%	11	7	6%	2
cDNA FLJ61399, highly similar to Spectrin alpha chain, brain	IPI00744706	282 kDa	15	8%	15	4	2%	4	127	32%	57
40S ribosomal protein S3	IPI00011253	27 kDa	55	34%	8	74	69%	14	0	0%	0
Isoform 1 of Heat shock cognate 71 kDa protein	IPI00003865	71 kDa	55	20%	16	111	34%	19	15	17%	8
Isoform A1-B of Heterogeneous nuclear ribonucleoprotein A1	IPI00215965	39 kDa	44	23%	8	114	44%	14	0	0%	0
Serine/threonine-protein kinase 38	IPI00027251	54 kDa	50	34%	13	69	27%	14	19	23%	11
Insulin-like growth factor 2 mRNA-binding protein 1	IPI00008557	63 kDa	24	15%	8	124	28%	13	7	8%	5
cDNA FLJ60624, highly similar to Epidermal growth factor receptor substrate 15-like 1	IPI00163849	100 kDa	7	7%	6	124	23%	30	0	0%	0
60S acidic ribosomal protein P0	IPI00008530	34 kDa	47	33%	10	96	56%	16	0	0%	0
60S ribosomal protein L3	IPI00550021	46 kDa	36	15%	9	70	31%	14	0	0%	0
Tubulin alpha-1C chain	IPI00218343	50 kDa	44	20%	10	72	22%	7	21	21%	9
60S ribosomal protein L7	IPI00030179	29 kDa	53	25%	10	52	25%	10	0	0%	0
60S ribosomal protein L6	IPI00329389	33 kDa	29	24%	11	81	36%	14	3	10%	3
heterogeneous nuclear ribonucleoprotein U isoform a	IPI00644079	91 kDa	37	11%	14	79	18%	11	0	0%	0
60S ribosomal protein L10a	IPI00412579	25 kDa	30	18%	6	69	32%	9	0	0%	0
60S ribosomal protein L5	IPI00000494	34 kDa	49	24%	12	66	31%	11	6	13%	3
Keratin, type I cytoskeletal 16	IPI00217963	51 kDa	92	22%	11	30	8%	7	0	0%	0
Keratin, type II cytoskeletal 5	IPI00009867	62 kDa	67	15%	13	44	7%	6	0	0%	0

Keratin, type II cytoskeletal 6A	IPI00300725	60 kDa	77	23%	14	38	10%	11	0	0%	0
60S acidic ribosomal protein P2	IPI00008529	12 kDa	71	85%	9	62	84%	8	9	49%	4
Isoform 2 of Heterogeneous nuclear ribonucleoprotein K	IPI00216746	51 kDa	26	24%	8	94	44%	17	0	0%	0
Trypsin-1	IPI00011694	27 kDa	48	7%	2	0	0%	0	0	0%	0
40S ribosomal protein S19	IPI00215780	16 kDa	35	34%	11	57	51%	11	7	20%	5
similar to 23 kD highly basic protein	IPI00398964	24 kDa	25	34%	8	43	31%	7	6	17%	3
Isoform Long of Spectrin beta chain, brain 1	IPI00005614	275 kDa	7	5%	7	0	0%	0	83	23%	40
Isoform 1 of 60S ribosomal protein L11	IPI00376798	20 kDa	53	24%	5	54	24%	4	4	12%	2
Isoform 1 of Nucleolar RNA helicase 2	IPI00015953	87 kDa	9	6%	6	86	31%	19	0	0%	0
60S ribosomal protein L8	IPI00012772	28 kDa	43	16%	4	43	24%	4	5	11%	2
Hornerin	IPI00398625	282 kDa	33	3%	8	51	3%	7	0	0%	0
40S ribosomal protein S4, X isoform	IPI00217030	30 kDa	52	29%	9	36	20%	9	2	4%	2
60S ribosomal protein L23a	IPI00021266	18 kDa	34	33%	7	50	50%	9	2	13%	2
40S ribosomal protein S9	IPI00221088	23 kDa	31	24%	7	52	33%	9	0	0%	0
25 kDa protein	IPI00872430	25 kDa	30	28%	7	79	37%	8	0	0%	0
Kinesin-like protein KIF11	IPI00305289	119 kDa	30	13%	15	41	16%	14	13	10%	8
ATP-dependent RNA helicase A	IPI00844578	141 kDa	9	5%	7	79	28%	28	4	2%	2
40S ribosomal protein S18	IPI00013296	18 kDa	34	32%	8	40	43%	7	6	19%	5
Protein arginine N-methyltransferase 5	IPI00441473	73 kDa	31	16%	12	44	15%	8	15	6%	6
Isoform B1 of Heterogeneous nuclear ribonucleoproteins A2/B1	IPI00396378	37 kDa	23	20%	7	68	35%	10	3	8%	2
Trifunctional enzyme subunit beta, mitochondrial	IPI00022793	51 kDa	5	7%	4	29	12%	7	47	34%	15
Isoform 1 of Protein VPRBP	IPI00329528	169 kDa	24	12%	17	52	13%	20	0	0%	0
Heterogeneous nuclear ribonucleoprotein H	IPI00013881	49 kDa	27	11%	4	74	30%	9	4	11%	4

60S ribosomal protein L9	IPI00031691	22 kDa	21	16%	3	61	23%	5	3	6%	2
Isoform 1 of Clathrin heavy chain 1	IPI00024067	192 kDa	44	16%	23	44	12%	20	0	0%	0
60S ribosomal protein L15	IPI00470528	24 kDa	15	19%	4	35	31%	8	3	8%	2
Heat shock protein HSP 90-beta	IPI00414676	83 kDa	37	15%	15	48	15%	16	15	13%	9
Isoform 1 of Polyadenylate-binding protein 1	IPI00008524	71 kDa	29	16%	10	61	31%	18	0	0%	0
Isoform 2 of AP-2 complex subunit sigma-1	IPI00183781	12 kDa	0	0%	0	87	44%	5	0	0%	0
Isoform 1 of 60S ribosomal protein L12	IPI00024933	18 kDa	28	39%	5	44	48%	6	0	0%	0
Isoform A of AP-1 complex subunit beta-1	IPI00328257	105 kDa	16	10%	6	77	17%	17	0	0%	0
RalA-binding protein 1	IPI00009544	76 kDa	9	9%	5	70	27%	20	0	0%	0
Trifunctional enzyme subunit alpha, mitochondrial	IPI00031522	83 kDa	7	5%	5	74	22%	19	0	0%	0
60S ribosomal protein L13	IPI00465361	24 kDa	44	42%	12	21	25%	7	3	11%	2
Probable ATP-dependent RNA helicase DDX5	IPI00017617	69 kDa	12	4%	3	53	15%	11	0	0%	0
ribosomal protein L17-like	IPI00478208	21 kDa	28	23%	6	62	34%	8	0	0%	0
Elongation factor 1-alpha 1	IPI00396485	50 kDa	25	13%	9	31	20%	9	20	17%	7
60S ribosomal protein L21	IPI00247583	19 kDa	33	28%	3	49	32%	4	0	0%	0
60S ribosomal protein L19	IPI00025329	23 kDa	20	19%	6	42	19%	6	2	10%	2
60S ribosomal protein L18	IPI00215719	22 kDa	37	31%	7	53	34%	6	0	0%	0
Ribosomal L1 domain-containing protein 1	IPI00008708	55 kDa	16	16%	8	51	34%	16	0	0%	0
Isoform 1 of Angiomotin	IPI00163085	118 kDa	0	0%	0	2	2%	2	64	21%	19
Isoform 1 of Myb-binding protein 1A	IPI00005024	149 kDa	11	6%	8	63	17%	21	0	0%	0
Ras GTPase-activating protein-binding protein 1	IPI00012442	52 kDa	26	31%	10	40	29%	10	0	0%	0
40S ribosomal protein S3a	IPI00419880	30 kDa	29	24%	7	36	38%	10	3	8%	2
40S ribosomal protein S6	IPI00021840	29 kDa	31	27%	9	43	33%	11	0	0%	0

60S ribosomal protein L10	IPI00554723	25 kDa	33	21%	5	47	26%	6	0	0%	0
40S ribosomal protein S2	IPI00013485	31 kDa	27	26%	8	39	34%	8	0	0%	0
Isoform 1 of Serine/arginine repetitive matrix protein 2	IPI00782992	300 kDa	37	8%	16	34	4%	12	0	0%	0
Isoform Short of RNA-binding protein FUS	IPI00221354	53 kDa	8	7%	5	55	13%	6	0	0%	0
Isoform 5 of Interleukin enhancer-binding factor 3	IPI00219330	75 kDa	14	10%	10	48	32%	18	0	0%	0
Isoform 1 of Plasminogen activator inhibitor 1 RNA-binding protein	IPI00410693	45 kDa	14	16%	6	55	38%	12	2	7%	2
Isoform 1 of Polypyrimidine tract-binding protein 1	IPI00179964	57 kDa	9	10%	7	57	32%	9	0	0%	0
Dermcidin	IPI00027547	11 kDa	21	34%	4	23	24%	3	0	0%	0
40S ribosomal protein S25	IPI00012750	14 kDa	19	24%	5	30	38%	6	0	0%	0
Interleukin enhancer-binding factor 2	IPI00005198	43 kDa	22	21%	6	49	28%	10	0	0%	0
Uncharacterized protein ALB	IPI00022434	72 kDa	47	6%	5	10	2%	2	0	0%	0
Nuclease-sensitive element-binding protein 1	IPI00031812	36 kDa	18	27%	8	46	40%	9	9	18%	5
40S ribosomal protein S13	IPI00221089	17 kDa	27	28%	6	34	39%	6	0	0%	0
Isoform 2 of Filamin-A	IPI00302592	280 kDa	19	10%	18	25	9%	18	13	6%	10
Keratin, type I cytoskeletal 14	IPI00384444	52 kDa	41	13%	4	28	6%	2	0	0%	0
40S ribosomal protein S10	IPI00008438	19 kDa	22	25%	7	35	29%	6	3	15%	2
RPL14 protein	IPI00555744	24 kDa	19	22%	5	47	32%	6	0	0%	0
33 kDa protein	IPI00413108	33 kDa	15	15%	3	44	29%	8	8	19%	4
Histone H1x	IPI00021924	22 kDa	22	36%	6	40	31%	5	0	0%	0
DEAD box polypeptide 17 isoform 1	IPI00023785	80 kDa	6	6%	4	48	20%	11	2	4%	2
40S ribosomal protein S14	IPI00026271	16 kDa	23	30%	5	36	34%	6	5	19%	3
60S ribosomal protein L24	IPI00306332	18 kDa	18	14%	3	29	19%	4	0	0%	0
Isoform ASF-1 of Splicing factor, arginine/serine-rich 1	IPI00215884	28 kDa	22	28%	6	32	40%	10	0	0%	0

Poly [ADP-ribose] polymerase 1	IPI00449049	113 kDa	12	8%	7	40	17%	14	0	0%	0
Isoform 2 of Heterogeneous nuclear ribonucleoprotein D0	IPI00220683	36 kDa	13	13%	5	41	29%	9	0	0%	0
40S ribosomal protein S7	IPI00013415	22 kDa	18	11%	3	27	32%	6	3	23%	2
DNA damage-binding protein 1	IPI00293464	127 kDa	9	5%	7	28	11%	14	0	0%	0
Isoform 1 of BMP-2-inducible protein kinase	IPI00337426	129 kDa	22	6%	8	40	12%	14	0	0%	0
40S ribosomal protein S16	IPI00221092	16 kDa	14	14%	3	28	50%	7	0	0%	0
60S ribosomal protein L26	IPI00027270	17 kDa	11	21%	7	20	31%	7	0	0%	0
52 kDa Ro protein	IPI00018971	54 kDa	10	13%	5	20	14%	8	6	11%	3
60S ribosomal protein L35	IPI00412607	15 kDa	15	22%	3	29	26%	4	0	0%	0
60S ribosomal protein L27	IPI00219155	16 kDa	17	30%	3	19	30%	3	0	0%	0
Isoform Beta of Nucleolar phosphoprotein p130	IPI00216654	75 kDa	15	9%	7	30	14%	10	0	0%	0
60S ribosomal protein L28	IPI00182533	16 kDa	25	23%	7	20	25%	6	2	16%	2
Isoform 1 of Insulin-like growth factor 2 mRNA-binding protein 3	IPI00658000	64 kDa	3	4%	3	42	23%	10	0	0%	0
ATP-dependent RNA helicase DDX3X	IPI00215637	73 kDa	6	7%	4	40	20%	13	0	0%	0
14-3-3 protein epsilon	IPI00000816	29 kDa	13	22%	7	31	28%	11	0	0%	0
cDNA FLJ54492, highly similar to Eukaryotic translation initiation factor 4B	IPI00012079	70 kDa	18	17%	7	15	10%	5	14	18%	7
40S ribosomal protein S23	IPI00218606	16 kDa	19	16%	3	20	24%	4	0	0%	0
Splicing factor, arginine/serine-rich 3	IPI00010204	19 kDa	13	19%	4	28	29%	5	0	0%	0
ATP-dependent RNA helicase DDX18	IPI00301323	75 kDa	4	6%	3	40	24%	14	0	0%	0
40S ribosomal protein S17	IPI00221093	16 kDa	15	30%	4	29	53%	6	0	0%	0
Isoform 1 of 40S ribosomal protein S24	IPI00029750	15 kDa	10	29%	3	37	35%	5	0	0%	0
hypothetical protein LOC389435	IPI00398135	17 kDa	21	16%	3	23	22%	4	3	16%	2

Probable ATP-dependent RNA helicase DDX6	IPI00030320	54 kDa	11	18%	6	32	41%	12	0	0%	0
NOL1 protein	IPI00654555	93 kDa	10	13%	9	24	19%	13	0	0%	0
60S ribosomal protein L31	IPI00026302	14 kDa	17	36%	5	19	26%	3	0	0%	0
60 kDa heat shock protein, mitochondrial	IPI00784154	61 kDa	11	9%	7	9	17%	8	10	17%	4
Proliferation-associated protein 2G4	IPI00299000	44 kDa	6	15%	6	21	36%	12	0	0%	0
Isoform 2 of Guanine nucleotide-binding protein-like 3	IPI00003886	61 kDa	8	10%	5	17	15%	5	0	0%	0
cDNA FLJ78093, highly similar to Homo sapiens ribosomal protein L29 (RPL29), mRNA	IPI00796934	18 kDa	17	16%	2	0	0%	0	0	0%	0
Isoform 1 of Heterogeneous nuclear ribonucleoprotein Q	IPI00018140	70 kDa	9	6%	5	17	11%	7	0	0%	0
Ribosomal protein 26 (RPS26) pseudogene	IPI00186712	13 kDa	14	21%	2	21	21%	3	0	0%	0
Isoform 3 of Heterogeneous nuclear ribonucleoprotein A/B	IPI00334713	31 kDa	10	20%	5	25	26%	7	0	0%	0
Isoform 1 of Ribosomal RNA processing protein 1 homolog B	IPI00290952	84 kDa	4	3%	2	29	21%	13	0	0%	0
60S acidic ribosomal protein P1	IPI00008527	12 kDa	15	33%	2	0	0%	0	0	0%	0
Uncharacterized protein ENSP00000374804	IPI00829827	13 kDa	8	13%	2	0	0%	0	0	0%	0
Isoform 1 of Fragile X mental retardation syndrome-related protein 1	IPI00016249	70 kDa	6	7%	3	32	12%	13	0	0%	0
Nucleolar protein 5A	IPI00411937	66 kDa	2	4%	2	29	39%	16	0	0%	0
40S ribosomal protein S5	IPI00008433	23 kDa	13	13%	4	15	31%	6	0	0%	0
60S ribosomal protein L23	IPI00010153	15 kDa	16	27%	4	19	27%	3	0	0%	0
Beta-actin-like protein 2	IPI00003269	42 kDa	0	0%	0	0	0%	0	17	20%	4
DNA topoisomerase 1	IPI00413611	91 kDa	0	0%	0	27	19%	13	0	0%	0
Thyroid hormone receptor-associated protein 3	IPI00104050	109 kDa	14	9%	9	18	6%	8	3	5%	3
Lung cancer oncogene 7	IPI00641950	38 kDa	15	14%	5	17	17%	5	0	0%	0
Protein RRP5 homolog	IPI00400922	209 kDa	14	4%	9	18	7%	10	0	0%	0

40S ribosomal protein S15a	IPI00221091	15 kDa	6	15%	3	11	33%	3	0	0%	0
THO complex subunit 4	IPI00328840	28 kDa	8	20%	3	21	20%	3	0	0%	0
Cell growth-regulating nucleolar protein	IPI00015838	44 kDa	8	10%	4	21	22%	8	0	0%	0
Staphylococcal nuclease domain-containing protein 1	IPI00140420	102 kDa	3	4%	3	20	24%	16	0	0%	0
40S ribosomal protein S11	IPI00025091	18 kDa	9	14%	4	12	18%	3	0	0%	0
Actin, alpha skeletal muscle	IPI00021428	42 kDa	0	0%	0	8	10%	2	16	15%	3
60S ribosomal protein L18a	IPI00026202	21 kDa	8	23%	4	22	35%	6	0	0%	0
Myristoylated alanine-rich C-kinase substrate	IPI00219301	32 kDa	0	0%	0	0	0%	0	37	48%	8
Polycystin-2	IPI00299040	110 kDa	8	5%	5	25	10%	10	0	0%	0
Histone H2B type 1-L	IPI00018534	14 kDa	0	0%	0	17	20%	2	0	0%	0
Isoform Long of Delta-1-pyrroline-5-carboxylate synthetase	IPI00008982	87 kDa	0	0%	0	31	22%	13	0	0%	0
60S ribosomal protein L22	IPI00219153	15 kDa	12	19%	2	20	30%	3	0	0%	0
Cytospin-A	IPI00178072	125 kDa	0	0%	0	3	4%	3	24	14%	13
heat shock protein 90kDa alpha (cytosolic), class A member 1 isoform 1	IPI00382470	98 kDa	7	6%	6	12	5%	7	4	4%	3
Isoform 1 of Clathrin interactor 1	IPI00291930	68 kDa	5	9%	5	22	14%	12	0	0%	0
60S ribosomal protein L36	IPI00216237	12 kDa	12	21%	3	12	19%	4	0	0%	0
Isoform 1 of Breakpoint cluster region protein	IPI00004497	143 kDa	0	0%	0	27	8%	12	0	0%	0
cDNA FLJ60076, highly similar to ELAV-like protein 1	IPI00301936	39 kDa	5	14%	4	24	24%	6	0	0%	0
Elongation factor 1-delta	IPI00023048	31 kDa	9	9%	4	11	16%	5	8	22%	5
eukaryotic translation initiation factor 4 gamma, 1 isoform 2	IPI00384463	167 kDa	12	4%	8	11	5%	6	0	0%	0
ATP-dependent DNA helicase 2 subunit 1	IPI00644712	70 kDa	5	11%	5	18	20%	11	0	0%	0
rRNA 2'-O-methyltransferase fibrillarin	IPI00025039	34 kDa	2	6%	2	25	33%	8	0	0%	0

Isoform 1 of Paraspeckle component 1	IPI00103525	59 kDa	0	0%	0	21	20%	8	0	0%	0
Enhancer of rudimentary homolog	IPI00029631	12 kDa	11	18%	2	15	25%	4	4	18%	2
40S ribosomal protein S20	IPI00012493	13 kDa	13	19%	3	8	23%	3	3	15%	2
Isoform 1 of Heterogeneous nuclear ribonucleoprotein A3	IPI00419373	40 kDa	0	0%	0	17	25%	8	0	0%	0
Isoform 1 of Fragile X mental retardation 1 protein	IPI00215720	67 kDa	6	9%	4	16	10%	8	0	0%	0
Isoform 1 of FCH domain only protein 2	IPI00472794	89 kDa	0	0%	0	27	23%	12	0	0%	0
Isoform 1 of Bcl-2-associated transcription factor 1	IPI00006079	106 kDa	9	5%	8	12	5%	6	2	1%	2
Histone H2A type 1-H	IPI00081836	14 kDa	6	30%	3	0	0%	0	0	0%	0
RNA-binding protein 34	IPI00181617	49 kDa	3	8%	3	18	27%	9	0	0%	0
Heterogeneous nuclear ribonucleoprotein G	IPI00304692	42 kDa	6	12%	4	13	20%	7	0	0%	0
Histone H1.4	IPI00217467	22 kDa	14	18%	4	6	9%	2	5	9%	2
40S ribosomal protein S12	IPI00013917	15 kDa	11	24%	2	8	30%	3	4	24%	2
Stress-70 protein, mitochondrial	IPI00007765	74 kDa	3	4%	3	18	16%	9	0	0%	0
poly(rC) binding protein 2 isoform b	IPI00012066	38 kDa	6	7%	2	18	15%	4	0	0%	0
Isoform 1 of RNA-binding protein 14	IPI00013174	69 kDa	5	9%	4	14	14%	7	0	0%	0
Isoform 2 of Ubiquitin-associated protein 2-like	IPI00029019	105 kDa	8	9%	5	11	10%	7	0	0%	0
Isoform 1 of DAZ-associated protein 1	IPI00165230	43 kDa	8	11%	3	15	11%	3	0	0%	0
EBNA1 binding protein 2	IPI00745955	41 kDa	0	0%	0	17	24%	6	0	0%	0
cDNA FLJ36192 fis, clone TESTI2027450, highly similar to Eukaryotic translation initiation factor 3 subunit 5	IPI00654777	39 kDa	5	5%	2	10	10%	4	0	0%	0
Isoform 1 of Heterochromatin protein 1-binding protein 3	IPI00642238	61 kDa	2	3%	2	16	13%	6	0	0%	0
peptidylprolyl isomerase B precursor	IPI00646304	24 kDa	0	0%	0	16	23%	4	0	0%	0
Nucleosome assembly protein 1-like 1	IPI00023860	45 kDa	0	0%	0	17	20%	6	0	0%	0

Isoform 1 of Heterogeneous nuclear ribonucleoprotein H3	IPI00013877	37 kDa	5	12%	4	16	21%	6	0	0%	0
Heterogeneous nuclear ribonucleoprotein F	IPI00003881	46 kDa	5	8%	3	12	16%	4	0	0%	0
Sorting nexin-9	IPI00001883	67 kDa	14	22%	7	2	3%	2	0	0%	0
cDNA FLJ56389, highly similar to Elongation factor 1-gamma	IPI00000875	56 kDa	6	5%	3	7	3%	3	6	5%	3
Uncharacterized protein C11orf84	IPI00106955	41 kDa	9	24%	7	0	0%	0	11	22%	6
Heterogeneous nuclear ribonucleoprotein R	IPI00012074	71 kDa	0	0%	0	17	7%	4	0	0%	0
Heterogeneous nuclear ribonucleoprotein A0	IPI00011913	31 kDa	6	14%	3	14	19%	4	0	0%	0
Isoform 1 of Calcium-binding and coiled-coil domain-containing protein 1	IPI00011232	77 kDa	0	0%	0	18	13%	8	0	0%	0
AP-2 associated kinase 1	IPI00479760	104 kDa	0	0%	0	18	8%	8	0	0%	0
KH-type splicing regulatory protein	IPI00479786	73 kDa	0	0%	0	16	23%	11	0	0%	0
60S ribosomal protein L30	IPI00219156	13 kDa	14	43%	5	0	0%	0	0	0%	0
Voltage-dependent anion-selective channel protein 1	IPI00216308	31 kDa	5	12%	3	8	30%	6	0	0%	0
Tubulin beta-2C chain	IPI00007752	50 kDa	4	6%	3	10	9%	3	2	3%	2
Methylosome protein 50	IPI00012202	37 kDa	8	18%	4	6	6%	3	0	0%	0
Probable ATP-dependent RNA helicase DDX41	IPI00007208	70 kDa	9	13%	8	6	7%	5	0	0%	0
Isoform 1 of KH domain-containing, RNA-binding, signal transduction-associated protein 1	IPI00008575	48 kDa	0	0%	0	12	8%	3	0	0%	0
Uncharacterized protein FLJ45252	IPI00397883	38 kDa	0	0%	0	20	26%	6	0	0%	0
59 kDa protein	IPI00302925	59 kDa	9	5%	7	2	4%	2	2	4%	2
Transitional endoplasmic reticulum ATPase	IPI00022774	89 kDa	7	6%	4	8	6%	5	3	4%	2
Eukaryotic translation initiation factor 3 subunit A	IPI00029012	167 kDa	6	4%	6	5	3%	4	0	0%	0
Glutamate-rich WD repeat-containing protein 1	IPI00027831	49 kDa	4	13%	4	9	14%	4	0	0%	0

Leucine-rich PPR motif-containing protein, mitochondrial	IPI00783271	158 kDa	0	0%	0	11	8%	9	0	0%	0
Isoform B of Ras GTPase-activating protein-binding protein 2	IPI00179890	51 kDa	3	8%	2	5	11%	3	0	0%	0
Isoform 1 of Protein phosphatase 1 regulatory subunit 12A	IPI00183002	115 kDa	0	0%	0	0	0%	0	11	9%	7
chaperonin containing TCP1, subunit 3 isoform b	IPI00290770	60 kDa	6	6%	4	4	7%	3	3	9%	3
Nucleoplasmin-3	IPI00026496	19 kDa	0	0%	0	10	17%	2	0	0%	0
Treacher Collins-Franceschetti syndrome 1 isoform a	IPI00165041	148 kDa	3	1%	2	0	0%	0	0	0%	0
Isoform Gamma-1 of Serine/threonine-protein phosphatase PP1-gamma catalytic subunit	IPI00005705	37 kDa	8	7%	2	8	7%	2	0	0%	0
Nucleolar protein 5	IPI00006379	60 kDa	3	5%	3	6	15%	5	0	0%	0
T-complex protein 1 subunit zeta	IPI00027626	58 kDa	0	0%	0	8	8%	5	0	0%	0
similar to insulinoma protein	IPI00455479	17 kDa	7	24%	3	6	24%	2	0	0%	0
Keratin, type II cytoskeletal 6B	IPI00293665	60 kDa	7	5%	2	4	5%	2	0	0%	0
Dynein light chain 1, cytoplasmic	IPI00019329	10 kDa	5	26%	2	8	13%	2	0	0%	0
Lupus La protein	IPI00009032	47 kDa	5	10%	4	5	10%	3	2	7%	2
Isoform 1 of Polyadenylate-binding protein 4	IPI00012726	71 kDa	0	0%	0	11	8%	6	0	0%	0
Eukaryotic initiation factor 4A-I	IPI00025491	46 kDa	4	12%	4	9	13%	4	0	0%	0
ATP synthase subunit beta, mitochondrial	IPI00303476	57 kDa	2	5%	2	12	22%	10	0	0%	0
Isoform 1 of RNA-binding protein 39	IPI00163505	59 kDa	0	0%	0	12	20%	8	0	0%	0
2,4-dienoyl-CoA reductase, mitochondrial	IPI00003482	36 kDa	7	14%	4	0	0%	0	0	0%	0
Isoform 2 of Spliceosome RNA helicase BAT1	IPI00641829	51 kDa	4	3%	2	8	8%	4	0	0%	0
Importin subunit beta-1	IPI00001639	97 kDa	0	0%	0	8	6%	4	0	0%	0
Isoform 1 of Heterogeneous nuclear ribonucleoprotein U-like protein 1	IPI00013070	96 kDa	3	6%	3	5	6%	5	0	0%	0
Isoform 1 of DNA-dependent protein kinase catalytic subunit	IPI00296337	469 kDa	5	1%	4	4	1%	4	0	0%	0

Isoform 1 of U5 small nuclear ribonucleoprotein 200 kDa helicase	IPI00420014	245 kDa	5	2%	5	5	2%	4	0	0%	0
Glyceraldehyde-3-phosphate dehydrogenase	IPI00219018	36 kDa	6	13%	5	3	7%	3	3	12%	2
14-3-3 protein zeta/delta	IPI00021263	28 kDa	4	9%	3	5	9%	2	0	0%	0
Isoform C1 of Heterogeneous nuclear ribonucleoproteins C1/C2	IPI00216592	32 kDa	0	0%	0	10	10%	5	0	0%	0
39S ribosomal protein L12, mitochondrial	IPI00005537	21 kDa	0	0%	0	5	13%	3	3	13%	2
Cytoplasmic dynein 1 heavy chain 1	IPI00456969	532 kDa	5	1%	5	3	1%	3	0	0%	0
Splicing factor, arginine/serine-rich 2	IPI00005978	25 kDa	3	15%	2	6	15%	2	0	0%	0
Isoform 1 of Enhancer of mRNA-decapping protein 4	IPI00376317	152 kDa	0	0%	0	10	6%	6	0	0%	0
Ras-related protein Ral-A	IPI00217519	24 kDa	0	0%	0	0	0%	0	7	23%	4
Spindlin-1	IPI00550655	30 kDa	0	0%	0	0	0%	0	3	14%	3
60S ribosomal protein L32	IPI00395998	16 kDa	0	0%	0	4	16%	3	0	0%	0
60S ribosomal protein L35a	IPI00029731	13 kDa	0	0%	0	4	26%	3	0	0%	0
Signal recognition particle 14 kDa protein	IPI00293434	15 kDa	0	0%	0	11	18%	3	0	0%	0
H/ACA ribonucleoprotein complex subunit 4	IPI00221394	58 kDa	5	4%	2	5	11%	4	0	0%	0
Histone H1.0	IPI00550239	21 kDa	7	19%	4	0	0%	0	0	0%	0
cDNA FLJ31747 fis, clone NT2RI2007377, highly similar to RNA-BINDING PROTEIN EWS	IPI00009841	69 kDa	0	0%	0	11	10%	5	0	0%	0
Isoform 1 of Caprin-1	IPI00783872	78 kDa	0	0%	0	7	9%	5	0	0%	0
Eukaryotic translation initiation factor 2 subunit 1	IPI00219678	36 kDa	7	15%	4	5	9%	2	0	0%	0
Isoform 1 of YTH domain family protein 2	IPI00306043	62 kDa	0	0%	0	8	11%	5	0	0%	0
FACT complex subunit SPT16	IPI00026970	120 kDa	0	0%	0	11	8%	6	0	0%	0
T-complex protein 1 subunit eta	IPI00018465	59 kDa	3	5%	3	3	7%	3	2	2%	2
Period circadian protein homolog 1	IPI00440484	136 kDa	0	0%	0	9	4%	2	0	0%	0

Fragile X mental retardation syndrome-related protein 2	IPI00016250	77 kDa	0	0%	0	7	4%	3	0	0%	0
Isoform Long of Antigen KI-67	IPI00004233	359 kDa	5	1%	3	2	1%	2	0	0%	0
Isoform 1 of Transcription intermediary factor 1-beta	IPI00438229	89 kDa	0	0%	0	11	6%	4	0	0%	0
Uncharacterized protein ENSP00000260968	IPI00479058	17 kDa	6	22%	2	0	0%	0	0	0%	0
Isoform 1 of Filamin-B	IPI00289334	278 kDa	0	0%	0	0	0%	0	5	2%	3
Isoform 1 of Nuclear protein NP60	IPI00000155	61 kDa	0	0%	0	9	10%	5	0	0%	0
Matrin-3	IPI00017297	95 kDa	0	0%	0	8	8%	6	0	0%	0
KRR1 small subunit processome component homolog	IPI00156032	44 kDa	3	6%	2	5	9%	3	0	0%	0
ADP/ATP translocase 2	IPI00007188	33 kDa	0	0%	0	10	20%	5	0	0%	0
Stress-induced-phosphoprotein 1	IPI00013894	63 kDa	3	4%	2	0	0%	0	0	0%	0
Splicing factor, arginine/serine-rich 4	IPI00000015	57 kDa	0	0%	0	4	5%	3	0	0%	0
Isoform 1 of E3 ubiquitin-protein ligase Praja2	IPI00006557	78 kDa	0	0%	0	10	7%	5	0	0%	0
Prolactin-inducible protein	IPI00022974	17 kDa	9	19%	3	0	0%	0	0	0%	0
Isoform 2 of U1 small nuclear ribonucleoprotein 70 kDa	IPI00219483	51 kDa	2	4%	2	3	6%	2	0	0%	0
Putative pre-mRNA-splicing factor ATP-dependent RNA helicase DHX15	IPI00396435	91 kDa	0	0%	0	6	5%	3	0	0%	0
RNA-binding protein 28	IPI00304187	86 kDa	0	0%	0	5	7%	5	0	0%	0
Uncharacterized protein C7orf50	IPI00031651	22 kDa	0	0%	0	7	24%	3	0	0%	0
H/ACA ribonucleoprotein complex subunit 2	IPI00041325	17 kDa	0	0%	0	8	19%	2	0	0%	0
Isoform 1 of Drebrin	IPI00003406	71 kDa	0	0%	0	0	0%	0	6	5%	3
Isoform 1 of Splicing factor U2AF 65 kDa subunit	IPI00031556	54 kDa	0	0%	0	8	17%	4	0	0%	0
40S ribosomal protein S27	IPI00513971	9 kDa	5	30%	2	5	30%	3	0	0%	0
40S ribosomal protein S21	IPI00017448	9 kDa	5	41%	3	0	0%	0	0	0%	0
Putative uncharacterized protein DKFZp686E2459	IPI00375731	110 kDa	4	4%	4	0	0%	0	0	0%	0

Isoform Beta-2 of DNA topoisomerase 2-beta	IPI00027280	183 kDa	4	2%	3	3	2%	3	0	0%	0
Serine/threonine-protein phosphatase PP1-beta catalytic subunit	IPI00218236	37 kDa	0	0%	0	5	14%	4	0	0%	0
Gamma-glutamyl hydrolase	IPI00023728	36 kDa	0	0%	0	9	19%	5	0	0%	0
Isoform 1 of Putative helicase MOV-10	IPI00444452	114 kDa	2	3%	2	5	6%	5	0	0%	0
U1 small nuclear ribonucleoprotein A	IPI00012382	31 kDa	3	13%	2	5	22%	4	0	0%	0
Eukaryotic translation initiation factor 2 subunit 2	IPI00021728	38 kDa	0	0%	0	6	17%	4	0	0%	0
Importin subunit alpha-2	IPI00002214	58 kDa	0	0%	0	6	10%	3	0	0%	0
Histone H4	IPI00453473	11 kDa	3	21%	2	0	0%	0	0	0%	0
Glutaminyl-peptide cyclotransferase	IPI00003919	41 kDa	2	8%	2	5	20%	4	0	0%	0
Putative rRNA methyltransferase 3	IPI00217686	97 kDa	0	0%	0	6	4%	3	0	0%	0
Keratin, type I cytoskeletal 17	IPI00450768	48 kDa	10	12%	5	0	0%	0	0	0%	0
Nucleolysin TIAR	IPI00005615	42 kDa	0	0%	0	7	6%	2	0	0%	0
Isoform 1 of Acyl-CoA dehydrogenase family member 11	IPI00420065	87 kDa	0	0%	0	8	6%	3	0	0%	0
Isoform Short of TATA-binding protein-associated factor 2N	IPI00020194	62 kDa	0	0%	0	8	9%	3	0	0%	0
polymerase (RNA) I polypeptide A, 194kDa	IPI00031960	195 kDa	4	3%	4	0	0%	0	0	0%	0
Isoform 1 of Spectrin beta chain, brain 2	IPI00012645	271 kDa	0	0%	0	0	0%	0	5	2%	4
Isoform 2 of ELKS/RAB6-interacting/CAST family member 1	IPI00171230	114 kDa	0	0%	0	0	0%	0	5	6%	4
Isoform 3 of Tyrosine-protein phosphatase non-receptor type 13	IPI00006714	275 kDa	0	0%	0	0	0%	0	6	3%	6
NF-kappa-B-activating protein	IPI00296934	47 kDa	4	11%	2	4	11%	3	0	0%	0
Ribose-phosphate pyrophosphokinase 1	IPI00219616	35 kDa	0	0%	0	0	0%	0	4	13%	3
Histone-binding protein RBBP4	IPI00328319	48 kDa	0	0%	0	4	6%	2	0	0%	0
T-complex protein 1 subunit delta	IPI00302927	58 kDa	6	6%	4	0	0%	0	2	5%	2
Isoform 1 of MYC-induced nuclear	IPI00216737	53 kDa	4	10%	3	4	6%	2	0	0%	0

antigen											
Splicing factor, arginine/serine-rich 9	IPI00012340	26 kDa	0	0%	0	5	16%	4	0	0%	0
Isoform 1 of RNA-binding protein Musashi homolog 2	IPI00073713	35 kDa	0	0%	0	7	10%	2	0	0%	0
Isoform 2 of Splicing factor 1	IPI00294627	69 kDa	0	0%	0	4	7%	4	0	0%	0
Isoform 1 of Ataxin-2-like protein	IPI00456359	113 kDa	2	5%	2	4	5%	4	0	0%	0
Serine hydroxymethyltransferase, mitochondrial	IPI00002520	56 kDa	0	0%	0	6	11%	5	0	0%	0
ATP synthase subunit alpha, mitochondrial	IPI00440493	60 kDa	0	0%	0	5	10%	4	0	0%	0
Superkiller viralicidic activity 2-like 2	IPI00647217	118 kDa	0	0%	0	6	5%	4	0	0%	0
Isoform 2 of Basigin	IPI00019906	29 kDa	0	0%	0	0	0%	0	5	15%	3
65 kDa Yes-associated protein	IPI00009326	49 kDa	0	0%	0	0	0%	0	7	6%	2
Testis-specific gene 118 protein	IPI00554560	52 kDa	3	6%	2	0	0%	0	0	0%	0
KN motif and ankyrin repeat domain-containing protein 1	IPI00339320	147 kDa	0	0%	0	3	2%	3	0	0%	0
Isoform 3 of Heterogeneous nuclear ribonucleoprotein D-like	IPI00045498	27 kDa	0	0%	0	6	19%	4	0	0%	0
insulin-like growth factor 2 mRNA binding protein 2 isoform a	IPI00179713	66 kDa	0	0%	0	4	8%	3	0	0%	0
Probable ATP-dependent RNA helicase DDX47	IPI00023972	51 kDa	0	0%	0	6	10%	4	0	0%	0
Eukaryotic translation initiation factor 2 subunit 3	IPI00297982	51 kDa	0	0%	0	5	12%	3	0	0%	0
Exosome complex exonuclease RRP46	IPI00015955	25 kDa	0	0%	0	5	9%	2	0	0%	0
Protein S100-A9	IPI00027462	13 kDa	6	38%	3	0	0%	0	0	0%	0
TDP43	IPI00025815	45 kDa	0	0%	0	5	10%	3	0	0%	0
PRKAR2A protein	IPI00063234	43 kDa	0	0%	0	3	10%	3	0	0%	0
Nucleolar GTP-binding protein 1	IPI00385042	74 kDa	0	0%	0	4	6%	4	0	0%	0
Isoform 2 of DNA-directed RNA polymerase I subunit RPA49	IPI00550638	47 kDa	0	0%	0	7	14%	5	0	0%	0
Isoform 1 of Malonyl CoA-acyl carrier protein transacylase, mitochondrial	IPI00023359	43 kDa	0	0%	0	7	12%	4	0	0%	0

T-complex protein 1 subunit epsilon	IPI00010720	60 kDa	0	0%	0	3	6%	3	0	0%	0
Microtubule-associated protein 1B	IPI00008868	271 kDa	3	1%	2	0	0%	0	0	0%	0
Eukaryotic translation initiation factor 6	IPI00010105	27 kDa	0	0%	0	5	13%	2	0	0%	0
Isoform 1 of Eukaryotic translation initiation factor 3 subunit B	IPI00396370	92 kDa	0	0%	0	3	3%	3	0	0%	0
Splicing factor 3B subunit 1	IPI00026089	146 kDa	3	3%	3	3	2%	2	0	0%	0
Isoform 1 of Splicing factor, arginine/serine-rich 7	IPI00003377	27 kDa	0	0%	0	5	18%	3	0	0%	0
Lamina-associated polypeptide 2 isoform alpha	IPI00216230	75 kDa	0	0%	0	3	3%	2	0	0%	0
Isoform 1 of Regulator of nonsense transcripts 3B	IPI00023409	58 kDa	0	0%	0	4	7%	3	0	0%	0
Isoform 1 of Replication factor C subunit 1	IPI00375358	128 kDa	0	0%	0	4	3%	2	0	0%	0
Isoform M1 of Pyruvate kinase isozymes M1/M2	IPI00220644	58 kDa	2	6%	2	0	0%	0	0	0%	0
Ras-related protein Rab-35	IPI00300096	23 kDa	0	0%	0	0	0%	0	6	24%	4
CCAAT/enhancer-binding protein zeta	IPI00306723	121 kDa	0	0%	0	6	6%	5	0	0%	0
Protein flightless-1 homolog	IPI00031023	145 kDa	0	0%	0	0	0%	0	4	3%	3
Isoform 2 of Protein KRI1 homolog	IPI00186139	83 kDa	0	0%	0	4	5%	3	0	0%	0
Isoform 1 of Melanoma-associated antigen D1	IPI00328354	86 kDa	0	0%	0	6	3%	4	0	0%	0
Isoform 2 of Exosome complex exonuclease RRP45	IPI00029697	51 kDa	0	0%	0	3	5%	2	0	0%	0
Isoform 1 of Pyruvate dehydrogenase E1 component subunit beta, mitochondrial	IPI00003925	39 kDa	0	0%	0	0	0%	0	2	8%	2
Complement component 1 Q subcomponent-binding protein, mitochondrial	IPI00014230	31 kDa	0	0%	0	5	11%	3	0	0%	0
Serine/threonine-protein kinase 38-like	IPI00237011	54 kDa	3	5%	2	0	0%	0	0	0%	0
DNA topoisomerase 2 (Fragment)	IPI00178667	183 kDa	2	1%	2	3	1%	2	0	0%	0
RRP15-like protein	IPI00007004	31 kDa	0	0%	0	4	8%	2	0	0%	0

Eukaryotic translation initiation factor 3, subunit E interacting protein	IPI00465233	71 kDa	2	5%	2	0	0%	0	0	0%	0
Growth-inhibiting protein 12	IPI00298860	78 kDa	4	5%	3	0	0%	0	0	0%	0
Brix domain-containing protein 2	IPI00181728	41 kDa	0	0%	0	2	7%	2	0	0%	0
Periodic tryptophan protein 2 homolog	IPI00300078	102 kDa	0	0%	0	3	3%	2	0	0%	0
Flotillin-1	IPI00027438	47 kDa	0	0%	0	0	0%	0	5	10%	3
Ras-related protein R-Ras2	IPI00012512	23 kDa	0	0%	0	0	0%	0	4	13%	2
Replication factor C subunit 4	IPI00017381	40 kDa	0	0%	0	2	6%	2	0	0%	0
Isoform alpha-enolase of Alpha-enolase	IPI00465248	47 kDa	0	0%	0	0	0%	0	2	7%	2
Nucleolar pre-ribosomal-associated protein 1	IPI00297241	254 kDa	2	1%	2	0	0%	0	0	0%	0
Mitochondrial PDHA1	IPI00306301	48 kDa	2	6%	2	0	0%	0	0	0%	0
Uncharacterized protein C9orf114	IPI00844014	42 kDa	0	0%	0	3	7%	2	0	0%	0
Isoform 1 of RalBP1-associated Eps domain-containing protein 2	IPI00382936	72 kDa	0	0%	0	3	7%	3	0	0%	0
Heterogeneous nuclear ribonucleoprotein H2	IPI00026230	49 kDa	0	0%	0	5	9%	2	0	0%	0
annexin A2 isoform 1	IPI00418169	40 kDa	3	11%	3	0	0%	0	0	0%	0
ATP-dependent RNA helicase DDX50	IPI00031554	83 kDa	0	0%	0	3	5%	3	0	0%	0
Interferon-induced, double-stranded RNA-activated protein kinase	IPI00019463	62 kDa	0	0%	0	3	7%	3	0	0%	0
10-formyltetrahydrofolate dehydrogenase	IPI00290553	99 kDa	0	0%	0	4	6%	4	0	0%	0
MKI67 FHA domain-interacting nucleolar phosphoprotein	IPI00154590	34 kDa	0	0%	0	4	14%	3	0	0%	0
UPF0568 protein C14orf166	IPI00006980	28 kDa	0	0%	0	4	16%	3	0	0%	0
Isoform 3 of Formin-like protein 2	IPI00044748	124 kDa	0	0%	0	0	0%	0	4	3%	3
Guanine nucleotide-binding protein alpha-13 subunit	IPI00290928	44 kDa	0	0%	0	0	0%	0	3	7%	2
Ras-related protein Rab-11B	IPI00020436	24 kDa	0	0%	0	0	0%	0	4	11%	2
Eukaryotic translation initiation factor 3 subunit I	IPI00012795	37 kDa	3	7%	2	0	0%	0	0	0%	0

Putative uncharacterized protein	IPI00218200	35 kDa	2	7%	2	0	0%	0	0	0%	0
Isoform 1 of Zinc finger and BTB domain-containing protein 10	IPI00383132	92 kDa	0	0%	0	3	4%	2	0	0%	0
Isoform 1 of 5'-3' exoribonuclease 2	IPI00100151	109 kDa	0	0%	0	2	3%	2	0	0%	0
26S proteasome non-ATPase regulatory subunit 3	IPI00011603	61 kDa	3	5%	2	0	0%	0	0	0%	0
Protein FAM98A	IPI00174442	55 kDa	0	0%	0	3	5%	2	0	0%	0
similar to hCG2041218	IPI00886929	26 kDa	0	0%	0	4	9%	2	0	0%	0
Fatty acid synthase	IPI00026781	273 kDa	0	0%	0	2	1%	2	0	0%	0
ATP-dependent RNA helicase DDX24	IPI00006987	96 kDa	0	0%	0	3	5%	3	0	0%	0
Alpha-centractin	IPI00029468	43 kDa	0	0%	0	2	9%	2	0	0%	0
116 kDa U5 small nuclear ribonucleoprotein component	IPI00003519	109 kDa	0	0%	0	3	3%	2	0	0%	0
Isoform 1 of Probable ATP-dependent RNA helicase DDX31	IPI00043990	94 kDa	0	0%	0	2	3%	2	0	0%	0
Glioma tumor suppressor candidate region gene 2 protein	IPI00024567	54 kDa	0	0%	0	3	8%	2	0	0%	0
Probable ATP-dependent RNA helicase DDX52	IPI00032423	67 kDa	0	0%	0	4	7%	3	0	0%	0
Eukaryotic translation initiation factor 3 subunit G	IPI00290460	36 kDa	0	0%	0	3	10%	3	0	0%	0
Cleavage and polyadenylation specificity factor subunit 5	IPI00646917	26 kDa	0	0%	0	3	19%	3	0	0%	0
Isoform 1 of Pescadillo homolog 1	IPI00003768	68 kDa	0	0%	0	2	7%	2	0	0%	0
Isoform 1 of RRP12-like protein	IPI00101186	144 kDa	0	0%	0	2	2%	2	0	0%	0
Nucleolar complex protein 3 homolog	IPI00102815	93 kDa	0	0%	0	2	3%	2	0	0%	0
FACT complex subunit SSRP1	IPI00005154	81 kDa	0	0%	0	2	4%	2	0	0%	0
ubiquitin specific protease 9, X-linked isoform 4	IPI00003964	290 kDa	0	0%	0	2	1%	2	0	0%	0
Desmoglein-2	IPI00028931	122 kDa	0	0%	0	0	0%	0	3	2%	2
Exosome complex exonuclease RRP40	IPI00015956	30 kDa	0	0%	0	2	10%	2	0	0%	0
Transcriptional activator protein Pur-alpha	IPI00023591	35 kDa	0	0%	0	3	6%	2	0	0%	0

60S ribosomal protein L36a-like	IPI00056494	12 kDa	0	0%	0	3	9%	2	0	0%	0
Importin subunit alpha-3	IPI00299033	58 kDa	0	0%	0	2	8%	2	0	0%	0
Isoform 1 of H/ACA ribonucleoprotein complex subunit 1	IPI00302176	22 kDa	0	0%	0	3	8%	2	0	0%	0
Cofilin-1	IPI00012011	19 kDa	0	0%	0	2	15%	2	0	0%	0
Protein S100-A8	IPI00007047	11 kDa	3	24%	2	0	0%	0	0	0%	0
Cell division cycle 5-like protein	IPI00465294	92 kDa	0	0%	0	2	4%	2	0	0%	0
N-acetyltransferase 10	IPI00300127	116 kDa	0	0%	0	2	2%	2	0	0%	0
Valyl-tRNA synthetase	IPI00000873	140 kDa	0	0%	0	0	0%	0	2	3%	2
Lon protease homolog, mitochondrial	IPI00005158	106 kDa	0	0%	0	2	3%	2	0	0%	0
transducin beta-like 3	IPI00383410	89 kDa	0	0%	0	2	3%	2	0	0%	0
Brix domain-containing protein 1	IPI00396329	36 kDa	0	0%	0	2	8%	2	0	0%	0
Isoform 3 of Ribosome-binding protein 1	IPI00215743	152 kDa	0	0%	0	2	2%	2	0	0%	0
ATP-dependent DNA helicase 2 subunit 2	IPI00220834	83 kDa	0	0%	0	2	3%	2	0	0%	0
Polymerase delta interacting protein 46	IPI00429180	20 kDa	0	0%	0	2	17%	2	0	0%	0
Nuclear RNA export factor 1	IPI00033153	70 kDa	0	0%	0	2	5%	2	0	0%	0
Isoform 2 of Suppressor of SWI4 1 homolog	IPI00219793	52 kDa	0	0%	0	3	5%	2	0	0%	0
60S ribosomal protein L22-like 1	IPI00856049	15 kDa	3	20%	2	0	0%	0	0	0%	0
cDNA FLJ59571, highly similar to Eukaryotic translation initiation factor 4gamma 2	IPI00015952	110 kDa	0	0%	0	2	2%	2	0	0%	0
Isoform 1 of Replication factor C subunit 2	IPI00017412	39 kDa	0	0%	0	2	9%	2	0	0%	0
Exosome complex exonuclease MTR3	IPI00073602	28 kDa	2	11%	2	0	0%	0	0	0%	0
Putative ATP-dependent RNA helicase DHX29	IPI00217413	155 kDa	0	0%	0	2	2%	2	0	0%	0
Annexin A1	IPI00218918	39 kDa	2	4%	2	0	0%	0	0	0%	0

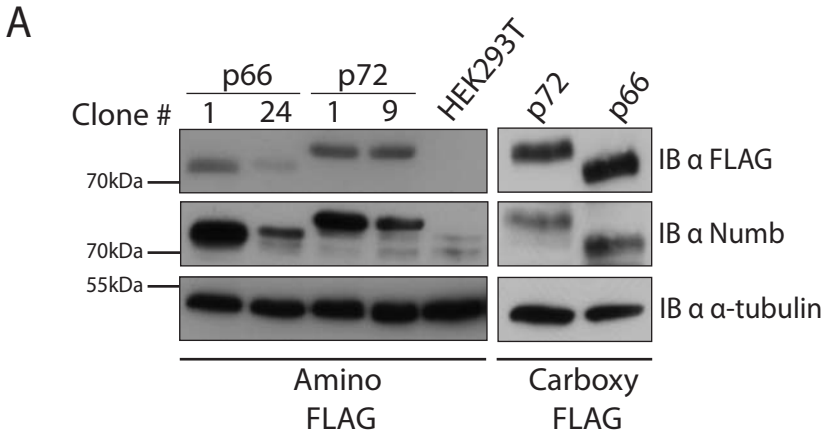
Isoform 1 of Far upstream element-binding protein 3	IPI00377261	62 kDa	0	0%	0	2	4%	2	0	0%	0
UPF0027 protein C22orf28	IPI00550689	55 kDa	0	0%	0	2	5%	2	0	0%	0

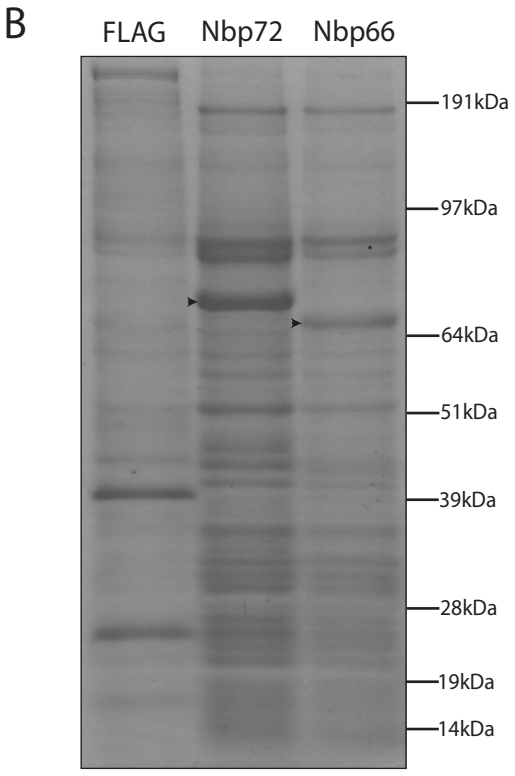
Supplementary Table 2

Protein	Peptide	$Q_1 \rightarrow Q_3$	Ion
AP1B1	GLEISGTFTR	540.78→781.41	y3
		540.78→668.33	y4
		540.78→581.30	y5
	LQSSNIFTVAK	604.33→966.52	y2
		604.33→565.33	y6
		604.33→317.21	y8
	NINLIVQK	471.29→714.45	y2
		471.29→600.40	y3
		471.29→275.17	y6
AP2A1	ALLLSTYIK	511.31→837.50	y2
		511.31→724.42	y3
		511.31→611.33	y4
	ATIQGVLR	429.26→343.22	y2
		429.26→685.43	y2
		429.26→572.35	y3
		429.26→444.29	y4
	FINLFPETK	554.80→848.45	y2
		554.80→734.40	y3
		554.80→474.25	y5
	NADVELQQR	536.77→887.45	y2
		536.77→673.36	y4
		536.77→544.31	y5
AP2A2	ALLLSTYIK	511.31→837.50	y2
		511.31→724.42	y3
		511.31→611.33	y4
	GLAVFISDIR	545.81→849.48	y3
		545.81→750.41	y4
		545.81→288.20	y8
	NADVELQQR	536.77→887.45	y2
		536.77→673.36	y4
		536.77→544.31	y5
AP2B1	GLEISGTFTHR	609.31→805.39	y4
		609.31→718.36	y5
		609.31→413.22	y8
	LLSTDPVTAK	522.80→818.42	y2
		522.80→731.39	y3
		522.80→515.31	y5
		522.80→319.19	y7
	LQNNNVYTIAK	639.34→1036.54	y2
		639.34→595.34	y6
		639.34→432.28	y7
		639.34→331.23	y8
AP2M1	SNIWLAAVTK	551.81→788.46	y3
		551.81→602.38	y4
		551.81→489.30	y5
	SPVTNIAR	429.24→385.72	y1
		429.24→673.39	y2
		429.24→574.33	y3
	TFITQQGIK	518.29→787.46	y2
		518.29→674.38	y3
		518.29→573.33	y4
AP2S1	FILIQNR	452.27→643.38	y2
		452.27→322.19	y2
		452.27→530.30	y3
	HTNFVEFR	525.26→811.40	y2
		525.26→697.36	y3
BMP2K	ITDTIGPTETSIAPR	786.41→343.20	y12
		786.41→1028.53	y5
		786.41→971.51	y6
	VLQQLQQGDWR	685.86→902.44	y4
		685.86→789.36	y5
		685.86→533.24	y7
		685.86→361.19	y9
EPS15	IWDLADTDGK	567.27→834.38	y2
		567.27→719.35	y3
		567.27→420.20	y6
	SATSSSVSNVVITK	690.37→460.31	y10
		690.37→760.45	y7

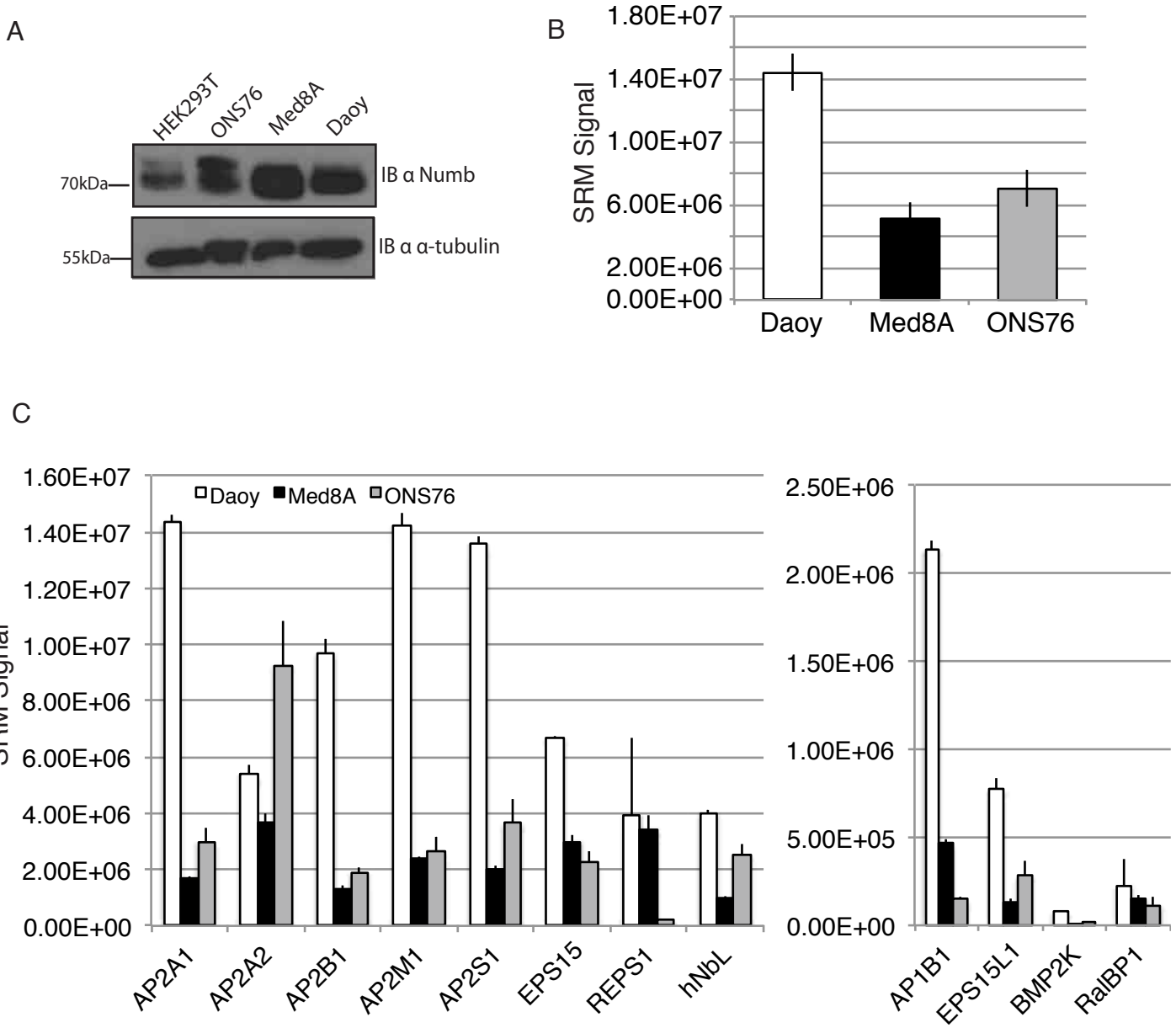
		690.37→673.42	y8
	VLASDAAAFLK	553.31→893.47	y2
		553.31→735.40	y4
		553.31→407.26	y8
EPS15L1	QVDPAYTGR	503.75→779.36	y2
		503.75→664.34	y3
		503.75→496.25	y5
	SGLSDIILGK	501.79→429.76	y2
		501.79→745.44	y3
		501.79→317.21	y7
	STQDEINQAR	581.27→845.41	y3
		581.27→730.38	y4
		581.27→488.25	y6
	VGASEAALFLK	553.31→791.46	y4
		553.31→662.42	y5
		553.31→407.26	y8
hNb	AVLWVSADGLR	593.83→717.38	y4
		593.83→618.32	y5
		593.83→345.22	y8
	GFPALSQK	424.23→643.37	y2
		424.23→546.32	y3
		424.23→475.28	y4
		424.23→362.20	y5
		424.23→181.60	y5
	YLGHVEVDESR	652.31→970.45	y3
		652.31→734.33	y5
		652.31→391.19	y8
		652.31→262.15	y9
hNbL	HAPLEQLVR	531.80→854.50	y2
		531.80→644.37	y4
		531.80→515.32	y5
	WLEEVSQVAK	594.81→889.46	y2
		594.81→760.41	y3
		594.81→532.30	y5
	YLGHVEVEESR	659.32→847.41	y4
		659.32→748.34	y5
		659.32→619.30	y6
mNb	YLGHVEVDESR	652.32→262.15	y2
		652.32→391.19	y3
		652.32→734.33	y6
	ETNPWAHVPDAANK	775.37→403.22	y4
		775.37→615.30	y6
		775.37→851.43	y8
	GFPALSQK	424.23→362.20	y3
		424.23→475.28	y4
		424.23→546.32	y5
		424.23→643.37	y6
RalBP1	AEIAEIQSR	508.77→816.45	y2
		508.77→703.37	y3
		508.77→632.33	y4
		508.77→390.20	y6
	AKAEQQAQEDEEPEWR	972.44→845.37	y10
		972.44→587.29	y12
		972.44→960.40	y9
	TMMYDGIR	493.72→754.35	y2
		493.72→623.31	y3
		493.72→345.22	y5
	TTETEKVQEFQR	748.37→934.50	y5
		748.37→707.34	y7
REPS1	ASDPASSLR	452.23→745.38	y2
		452.23→373.19	y2
		452.23→630.35	y3
		452.23→315.68	y3
	LVAVAQSGFPLR	629.36→875.47	y4
		629.36→804.43	y5
		629.36→589.34	y7
		629.36→385.25	y9
	TAASAPANVSK	508.77→844.45	y2
		508.77→773.41	y3
		508.77→686.38	y4
		508.77→615.34	y5

TGVLAAVLASQPSIPR	790.46→697.39	y10
	790.46→569.34	y11
	790.46→855.46	y8
	790.46→784.43	y9

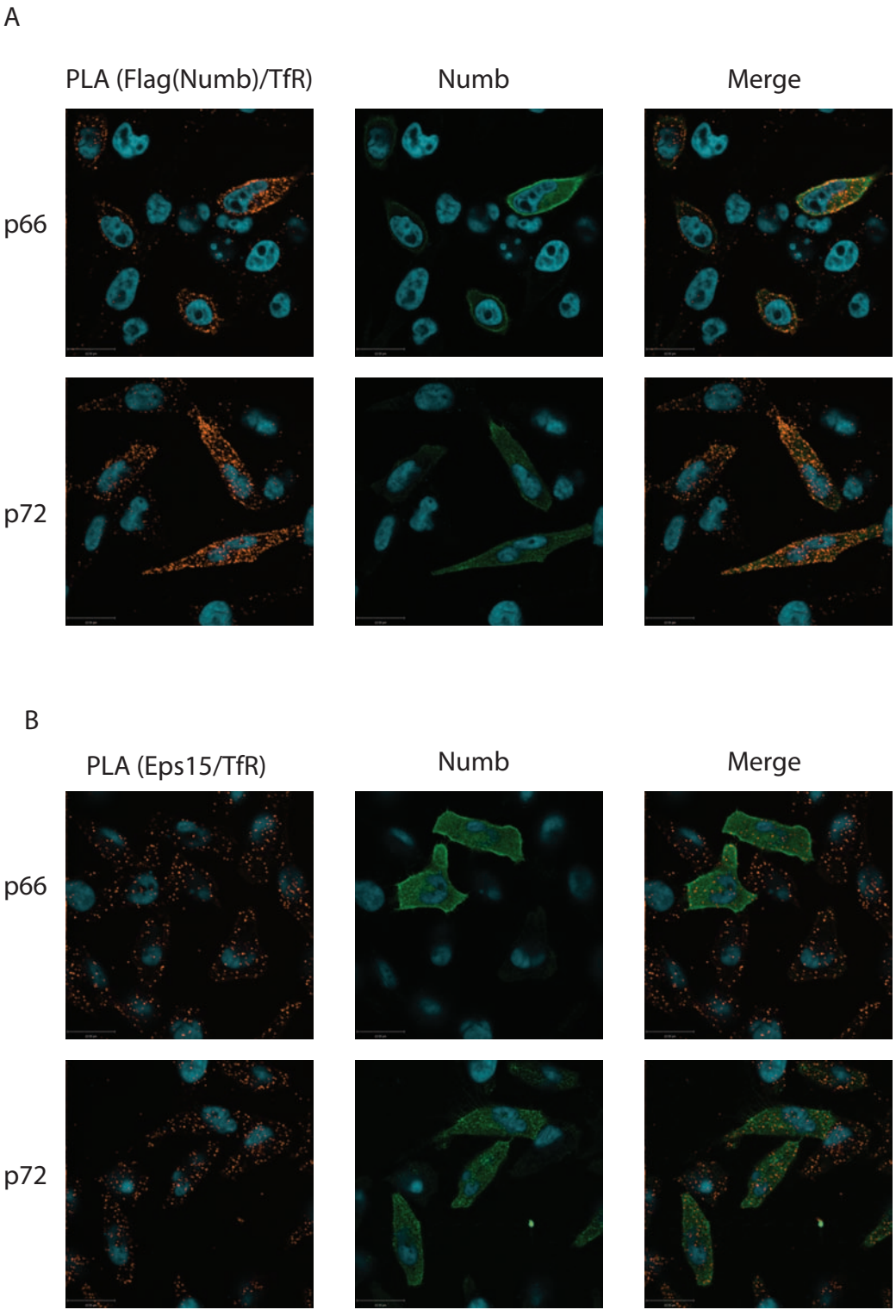




Supplementary Figure 1



Supplementary Figure 2



Supplementary Figure 3