SUPPLEMENTAL MATERIAL

Chiou et al., http://www.jem.org/cgi/content/full/jem.20121044/DC1

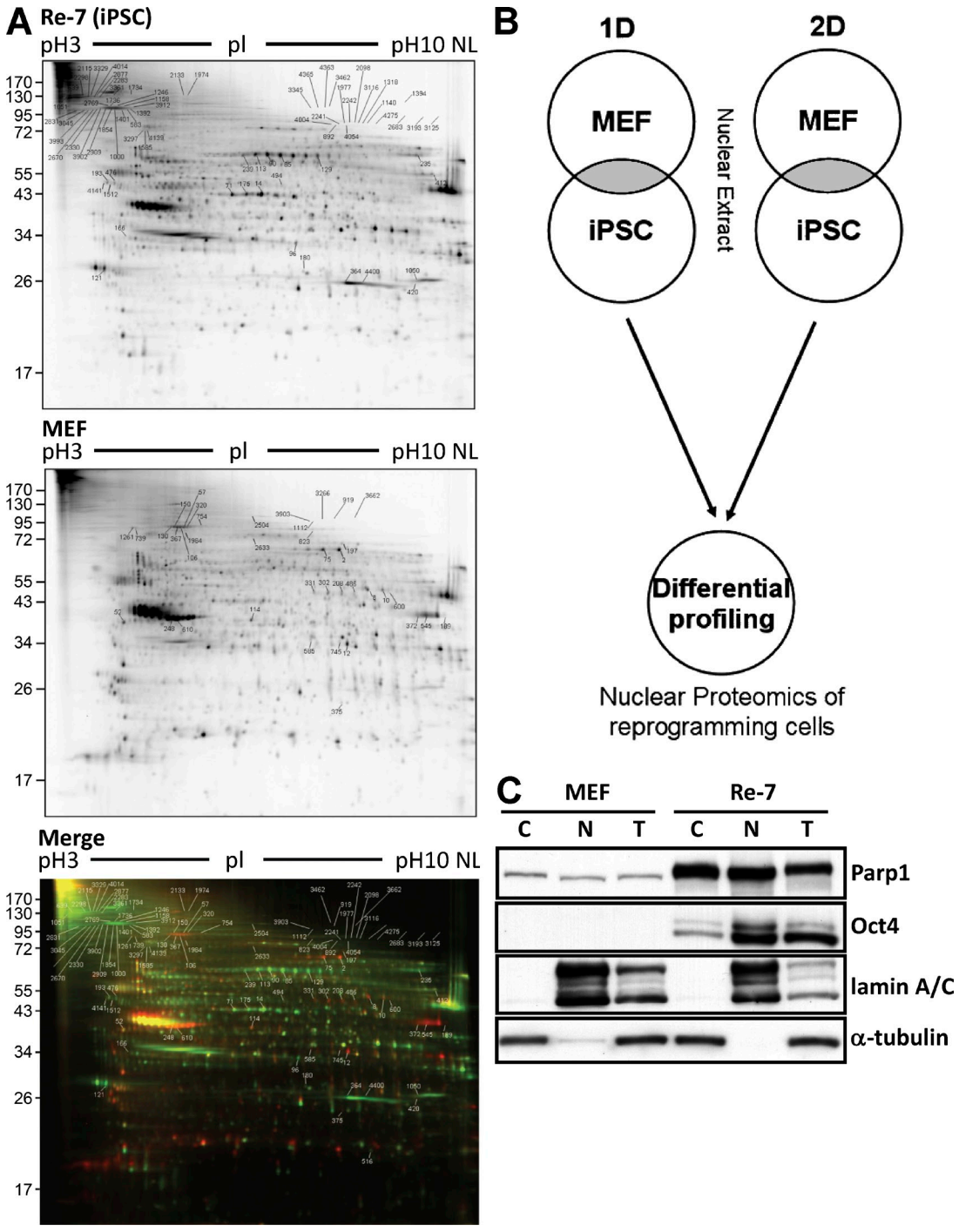

Figure S1. Establishment of the differential profiling of nuclear proteins from pluripotent stem cells and MEFs by MS-based proteomics. (A) 2D-differential gel electrophoresis (2D-DIGE) and sliver staining. Then the identified candidate proteins confirmed by LC-MS/MS. (B) Based on the statistical comparative analysis between the databases of 1D LC-MS/MS and 2D-differential gel electrophoresis, we sorted the hubs of nuclear proteins between the nuclear profiles from MEFs and iPSCs. (C) Detection of Parp1 and Oct4 expression in nuclear fractions and whole-cell lysates of MEFs and iPSCs. C: cytoplasmal fraction; N: nuclear fraction; T: total cell lysate.

GO:0051276 (chromosome organization)

FDR: 6.93E-22

Gene name	Protein name	Accession No.	pI	Mw (kD)	R/M
Kdm4C	Lysine-Specific Demethylase 4C	Q8VCD7	6.67	119.966	52.6034
Eed	Embryonic Ectoderm Development	Q921E6	6.57	50.1977	47.45209
Dnmt3A	Dna Methyltransferase 3A	O88508	6.27	101.672	46.91265
Baz2A	Bromodomain Adjacent To Zinc Finger Domain, 2A	Q91YE5	6.09	209.618	39.31074
Cenpv	Centromere Protein V	Q9CXS4	9.85	27.5411	39.2746
Parp1	Poly (Adp-Ribose) Polymerase Family, Member 1	P11103	9.05	112.969	38.90801
Smarcd1	BRG1-associated factor 60A	Q61466	9.31	58.2446	37.80404
Suz12	Suppressor Of Zeste 12 Homolog	Q80U70	8.98	83.0258	29.64185
Top2A	Topoisomerase II Alpha	Q01320	8.73	172.79	28.32493
Cdca5	Cell Division Cycle Associated 5	Q9CPY3	9.61	28.9913	27.26577
Kdm5B	Lysine-Specific Demethylase 5B	Q80Y84	6.03	175.555	26.01286
Ezh2	Enhancer Of Zeste Homolog 2	Q61188	6.51	85.2921	24.70515
Yeats4	Yeats Domain Containing 4	Q9CR11	8.4	26.5295	20.52706
Rpa1	Replication Protein A1	Q8VEE4	8.15	68.906	20.06811
Aebp2	Ae Binding Protein 2	Q9Z248	5.18	52.8318	14.91252
Arid1A	At Rich Interactive Domain 1A Isoform A	A2BH40	6.22	241.96	14.79766
Myst2	Myst Histone Acetyltransferase 2	Q5SVQ0	8.91	70.6414	12.41158
Rnf2	Ring Finger Protein 2	Q9CQJ4	6.38	37.6233	10.06827
Ep400	E1A Binding Protein P400	Q8CHI8	9.23	337.18	9.41551
H1Fx	H1 Histone Family, Member X	Q80ZM5	11.22	20.1512	8.69267
Chd7	Chromodomain Helicase Dna Binding Protein 7	A2AJK6	6.05	334.061	8.541889
Hells	Helicase, Lymphoid Specific	Q60848	8.2	95.1257	8.429322
Tbl1Xr1	Transducin (Beta)-Like 1X-Linked Receptor 1	Q8BHJ5	5.33	55.661	8.353551
H2Afz	H2A Histone Family, Member Z	P0C0S6	10.58	13.4216	8.036586
Cbx1	Chromobox Homolog 1	P83917	4.85	21.4178	7.681118
Rbbp4	Retinoblastoma Binding Protein 4	Q60972	4.74	47.5245	7.602614
Smarca5	Sucrose nonfermenting protein 2 homolog	Q91ZW3	8.35	121.627	7.587036
Hist1H1A	Histone Cluster 1, H1A	P43275	10.93	21.6539	7.364118
Mo4L1	Mortality Factor 4-Like Protein 1	P60762	9.34	41.4926	7.174833
Hdac1	Histone Deacetylase Hd1	O09106	5.31	55.075	6.682088
Cbx5	Chromobox Homolog 5	Q61686	5.71	22.186	6.617629
Chd4	Chromodomain Helicase Dna Binding Protein 4	Q6PDQ2	5.58	217.751	6.611086
Smarca4	Transcription activator BRG1	Q3TKT4	8	181.427	6.31462
Dnmt1	Dna Methyltransferase 1	P13864	7.92	183.189	6.170368
Bptf	Bromodomain Phd Finger Transcription Factor	A2A655	6.74	326.776	6.141232
Dmap1	Dna Methyltransferase 1-Associated Protein 1	Q9JI44	9.51	53.1298	6.114842

GO:0045449 (regulation of transcription)

FDR: 1.78E-10

Gene name	Protein name	Accession No.	pI	Mw (kD)	R/M
Esrrb	Estrogen Related Receptor, Beta	Q61539	8.27	48.40	570.24
Sall4	Sal-Like 4	Q8BX22	8.02	113.11	284.81
Utf1	Undifferentiated Embryonic Cell Transcription Factor 1	Q6J1H4	10.05	36.41	268.16
Rybp	Ring1 And Yy1 Binding Protein	Q8CCI5	9.66	24.78	77.31
Yy1	Yy1 Transcription Factor	Q00899	5.83	44.72	19.18
Atrx	Transcriptional regulator ATRX	Q61687	6.30	278.59	18.52
Abt1	Activator Of Basal Transcription 1	Q9QYL7	10.02	30.66	16.92
Nacc1	Nucleus Accumbens Associated 1	Q7TSZ8	5.51	56.54	14.91
Dnajb6	Dnaj Homolog, Subfamily B, Member 6	O54946	9.37	39.68	11.66
Rbpj	Recombining binding protein suppressor of hairless	P31266	8.43	58.54	11.27
Sub1	Activated RNA polymerase II transcriptional coactivator p15	P11031	9.60	14.30	9.65
Ctbp2	C-Terminal Binding Protein 2	P56546	6.47	48.96	8.43
Supt6H	Suppressor Of Ty 6 Homolog	Q62383	4.83	199.09	8.23
Nfyc	Nuclear Transcription Factor-Y Gamma	P70353	4.86	37.25	7.23
Psip1	Pc4 And Sfrs1 Interacting Protein 1	Q99JF8	9.15	59.70	7.09
Srfbp1	Serum Response Factor Binding Protein 1	Q9CZ91	9.56	48.75	6.65
Gtf2H4	General Transcription Factor Ii H, Polypeptide 4	O70422	9.12	52.22	6.28
Dnttip2	Deoxynucleotidyltransferase, Terminal, Interacting Protein 2	Q8R2M2	6.07	84.28	6.13

GO:0006259 (DNA metabolic process)

FDR: 7.95E-15

Gene name	Protein name	Accession No.	pI	Mw (kD)	R/M
Uhrf1	Ubiquitin-Like, Containing Phd And Ring Finger Domains, 1	Q8VDF2	8.63	88.30	51.00
Kif22	Kinesin Family Member 22	Q3V300	9.30	73.19	33.48
Orc3L	Origin Recognition Complex, Subunit 3-Like	Q9JK30	7.09	82.34	32.91
Msh6	Muts Homolog 6	P54276	6.31	151.08	29.77
Msh2	Muts Homolog 2	P43247	5.71	104.15	28.25
Orc2L	Origin Recognition Complex, Subunit 2-Like	Q60862	6.34	65.89	26.95
Rpa3	Replication Protein A3	Q9CQ71	4.78	13.58	26.54
Rpa2	Replication Protein A2	Q62193	5.74	29.72	22.26
Lig1	Ligase I, Dna, Atp-Dependent	P37913	6.43	102.29	21.04
Orc5L	Origin Recognition Complex, Subunit 5-Like	Q9WUV0	8.23	50.22	12.94
Hmgb2	High Mobility Group Box 2	P30681	7.04	24.03	12.44
Atm	Ataxia Telangiectasia Mutated Homolog	Q62388	6.43	349.42	11.93
Pcna	Proliferating Cell Nuclear Antigen	P17918	4.66	28.78	10.34
Mdc1	Mediator Of Dna Damage Checkpoint 1	Q5PSV9	5.10	184.67	10.03
Prim2	Dna Primase, P58 Subunit	P33610	8.47	58.41	8.30
Ssbp1	Single-Stranded Dna Binding Protein 1	Q9CYR0	9.34	15.22	8.19
Mpg	N-Methylpurine-Dna Glycosylase	Q04841	9.53	36.47	6.10

GO:0007049 (cell cycle)

FDR: 7.53E-06

Gene name	Protein name	Accession No.	pI	Mw (kD)	R/M
Rif1	Rap1 Interacting Factor 1 Homolog	Q6PR54	5.43	266.23	273.02
Aurkb	Aurora Kinase B	O70126	9.47	39.38	56.90
Mki67	Antigen Identified By Monoclonal Antibody Ki 67	Q61769	9.76	324.43	47.16
Ccnb1	Cyclin B1	P24860	7.10	48.05	32.95
Cdca8	Cell Division Cycle Associated 8	Q8BHX3	10.13	32.21	22.72
Tpx2	Microtubule-Associated Protein Homolog	A2APB8	9.41	85.89	14.53
Ckap2	Cytoskeleton Associated Protein 2	Q3V1H1	9.29	74.03	11.70
Plk1	Polo-Like Kinase 1	Q07832	8.93	68.30	11.35
Ahctf1	At Hook Containing Transcription Factor 1	Q8CJF7	6.12	247.65	9.12
Kifc1	Kinesin Family Member C1	Q9QWT9	8.95	74.15	8.59
Racgap1	Rac Gtpase-Activating Protein 1	Q9WVM1	8.78	70.16	6.78
Cdk1	Cell Division Cycle 2 Homolog A	P11440	8.40	34.11	6.27
Rcc2	Regulator Of Chromosome Condensation 2	Q8BK67	8.97	55.98	6.23

Others

non-significant classification

Gene name	Protein name	Accession No.	pI	Mw (kD)	R/M
L1Td1	Line-1 Type Transposase Domain Containing 1	Q587J6	5.38	88.19	162.20
Jarid2	Jumonji/Arid Domain-Containing Protein 2	Q62315	9.49	137.45	83.72
Pou5F1	Pou Domain, Class 5, Transcription Factor 1	P20263	6.05	38.22	56.84
Mtf2	Metal Response Element Binding Transcription Factor 2	Q02395	8.95	66.92	40.80
Lrwd1	Leucine-Rich Repeats And Wd Repeat Domain Containing 1	Q8BUI3	8.15	71.59	33.86
Ppil1	Peptidylprolyl Isomerase -Like 1	Q9D0W5	7.78	18.24	32.26
Kif2C	Kinesin Family Member 2C	Q922S8	8.22	81.09	31.98
Rcor2	Rest Corepressor 2	Q8C796	9.08	57.91	28.16
Bap18	Chromatin Complexes Subunit Bap18	Q9DCT6	6.74	18.00	26.11
Ube2S	Ubiquitin-Conjugating Enzyme E2S	Q921J4	7.73	24.18	25.43
Cf130	O-Acetyl-Adp-Ribose Deacetylase C6Orf130 Homolog	Q8R5F3	8.79	16.96	22.94
Pycr2	Pyrroline-5-Carboxylate Reductase Family, Member 2	Q922Q4	7.65	33.53	22.81
Tjp2	Tight Junction Protein 2	Q9Z0U1	6.35	131.28	19.10
Cggbp1	Cgg Triplet Repeat Binding Protein 1	Q8BHG9	9.14	18.76	18.01
Ddx49	Dead (Asp-Glu-Ala-Asp) Box Polypeptide 49	Q4FZF3	9.02	54.09	17.63
Lbr	Lamin B Receptor	Q3U9G9	9.43	71.44	16.79
Naa40	N-Acetyltransferase 11	Q8VE10	7.15	27.10	16.48
Ino80C	Ino80 Complex Subunit C	Q8BHA0	10.03	20.41	15.45
Sf3B5	Splicing Factor 3B, Subunit 5	Q923D4	5.89	10.12	15.15
Nop10	Nop10 Ribonucleoprotein Homolog	Q9CQS2	10.01	7.71	15.01
Rpp25	Ribonuclease P 25 Subunit	Q91WE3	9.26	21.04	14.32
Usp48	Ubiquitin Specific Peptidase 48	Q3V0C5	5.89	120.63	13.58
Rbpms	Rna Binding Protein Gene With Multiple Splicing	Q9CPU5	5.97	24.29	12.05
Polr1D	Polymerase (Rna) I Polypeptide D	P97304	6.43	15.07	11.57
Snrpe	Small Nuclear Ribonucleoprotein E	P62305	9.46	10.80	10.88
Morc3	Microrchidia 3	Q4QQR6	5.50	106.50	10.41
Gtl3	Gene Trap Locus 3	Q8BTU1	9.78	22.75	10.30
Polr2J	Polymerase (Rna) Ii Polypeptide J	O08740	5.59	13.25	10.30
Smpd4	Sphingomyelin Phosphodiesterase 4	Q6ZPR5	8.38	93.28	10.24
Setd6	Set Domain Containing 6	Q8CIL4	9.85	31.34	9.91
Coil	Riken Cdna 2210409E12 Gene	Q3UJN9	9.26	62.23	9.02
Snrpb	Small Nuclear Ribonucleoprotein B	P27048	10.91	23.66	8.55
Dnajc17	Dnaj Homolog, Subfamily C, Member 17	Q91WT4	8.35	34.50	8.37
Lyar	Ly1 Antibody Reactive Clone	Q08288	9.52	43.74	8.31
Rpl38	Similar To Ribosomal Protein L38	P52293	5.49	57.80	8.27
Kif20A	Kinesin Family Member 20A	P97329	6.55	99.88	8.15
Wdr5	Wd Repeat Domain 5	P61965	8.54	36.59	8.11
Rprd1A	Regulation Of Nuclear Pre-Mrna Domain Containing 1A	Q8VDS4	7.14	35.57	8.08
H2Afv	H2A Histone Family, Member V	Q3THW5	10.58	13.38	8.04
Nol8	Nucleolar Protein 8	Q3UHX0	6.12	128.64	7.81
Atad5	Atpase Family, Aaa Domain Containing 5	Q4QY64	9.06	203.91	7.80
Hnrnpl	Heterogeneous Nuclear Ribonucleoprotein L	Q8R081	8.33	63.96	7.70
Strbp	Spermatid Perinuclear Rna Binding Protein	Q91WM1	8.91	73.70	7.69
Pogz	Pogo Transposable Element With Znf Domain	Q8BZH4	7.39	154.91	7.51
Son	Son Dna Binding Protein	Q9QX47	5.46	265.52	7.50
Mta3	Metastasis Associated 3	Q924K8	9.05	67.08	7.45
Urb1	Urb1 Ribosome Biogenesis 1 Homolog	Q571H0	6.50	254.61	7.33
Lmnb1	Lamin B1	P14733	5.11	66.34	7.26
Polr2A	Polymerase (Rna) Ii Polypeptide A	P08775	7.02	217.18	7.05

Figure S2. The 112 most up-regulated nuclear proteins in iPSCs compared with MEFs, using a statistical analysis between the databases of 1D LC-MS/MS and 2D-DIGE. PI: isoelectric point; Mw: molecular weight (kD); R/M: Re-7 (iPSC)-to-MEF Ratio (up-regulation folds).

Table S1. The differential expression profiles of the nuclear extracts using 1D LC-MS/MS. Compared with MEFs, the predominant candidates of nuclear protein profiles upregulated in iPSCs (Re-7) are listed.

Protein ID	Uniprot	Symbol	Protein name	pI	Mw (kDa)
IPI00974741	Q61539	Esrrb	Estrogen Related Receptor, Beta	8.27	48.40
IPI00475164	Q8BX22	Sall4	Sal-Like 4	8.02	113.11
IPI00421167	Q6PR54	Rif1	Rap1 Interacting Factor 1 Homolog	5.43	266.23
IPI00454162	Q6J1H4	Utf1	Undifferentiated Embryonic Cell Transcription Factor 1	10.05	36.41
IPI01027679	Q587J6	L1Td1	Line-1 Type Transposase Domain Containing 1	5.38	88.19
IPI00124575	Q62315	Jarid2	Jumonji/Arid Domain-Containing Protein 2	9.49	137.45
IPI00228573	Q8CCI5	Rybp	Ring1 And Yy1 Binding Protein	9.66	24.78
IPI00268655	O70126	Aurkb	Aurora Kinase B	9.47	39.38
IPI00117218	P20263	Pou5F1	Pou Domain, Class 5, Transcription Factor 1	6.05	38.22
IPI00955640	Q8VCD7	Kdm4C	Lysine-Specific Demethylase 4C	6.67	119.97
IPI00130200	Q8VDF2	Uhrf1	Ubiquitin-Like, Containing Phd And Ring Finger Domains, 1	8.63	88.30
IPI00900431	Q921E6	Eed	Embryonic Ectoderm Development	6.57	50.20
IPI00124959	Q61769	Mki67	Antigen Identified By Monoclonal Antibody Ki 67	9.76	324.43
IPI00131694	O88508	Dnmt3A	Dna Methyltransferase 3A	6.27	101.67
IPI00467892	Q02395	Mtf2	Metal Response Element Binding Transcription Factor 2	8.95	66.92
IPI00944144	Q91YE5	Baz2A	Bromodomain Adjacent To Zinc Finger Domain, 2A	6.09	209.62
IPI00318428	Q9CXS4	Cenpv	Centromere Protein V	9.85	27.54
IPI00121270	Q61466	Smarcd1	Swi/Snf Complex 60 Kda Subunit	9.31	58.24
IPI00225459	Q8BUI3	Lrwd1	Leucine-Rich Repeats And Wd Repeat Domain Containing 1	8.15	71.59
IPI00116757	Q3V300	Kif22	Kinesin Family Member 22	9.30	73.19
IPI00111207	P24860	Ccnb1	Cyclin B1	7.10	48.05
IPI00311034	Q9JK30	Orc3L	Origin Recognition Complex, Subunit 3-Like	7.09	82.34
IPI00133229	Q9D0W5	Ppil1	Peptidylprolyl Isomerase -Like 1	7.78	18.24
IPI00123365	Q922S8	Kif2C	Kinesin Family Member 2C	8.22	81.09
IPI00323790	P54276	Msh6	Muts Homolog 6	6.31	151.08
IPI00396676	Q80U70	Suz12	Suppressor Of Zeste 12 Homolog	8.98	83.03
IPI00122223	Q01320	Top2A	Topoisomerase (Dna) Ii Alpha	8.73	172.79
IPI00118158	P43247	Msh2	Muts Homolog 2	5.71	104.15
IPI00226581	Q8C796	Rcor2	Rest Corepressor 2	9.08	57.91
IPI00132175	Q9CPY3	Cdca5	Cell Division Cycle Associated 5	9.61	28.99
IPI00121509	Q60862	Orc2L	Origin Recognition Complex, Subunit 2-Like	6.34	65.89
IPI00132128	Q9CQ71	Rpa3	Replication Protein A3	4.78	13.58
IPI00968399	Q9DCT6	Bap18	Chromatin Complexes Subunit Bap18	6.74	18.00
IPI00330824	Q80Y84	Kdm5B	Lysine -Specific Demethylase 5B	6.03	175.56
IPI00121891	Q921J4	Ube2S	Ubiquitin-Conjugating Enzyme E2S	7.73	24.18
IPI00468525	Q61188	Ezh2	Enhancer Of Zeste Homolog 2	6.51	85.29
IPI00154005	Q8R5F3	Cf130	O-Acetyl-Adp-Ribose Deacetylase C6Orf130 Homolog	8.79	16.96
IPI00123278	Q922Q4	Pycr2	Pyrroline-5-Carboxylate Reductase Family, Member 2	7.65	33.53
IPI00621765	Q8BHX3	Cdca8	Cell Division Cycle Associated 8	10.13	32.21
IPI00311131	Q62193	Rpa2	Replication Protein A2	5.74	29.72
IPI00473314	P37913	Lig1	Ligase I, Dna	6.43	102.29
IPI00132946	Q9CR11	Yeats4	Yeats Domain Containing 4	8.40	26.53
IPI00515393	Q3U8B3	Rpa1	Replication Protein A1	8.43	71.45
IPI00311892	Q00899	Yy1	Yy1 Transcription Factor	5.83	44.72
IPI00989478	Q9Z0U1	Tjp2	Tight Junction Protein 2	6.35	131.28
IPI00322707	Q61687	Atrx	Alpha Thalassemia/Mental Retardation Syndrome X-Linked Homolog	6.30	278.59
IPI00221863	Q8BHG9	Cggbp1	Cgg Triplet Repeat Binding Protein 1	9.14	18.76
IPI00354271	Q4FZF3	Ddx49	Dead (Asp-Glu-Ala-Asp) Box Polypeptide 49	9.02	54.09
IPI00471226	Q9QYL7	Abt1	Activator Of Basal Transcription 1	10.02	30.66
IPI00331173	Q3U9G9	Lbr	Lamin B Receptor	9.43	71.44
IPI00137271	Q8VE10	Naa40	N-Acetyltransferase 11	7.15	27.10
IPI00918627	Q8BHA0	Ino80C	Ino80 Complex Subunit C	10.03	20.41
IPI00311948	Q923D4	Sf3B5	Splicing Factor 3B, Subunit 5	5.89	10.12
IPI00133008	Q9CQS2	Nop10	Nop10 Ribonucleoprotein Homolog	10.01	7.71
IPI00378026	Q7TSZ8	Nacc1	Nucleus Accumbens Associated 1	5.51	56.54
IPI01008109	Q9Z248	Aebp2	Ae Binding Protein 2	5.18	52.83
IPI00128066	Q91WE3	Rpp25	Ribonuclease P 25 Subunit	9.26	21.04
IPI00647978	Q3V0C5	Usp48	Ubiquitin Specific Peptidase 48	5.89	120.63
IPI00125261	Q9WUV0	Orc5L	Origin Recognition Complex, Subunit 5-Like	8.23	50.22
IPI00139168	Q3TF18	Parp1	Poly (Adp-Ribose) Polymerase Family, Member 1	9.08	112.71
IPI00462291	P30681	Hmgb2	High mobility group protein B2	7.04	24.03
IPI00515403	Q5SVQ0	Myst2	Myst Histone Acetyltransferase 2	8.91	70.64
IPI00132006	Q9CPU5	Rbpms	Rna Binding Protein Gene With Multiple Splicing	5.97	24.29
IPI00124810	Q62388	Atm	Ataxia Telangiectasia Mutated Homolog	6.43	349.42
IPI00470092	Q3V1H1	Ckap2	Cytoskeleton Associated Protein 2	9.29	74.03
IPI00119896	O54946	Dnajb6	Dnaj Homolog, Subfamily B, Member 6	9.37	39.68
IPI00123842	P97304	Polr1D	Polymerase (Rna) I Polypeptide D	6.43	15.07
IPI00120767	Q07832	Plk1	Polo-Like Kinase 1	8.93	68.30
IPI00132267	P31266	Rbpj	Recombination Signal Binding Protein For Immunoglobulin Kappa J Region	8.43	58.54
IPI00133955	P62305	Snrpe	Small Nuclear Ribonucleoprotein E	9.46	10.80
IPI00755119	Q4QQR6	Morc3	Microrchidia 3	5.50	106.50
IPI00113870	P17918	Pcna	Proliferating Cell Nuclear Antigen	4.66	28.78
IPI00310646	Q8BTU1	Gtl3	Gene Trap Locus 3	9.78	22.75
IPI00115552	O08740	Polr2J	Polymerase (Rna) Ii Polypeptide J	5.59	13.25
IPI00420541	Q6ZPR5	Smpd4	Sphingomyelin Phosphodiesterase 4	8.38	93.28
IPI00133880	Q9CQJ4	Rnf2	Ring Finger Protein 2	6.38	37.62
IPI00753701	Q5PSV9	Mdc1	Mediator Of Dna Damage Checkpoint 1	5.10	184.67
IPI00136186	Q8CIL4	Setd6	Set Domain Containing 6	9.85	31.34
IPI00225633	P11031	Sub1	Activated Rna Polymerase Ii Transcriptional Coactivator P15	9.60	14.30
IPI00480329	Q8CHI8	Ep400	E1A Binding Protein P400	9.23	337.18
IPI00122594	Q8CJF7	Ahctf1	At Hook Containing Transcription Factor 1	6.12	247.65
IPI00316343	Q3UJN9	Coil	Riken Cdna 2210409E12 Gene	9.26	62.23
IPI00112473	P11103	Parp1	Poly (Adp-Ribose) Polymerase Family, Member 1	9.05	112.97
IPI00118590	Q80ZM5	H1Fx	H1 Histone Family, Member X	11.22	20.15
IPI00856575	Q9QWT9	Kifc1	Kinesin Family Member C1	8.95	74.15
IPI00114052	P27048	Snrpb	Small Nuclear Ribonucleoprotein B	10.91	23.66
IPI00345676	A2AJK6	Chd7	Chromodomain Helicase Dna Binding Protein 7	6.05	334.06
IPI00856974	P56546	Ctbp2	C-Terminal Binding Protein 2	6.47	48.96
IPI00121431	Q60848	Hells	Helicase, Lymphoid Specific	8.20	95.13
IPI00943363	Q91WT4	Dnajc17	Dnaj Homolog, Subfamily C, Member 17	8.35	34.50
IPI00308283	Q8BHJ5	Tbl1Xr1	Transducin (Beta)-Like 1X-Linked Receptor 1	5.33	55.66
IPI00113232	Q08288	Lyar	Ly1 Antibody Reactive Clone	9.52	43.74
IPI00114069	P33610	Prim2	Dna Primase, P58 Subunit	8.47	58.41
IPI00124973	P52293	Rpl38	Similar To Ribosomal Protein L38	5.49	57.80
IPI00454050	Q62383	Supt6H	Suppressor Of Ty 6 Homolog	4.83	199.09
IPI00408243	Q8R2K3	Ssbp1	Single-Stranded Dna Binding Protein 1	9.78	17.16

Pl: isoelectric point Mw: molecular weight (kDa)

Protein ID	Uniprot	Symbol	Protein name	pI	Mw (kDa)
IPI00123947	P97329	Kif20A	Kinesin Family Member 20A	6.55	99.88
IPI00139957	P61965	Wdr5	Wd Repeat Domain 5	8.54	36.59
IPI00123724	Q8VDS4	Rprd1A	Regulation Of Nuclear Pre-Mrna Domain Containing 1A	7.14	35.57
IPI00555055	Q3THW5	H2Afv	H2A Histone Family, Member V	10.58	13.38
IPI00461536	Q3UHX0	Nol8	Nucleolar Protein 8	6.12	128.64
IPI00408664	Q4QY64	Atad5	Atpase Family, Aaa Domain Containing 5	9.06	203.91
IPI00620362	Q8R081	Hnrnpl	Heterogeneous Nuclear Ribonucleoprotein L	8.33	63.96
IPI00128254	Q91WM1	Strbp	Spermatid Perinuclear Rna Binding Protein	8.91	73.70
IPI00129466	P83917	Cbx1	Similar To Heterochromatin Protein 1 Beta	4.85	21.42
IPI00122696	Q60972	Rbbp4	Retinoblastoma Binding Protein 4	4.74	47.52
IPI00396739	Q91ZW3	Smarca5	Sucrose Nonfermenting Protein 2 Homolog	8.35	121.63
IPI00227539	Q8BZH4	Pogz	Pogo Transposable Element With Znf Domain	7.39	154.91
IPI00828218	Q9QX47	Son	Son Dna Binding Protein	5.46	265.52
IPI00125745	Q924K8	Mta3	Metastasis Associated 3	9.05	67.08
IPI00228616	P43275	Hist1H1A	Histone Cluster 1, H1A	10.93	21.65
IPI00668766	Q571H0	Urb1	Urb1 Ribosome Biogenesis 1 Homolog	6.50	254.61
IPI00230394	P14733	Lmnb1	Lamin B1	5.11	66.34
IPI00108204	P70353	Nfyc	Nuclear Transcription Factor-Y Gamma	4.86	37.25
IPI00553815	P60762	Morf4L1	**Mortality factor 4-like protein 1**	9.34	41.49
IPI00115257	Q99JF8	Psip1	Pc4 And Sfrs1 Interacting Protein 1	9.15	59.70
IPI00136207	P08775	Polr2A	Polymerase (Rna) Ii Polypeptide A	7.02	217.18
IPI00556837	Q04692	Smarcad1	Atp-Dependent Helicase Smarcad1	5.48	116.45
IPI00126176	Q9WVM1	Racgap1	Rac Gtpase-Activating Protein 1	8.78	70.16
IPI00817029	Q922P9	Glyr1	Glyoxylate Reductase 1 Homolog	9.31	59.72
IPI00312128	Q62318	Trim28	Tripartite Motif-Containing 28	5.52	88.72
IPI00625995	Q8CHY6	Gatad2A	Gata Zinc Finger Domain-Containing Protein 2A	9.91	67.33
IPI00114232	Q58E49	Hdac1	Histone Deacetylase Hd1	5.31	55.07
IPI00395196	Q9CZ91	Srfbp1	Serum Response Factor Binding Protein 1	9.56	48.75
IPI00123755	Q61686	Cbx5	Chromobox Homolog 5	5.71	22.19
IPI00132576	Q9CQI7	Snrpb2	U2 Small Nuclear Ribonucleoprotein B	9.72	25.32
IPI00122383	Q921Y2	Imp3	Imp3, U3 Small Nucleolar Ribonucleoprotein, Homolog	9.54	21.78
IPI00460668	Q3TKT4	Smarca4	Transcription Activator Brg1	8.00	181.43
IPI00126191	P21619	Lmnb2	Lamin B2	5.36	66.79
IPI00118172	O70422	Gtf2H4	General Transcription Factor Ii H, Polypeptide 4	9.12	52.22
IPI00114491	P11440	Cdk1	Cell Division Cycle 2 Homolog A	8.40	34.11
IPI00222509	Q8BK67	Rcc2	Regulator Of Chromosome Condensation 2	8.97	55.98
IPI00990173	P13864	Dnmt1	Dna Methyltransferase 1	7.92	183.19
IPI00453800	Q8K327	Zfp828	Zinc Finger Protein 828	8.08	87.56
IPI00133532	Q9CRA8	Exosc5	Exosome Component 5	7.52	25.19
IPI00153607	Q8R2M2	Dnttip2	Deoxynucleotidyltransferase, Terminal, Interacting Protein 2	6.07	84.28
IPI00317722	Q9JI44	Dmap1	Dna Methyltransferase 1-Associated Protein 1	9.51	53.13
IPI00110952	Q04841	Mpg	N-Methylpurine-Dna Glycosylase	9.53	36.47
IPI00132901	Q9CQQ8	Lsm7	U6 Snrna-Associated Sm-Like Protein Lsm7	5.10	11.64
IPI00263048	Q3TH77	Numa1	Nuclear Mitotic Apparatus Protein 1	5.03	84.21
IPI00187240	Q9CWX9	Ddx47	Dead (Asp-Glu-Ala-Asp) Box Polypeptide 47	9.19	50.51
IPI00320741	Q61164	Ctcf	Ccctc-Binding Factor	6.45	83.75
IPI00127554	Q542P8	Emg1	Emg1 Nucleolar Protein Homolog	9.10	26.97
IPI00776048	Q80YV3	Trrap	Transformation/Transcription Domain-Associated Protein	8.76	291.56
IPI00169521	Q3V1V3	Esf1	Esf1, Nucleolar Pre-Rrna Processing Protein, Homolog	4.96	98.05
IPI00132900	Q9CR08	Pop4	Processing Of Precursor 4, Ribonuclease P/Mrp Family	9.76	25.64
IPI00461832	Q8VCY6	Utp6	U3 Small Nucleolar Rna-Associated Protein 6 Homolog	7.59	70.43
IPI00337955	Q80UW8	Polr2E	Polymerase (Rna) Ii Polypeptide E	5.69	24.57
IPI00131909	Q9CPS7	Pno1	Partner Of Nob1 Homolog	9.80	27.45
IPI00330133	Q6PAL0	Bend3	Ben Domain Containing 3	5.39	94.16
IPI00850851	Q5XG71	Utp20	Small Subunit Processome Component 20 Homolog	8.33	317.74
IPI00131130	Q64127	Trim24	Tripartite Motif-Containing 24	6.66	116.66
IPI00223570	Q8BGA5	Krr1	Krr-R Motif-Containing Protein 1	9.80	43.54
IPI00227720	Q7TNV0	Dek	Protein Dek	6.50	43.03
IPI00131067	Q9Z2D8	Mbd3	Methyl-Cpg Binding Domain Protein 3	5.64	32.17
IPI00323660	Q9Z2N8	Actl6A	Actin-Like 6A	5.39	47.32
IPI00848926	Q9D868	Ppih	Peptidyl Prolyl Isomerase H	8.29	20.46
IPI00133550	Q9CRB2	Nhp2	Nhp2 Ribonucleoprotein Homolog	8.68	17.25
IPI00131725	Q9CPP0	Npm3	Nucleoplasmin 3	4.71	18.89
IPI00117932	Q60520	Sin3A	Histone Deacetylase Complex Subunit Sin3A	6.82	145.09
IPI00120572	Q9JIH2	Nup50	Nucleoporin 50	5.94	49.49
IPI00330709	Q80XC6	Cn102	Upf0614 Protein C14Orf102 Homolog	8.15	133.47
IPI00310578	Q9JIX0	Eny2	Enhancer Of Yellow 2 Homolog	9.39	11.53
IPI00338515	Q9CSU0	Rprd1B	Regulation Of Nuclear Pre-Mrna Domain Containing 1B	5.72	36.88
IPI00129701	Q6PAC3	Dcaf13	Wd Repeats And Sof Domain Containing 1	9.41	51.46
IPI00126396	Q61881	Mcm7	Minichromosome Maintenance Deficient 7	5.99	81.08
IPI00551454	Q6NS46	Pdcd11	Programmed Cell Death 11	8.92	207.65
IPI00153791	Q8BJW5	Nol11	Nucleolar Protein 11	5.61	80.82
IPI00138378	P63082	Atp6V0C	Atpase, H+ Transporting, Lysosomal V0 Subunit C	9.10	15.81
IPI00118948	Q00422	Gabpa	Ga Repeat Binding Protein, Alpha	4.91	51.34
IPI00132473	Q9CQF3	Nudt21	Nudix -Type Motif 21	8.85	26.11
IPI00132099	Q9CPW7	Zmat2	Zinc Finger, Matrin Type 2	9.08	23.61
IPI00133061	Q9CQT2	Rbm7	Rna Binding Motif Protein 7	9.37	30.15
IPI00896604	Q80Y44	Ddx10	Dead (Asp-Glu-Ala-Asp) Box Polypeptide 10	7.61	100.74
IPI00129388	Q80U72	Scrib	Scribbled Homolog	5.04	174.06
IPI00943994	P62307	Snrpf	Small Nuclear Ribonucleoprotein F	4.63	9.59
IPI00882020	Q3UKV4	Dpf2	D4, Zinc And Double Phd Fingers Family 2	6.19	44.33
IPI00395166	Q8VHZ7	Imp4	Imp4, U3 Small Nucleolar Ribonucleoprotein, Homolog	9.35	33.66
IPI00126762	P67871	Csnk2B	Casein Kinase 2, Beta Polypeptide	5.33	24.94
IPI00653266	Q3UI84	Rfc4	Replication Factor C 4	8.78	40.92
IPI00987184	Q9D0T1	Nhp2L1	Nhp2 Non-Histone Chromosome Protein 2-Like 1	8.72	14.04
IPI00283671	Q9CY57	Fop	Friend Of Prmt1 Protein	12.24	26.58
IPI00123762	Q3U6D2	Rcc1	Regulator Of Chromosome Condensation 1	8.34	44.94
IPI00131850	Q9CPR8	Ndnl2	Necdin-Like 2	9.10	31.46
IPI00111343	Q9QZH3	Ppie	Peptidylprolyl Isomerase E	5.41	33.45
IPI00130246	Q91YK2	Rrp1B	Ribosomal Rna Processing 1 Homolog B	9.75	80.58
IPI00132770	Q9D0N7	Chaf1B	Chromatin Assembly Factor 1, Subunit B	6.12	63.13
IPI00226384	Q8BX09	Rbbp5	Retinoblastoma Binding Protein 5	4.96	59.10
IPI00831626	E9Q456	Tpm1	Tropomyosin Alpha-1 Chain	4.72	28.67
IPI00229072	Q60953	Pml	Promyelocytic Leukemia	5.42	98.24
IPI00555042	Q5DW34	Ehmt1	Euchromatic Histone-Lysine N-Methyltransferase 1	5.52	142.00
IPI00133839	Q9QWF0	Chaf1A	Chromatin Assembly Factor 1, Subunit A	5.28	101.94
IPI00986822	Q8C590	Nfyb	Nuclear Transcription Factor-Y Beta	4.48	24.59

Protein ID	Uniprot	Symbol	Protein name	pI	Mw (kDa)
IPI00607076	Q542V3	Sfrs4	Splicing Factor, Arginine/Serine-Rich 4	11.37	56.25
IPI00133385	Q8VHN8	Nudt16L1	Nudix -Type Motif 16-Like 1	9.30	23.41
IPI00170232	Q8K4L3	Svil	Supervillin	6.44	243.16
IPI00113449	P59941	Sirt6	Sirtuin 6	9.04	36.92
IPI00109615	Q9CWU9	Nup37	Nucleoporin 37	5.67	36.73
IPI00133594	Q9D1C9	Rrp7A	Ribosomal Rna Processing 7 Homolog A	9.51	32.40
IPI00132580	Q9CQI9	Med30	Mediator Complex Subunit 30	8.45	20.36
IPI00109326	Q9EP97	Senp3	Sumo/Sentrin Specific Peptidase 3	8.98	64.40
IPI00116926	Q3U063	Zfp281	Zinc Finger Protein 281	8.77	96.68
IPI00665571	Q8R323	Rfc3	Replication Factor C 3	8.70	40.53
IPI00223713	P15864	Hist1H1C	Histone Cluster 1, H1C	11.00	21.14
IPI00131513	Q91X20	Ash2L	Absent, Small, Or Homeotic-Like	5.44	68.25
IPI00221414	Q8BFQ4	Wdr82	Wd Repeat Domain Containing 82	7.59	35.08
IPI00622945	Q9D982	Arid2	At Rich Interactive Domain 2	7.87	16.31
IPI00128256	Q91WM3	Rrp9	U3 Small Nucleolar Rna-Interacting Protein 2	8.00	52.11
IPI00121437	Q8VBV3	Exosc2	Exosome Component 2	7.06	32.63
IPI00875938	Q3UI14	Kdm3B	Kdm3B Lysine -Specific Demethylase 3B	7.06	51.17
IPI00125662	P97496	Smarcc1	Brg1-Associated Factor 155	5.50	122.76
IPI00135971	P39447	Tjp1	Tight Junction Protein 1	6.18	194.74
IPI00970229	Q9ER69	Wtap	Wilms' Tumour 1-Associating Protein	5.17	44.18
IPI00321884	Q9DBY8	Nvl	Nuclear Vcp-Like	6.02	94.48
IPI00321266	Q8R326	Pspc1	Paraspeckle Protein 1	6.26	58.76
IPI00128522	P14602	Hspb1	Heat Shock Protein 1	6.12	23.01
IPI00225719	Q8C570	Rae1	Rae1 Rna Export 1 Homolog	7.96	40.97
IPI00119581	P35550	Fbl	Similar To Fibrillarin	10.25	34.31
IPI00124284	Q923G2	Polr2H	Polymerase (Rna) Ii Polypeptide H	4.50	17.01
IPI00323422	Q9Z1B5	Mad2L1	Mad2 Mitotic Arrest Deficient-Like 1	5.15	23.47
IPI00122218	Q8R1J3	Zcchc9	Zinc Finger, Cchc Domain Containing 9	9.38	30.76
IPI00420870	Q8CGY8	Ogt	O-Linked N-Acetylglucosamine Transferase	6.23	116.82
IPI00330623	Q8BMC4	Cn021	Pumilio Domain-Containing Protein C14Orf21 Homolog	6.86	70.05
IPI00119201	Q9DB96	Ngdn	Neuroguidin, Eif4E Binding Protein	9.59	35.53
IPI00134346	O88796	Rpp30	Ribonuclease P/Mrp 30 Subunit	9.21	29.34
IPI00453849	Q9D0L8	Rnmt	Rna (Guanine-7-) Methyltransferase	6.12	53.29
IPI00226227	Q8C6B9	Rps19Bp1	Ribosomal Protein S19 Binding Protein 1	10.83	15.98
IPI00226872	Q8C845	Efhd2	Ef-Hand Domain-Containing Protein D2	5.07	26.80
IPI00469331	Q8R4R6	Nup35	Nucleoporin Nup53	9.27	34.79
IPI00132041	Q78WZ7	Twistnb	Predicted Gene 8670	5.83	36.72
IPI00458908	Q9DAW6	Prpf4	Prp4 Pre-Mrna Processing Factor 4 Homolog	6.86	58.37
IPI00454015	Q8CH02	Sf4	Splicing Factor 4	7.22	72.65
IPI00229475	Q02257	Jup	Junction Plakoglobin	5.75	81.80
IPI00856474	Q9DBA9	Gtf2H1	General Transcription Factor Ii H, Polypeptide 1	8.89	61.72
IPI00130343	Q3U6P5	Hnrnpc	Heterogeneous Nuclear Ribonucleoprotein C	6.88	36.91
IPI00338452	P08122	Col4A2	Collagen, Type Iv, Alpha 2	8.16	149.09
IPI00136252	Q4VBE8	Wdr18	Wd Repeat Domain 18	6.42	47.21
IPI00117687	P59708	Sf3B14	Pre-Mrna Branch Site Protein P14	9.41	14.58
IPI00988759	Q05CS0	Tcof1	Treacher Collins Franceschetti Syndrome 1, Homolog	6.34	102.15
IPI00229021	Q8CEC0	Nup88	Nucleoporin 88	5.87	84.94
IPI00350396	Q9Z0H3	Smarcb1	Brg1-Associated Factor 47	5.86	44.14
IPI00954304	P17095	Hmga1	High Mobility Group At-Hook 1	10.31	11.48
IPI00109419	P33174	Kif4	Kinesin Family Member 4	6.30	139.52
IPI00331342	Q3UKJ7	Smu1	Smu-1 Suppressor Of Mec-8 And Unc-52 Homolog	6.73	57.41
IPI00121596	Q99PV0	Prpf8	Pre-Mrna Processing Factor 8	8.95	273.49
IPI00622387	Q8VI33	Taf9	Tata Box Binding Protein-Associated Factor 9	7.68	28.98
IPI00133555	Q9CXK8	Nip7	Nuclear Import 7 Homolog	8.35	20.45
IPI00466593	Q8BTW3	Exosc6	Exosome Component 6	5.87	28.37
IPI00377930	Q7TMY4	Thoc7	Tho Complex 7 Homolog	5.46	23.71
IPI00336965	Q8K301	Ddx52	Dead (Asp-Glu-Ala-Asp) Box Polypeptide 52	9.59	67.47
IPI00323600	O89053	Coro1A	Coronin, Actin Binding Protein 1A	6.05	50.86
IPI00648295	Q6ZQ88	Kdm1A	Similar To Amine Oxidase (Flavin Containing) Domain 2	6.11	92.85
IPI00132936	Q80X41	Vrk1	Vaccinia Related Kinase 1	9.08	49.74
IPI00762582	Q9DBY0	Foxp4	Forkhead Box P4	6.61	85.98
IPI00652831	Q3UL36	Arglu1	Arginine And Glutamate Rich 1	10.35	32.89
IPI00165762	Q8R3C6	Rbm19	Rna Binding Motif Protein 19	6.17	106.08
IPI00463344	Q6NZB0	Dnajc8	Dnaj Homolog, Subfamily C, Member 8	9.05	29.68
IPI00177202	P59235	Nup43	Nucleoporin 43	5.13	41.99
IPI00129468	P23198	Cbx3	Chromobox Homolog 3	5.13	20.86
IPI00761713	Q8CGP2	Hist1H2Bp	Histone Cluster 1, H2Bp	10.32	13.86
IPI00320034	Q8CFI7	Polr2B	Polymerase (Rna) Ii Polypeptide B	6.44	133.91
IPI00119123	P81269	Atf1	Predicted Gene 1862	8.45	29.24
IPI00132019	Q9CQ49	Ncbp2	Nuclear Cap Binding Protein Subunit 2	7.62	18.02
IPI00114941	O08664	Bcl7C	B-Cell Cll/Lymphoma 7C	5.14	23.44
IPI00132481	Q9D0F6	Rfc5	Replication Factor C 5	7.67	38.10
IPI00323820	Q3UJN1	Mcm2	Minichromosome Maintenance Deficient 2 Mitotin	5.51	103.15
IPI00315517	Q8R2U0	Seh1L	Seh1-Like	8.30	39.77
IPI00226155	Q4FK66	Prpf38A	Prp38 Pre-Mrna Processing Factor 38 Domain Containing A	10.02	37.44
IPI00267629	Q8K194	Snrnp27	Small Nuclear Ribonucleoprotein 27 (U4/U6.U5)	11.62	18.89
IPI00461532	Q8R480	Nup85	Nucleoporin 85	5.37	74.78
IPI00889910	Q8BR65	Suds3	Suppressor Of Defective Silencing 3 Homolog	5.55	38.11
IPI00122220	Q9JJT0	Rcl1	Rna Terminal Phosphate Cyclase-Like 1	9.36	40.84
IPI00170394	Q8JZX4	Rbm17	Predicted Gene 5880	5.65	45.30
IPI00123557	Q9WTM5	Ruvbl2	Ruvb-Like Protein 2	5.49	50.98
IPI00133801	Q9D1J3	Sarnp	Sap Domain Containing Ribonucleoprotein	6.34	23.40
IPI00124744	Q9WUK4	Rfc2	Replication Factor C 2	6.04	38.72
IPI00129141	Q9Z0H1	Wdr46	Wd Repeat Domain 46	9.79	69.05
IPI00323705	Q9Z2V5	Hdac6	Histone Deacetylase 6	5.47	125.79
IPI00403414	Q8K284	Gtf3C1	General Transcription Factor Iii C 1	6.91	237.48
IPI00410804	Q9CYI4	Luc7L	Luc7 Homolog-Like	9.90	43.93
IPI00124901	Q9JM93	Arl6Ip4	Adp-Ribosylation Factor-Like 6 Interacting Protein 4	11.19	25.52
IPI00317298	Q9CSN1	Snw1	Snw Domain Containing 1	9.49	61.34
IPI00122350	Q62189	Snrpa	Predicted Gene 8655	9.81	31.84
IPI00755892	Q9Z130	Hnrpdl	Heterogeneous Nuclear Ribonucleoprotein D-Like	6.85	33.56
IPI00128991	Q8BFV2	Pcid2	Pci Domain Containing 2	8.78	46.00
IPI00127415	Q61937	Npm1	Predicted Gene 6477	4.62	32.56
IPI00407339	P62806	H4	Histone H4	11.36	11.24
IPI00225214	Q8BTT6	Diexf	Digestive Organ Expansion Factor Homolog	5.51	88.82
IPI00125899	Q02248	Ctnnb1	Catenin, Beta 1	5.53	85.47
IPI00654005	Q3UUX3	Polr2C	Polymerase (Rna) Ii Polypeptide C	5.13	37.75

Protein ID	Uniprot	Symbol	Protein name	pI	Mw (kDa)
IPI00310857	Q921I9	Exosc4	Exosome Component 4	5.75	26.12
IPI00469994	Q69ZQ2	Isy1	Isy1 Splicing Factor Homolog	5.15	32.99
IPI00776010	Q6RI65	Tbp	Tata Box Binding Protein	9.80	34.71
IPI00118360	Q9DAA6	Exosc1	Exosome Component 1	8.51	21.42
IPI00110931	Q9CY66	Gar1	Gar1 Ribonucleoprotein Homolog	11.03	23.47
IPI00110856	P56183	Rrp1	Ribosomal Rna Processing 1 Homolog	5.03	54.78
IPI00719871	Q3UI16	Nolc1	Nucleolar And Coiled-Body Phosphoprotein 1	9.35	73.56
IPI00230150	P62309	Snrpg	Predicted Gene 8186	8.98	8.50
IPI00320303	Q8R0G9	Nup133	Nucleoporin 133	5.06	128.62
IPI00322206	Q99KK2	Cmas	Cytidine Monophospho-N-Acetylneuraminic Acid Synthetase	8.37	48.06
IPI00985938	Q3UFY0	Rrp36	Ribosomal Rna Processing Protein 36 Homolog	10.57	28.59
IPI00224152	P28352	Apex1	Apurinic/Apyrimidinic Endonuclease 1	8.20	35.36
IPI00462934	Q3U0V1	Khsrp	Kh-Type Splicing Regulatory Protein	6.90	76.78
IPI00410764	Q80VY9	Dhx33	Deah (Asp-Glu-Ala-His) Box Polypeptide 33	9.11	78.35
IPI00316184	Q9D287	Bcas2	Breast Carcinoma Amplified Sequence 2	5.48	26.00
IPI00269662	Q8BG05	Hnrnpa3	Heterogeneous Nuclear Ribonucleoprotein A3	9.10	39.65
IPI00453821	Q99P88	Nup155	Nucleoporin 155	5.77	155.12
IPI00221951	Q8BHS3	Rbm22	Rna Binding Motif Protein 22	8.83	46.76
IPI00115650	Q9CXW3	Cacybp	Calcyclin Binding Protein	7.84	26.38
IPI00226889	Q8C7V3	Utp15	Utp15, U3 Small Nucleolar Ribonucleoprotein, Homolog	8.93	59.24
IPI00119220	P62317	Snrpd2	Predicted Gene 5449	9.92	13.40
IPI00319231	P62843	Rps15	40S Ribosomal Protein S15	10.39	16.91
IPI00989397	Q6GSS7	H2A2A	Histone H2A Type 2-A	10.90	13.96
IPI00322749	P62315	Snrpd1	Small Nuclear Ribonucleoprotein D1	11.56	13.28
IPI00121136	Q9JIX8	Acin1	Apoptotic Chromatin Condensation Inducer 1	5.71	150.72
IPI00649685	Q99JR8	Smarcd2	Brg1-Associated Factor 60B	9.66	59.09
IPI00136015	Q9CTH6	Fcf1	Fcf1 Small Subunit (Ssu) Processome Component Homolog	9.71	23.34
IPI00467841	Q3UKW2	Calm1	Calmodulin	4.21	21.56
IPI00108338	P25206	Mcm3	Minichromosome Maintenance Deficient 3	5.37	91.42
IPI00311260	Q8K4F6	Nsun5	Nol1/Nop2/Sun Domain Family, Member 5	9.33	50.90
IPI00857497	Q8BQZ5	Cpsf4	Cleavage And Polyadenylation Specific Factor 4	8.83	23.65
IPI00311203	P51432	Plcb3	Phospholipase C, Beta 3	5.70	139.36
IPI00396812	Q7TQK4	Exosc3	Exosome Component 3	8.37	29.42
IPI00330054	Q8BHY2	Noc4L	Nucleolar Complex Associated 4 Homolog	6.29	58.68
IPI00170008	P57784	Snrpa1	Small Nuclear Ribonucleoprotein Polypeptide A'	8.72	28.23
IPI00119776	Q9JI13	Utp3	Small Subunit Processome Component, Homolog	5.44	53.40
IPI00221528	Q8BFZ3	Actbl2	Actin, Beta-Like 2	5.30	42.00
IPI00134621	P62827	Ran	Member Ras Oncogene Family	7.20	24.29
IPI00988949	P84089	Erh	**Enhancer of rudimentary homolog**	5.62	12.13
IPI00119760	Q5RJG1	Nol10	Nucleolar Protein 10	8.39	80.08
IPI00123565	Q9JKX4	Aatf	Apoptosis Antagonizing Transcription Factor	4.81	59.35
IPI00128230	Q9R190	Mta2	Metastasis-Associated Gene Family, Member 2	9.71	75.03
IPI00454123	Q6NXI6	Rprd2	Regulation Of Nuclear Pre-Mrna Domain Containing 2	7.24	156.59
IPI00337844	Q9ERU9	Ranbp2	Ran Binding Protein 2	5.82	341.12
IPI00113635	Q9ESX5	Dkc1	Dyskeratosis Congenita 1	9.34	57.27
IPI00121434	Q8VC52	Rbpms2	**RNA-binding protein with multiple splicing 2**	8.51	22.46
IPI00309398	Q52KC3	Mcm5	Minichromosome Maintenance Deficient 5	8.57	82.41
IPI00282848	P84244	H33	Histone H3.3	11.27	15.20
IPI00353579	Q5SSI6	Utp18	Utp18, Small Subunit (Ssu) Processome Component, Homolog	8.95	61.22
IPI00353796	Q8R5K4	Nol6	Nucleolar Protein Family 6	6.33	129.23
IPI00133985	P60122	Ruvbl1	Ruvb-Like Protein 1	6.02	50.21
IPI00120162	Q60737	Csnk2A1	Casein Kinase 2, Alpha 1 Polypeptide	7.29	45.13
IPI00461621	Q6PE01	Snrnp40	Small Nuclear Ribonucleoprotein 40	8.34	39.28
IPI00330019	Q811S7	Ubp1	Upstream Binding Protein 1	5.85	60.21
IPI00989277	Q3UUW5	Ccnh	Cyclin H	8.90	38.05
IPI00903356	Q8BIQ5	Cstf2	Cleavage Stimulation Factor, 3' Pre-Rna Subunit 2	6.38	61.21
IPI00678657	Q8QZY9	Sf3B4	Splicing Factor 3B, Subunit 4	8.57	44.22
IPI00308402	Q64012	Raly	**RNA-binding protein Raly**	8.95	33.19
IPI00225249	Q8BTV2	Cpsf7	Cleavage And Polyadenylation Specific Factor 7	7.82	52.01
IPI00132578	Q9D0I8	Mrto4	Mrna Turnover 4	8.63	27.55
IPI00129873	P62313	Lsm6	Lsm6 Homolog, U6 Small Nuclear Rna Associated	9.61	9.13
IPI00130114	Q91YD3	Dcp1A	Dcp1 Decapping Enzyme Homolog A	6.51	65.22
IPI00408781	Q6NZL1	Dhx37	Deah (Asp-Glu-Ala-His) Box Polypeptide 37	8.97	128.33
IPI00137433	Q6P5D8	Smchd1	Smc Hinge Domain Containing 1	6.89	225.52
IPI01026945	Q8CCS6	Bcl2L2	Bcl2-Like 2	5.13	32.17
IPI00135475	Q9QXS6	Dbn1	Drebrin 1	4.44	77.16
IPI00229722	Q80U93	Nup214	Nucleoporin 214	6.65	212.98
IPI00387489	Q4VBW5	Exosc7	Exosome Component 7	5.08	31.83
IPI00122120	Q8VCG3	Wdr74	Wd Repeat Domain 74	7.95	42.64
IPI01026855	Q99K43	Prc1	Protein Regulator Of Cytokinesis 1	7.50	70.29
IPI00118762	O54825	Bysl	Bystin-Like	7.65	49.78
IPI00124677	Q8VEJ4	Nle1	Notchless Homolog 1	6.75	53.00
IPI00111695	Q9D8M4	Rpl7L1	Ribosomal Protein L7-Like 1	10.64	28.54
IPI00410937	Q9CWZ3	Rbm8A	Rna Binding Motif Protein 8A	5.83	19.76
IPI00126338	Q61033	Tmpo	Thymopoletin	8.35	75.04
IPI00321597	Q9DBD5	Pelp1	Proline, Glutamic Acid And Leucine Rich Protein 1	4.31	117.94
IPI01008362	Q61464	Zfml	Zinc Finger, Matrin-Like	6.46	218.13
IPI00110363	Q9EPU4	Cpsf1	Cleavage And Polyadenylation Specific Factor 1	5.97	160.82
IPI00856171	Q6PGH1	Bud31	Bud31 Homolog	8.53	11.90
IPI00421085	Q6NVF9	Cpsf6	Cleavage And Polyadenylation Specific Factor 6	6.66	59.15
IPI00379513	Q3TIX6	Fubp3	Far Upstream Element Binding Protein 3	8.59	61.96
IPI00276866	Q8K224	Nat10	N-Acetyltransferase 10	8.57	115.42
IPI00311509	P58742	Aaas	Achalasia, Adrenocortical Insufficiency, Alacrimia	6.39	59.43
IPI00321718	O35129	Phb2	Prohibitin 2	9.83	33.17
IPI00109639	Q9D753	Exosc8	Exosome Component 8	5.06	29.95
IPI00923656	Q9Z277	Baz1B	Bromodomain Adjacent To Zinc Finger Domain, 1B	8.81	170.65
IPI00120790	Q9DCE5	Pak1Ip1	Pak1 Interacting Protein 1	8.72	42.12
IPI00109203	Q9CWK3	Cd2Bp2	Cd2 Antigen Binding Protein 2	4.48	37.69
IPI00136251	Q9QYJ0	Dnaja2	Dnaj Homolog, Subfamily A, Member 2	6.01	45.41
IPI00263106	P62488	Polr2G	Polymerase (Rna) Ii Polypeptide G	5.33	19.29
IPI00321739	Q9DBR0	Akap8	A Kinase Anchor Protein 8	5.03	76.29
IPI00227773	P63087	Ppp1Cc	Protein Phosphatase 1, Catalytic Subunit, Gamma Isoform	6.14	36.85
IPI00318550	Q9CXY6	Ilf2	Interleukin Enhancer Binding Factor 2	5.18	43.06
IPI00874408	Q08943	Ssrp1	Structure Specific Recognition Protein 1	6.35	80.73
IPI00318048	Q9D6Z1	Nop56	Nop56 Ribonucleoprotein Homolog	9.22	64.46
IPI00118795	O54833	Csnk2A2	Casein Kinase 2, Alpha Prime Polypeptide	8.64	41.22
IPI00653709	Q3UWM7	Spin1	Spindlin 1	6.65	29.91

Protein ID	Uniprot	Symbol	Protein name	pI	Mw (kDa)
IPI00119814	Q9JHS9	Cwc15	Cwc15 Homolog	5.54	26.49
IPI00131056	O88477	Igf2Bp1	Insulin-Like Growth Factor 2 Mrna Binding Protein 1	9.26	63.45
IPI01023295	P52432	Polr1C	Polymerase (Rna) I Polypeptide C	5.08	38.98
IPI00316740	Q3U1J4	Ddb1	Damage Specific Dna Binding Protein 1	5.14	126.85
IPI00918172	Q9CPT5	Nop16	Nop16 Nucleolar Protein Homolog	9.91	21.14
IPI00396728	Q6P9R1	Ddx51	Dead (Asp-Glu-Ala-Asp) Box Polypeptide 51	9.53	70.37
IPI00226149	Q3TAJ5	Rsl1D1	Ribosomal L1 Domain Containing 1	10.08	43.97
IPI00123376	Q62241	Snrpc	U1 Small Nuclear Ribonucleoprotein C	9.72	17.36
IPI00329840	Q61550	Rad21	Rad21 Homolog	4.54	72.08
IPI00123949	Q5U4D9	Thoc6	Tho Complex 6 Homolog	6.67	37.31
IPI00987700	Q8VDS0	Pds5A	Pds5, Regulator Of Cohesion Maintenance, Homolog A	7.85	65.80
IPI00129535	Q9Z0W3	Nup160	Nucleoporin 160	5.32	158.23
IPI00453851	Q8C9B9	Dido1	Death Inducer-Obliterator 1	8.11	247.18
IPI00464141	Q6PFD9	Nup98	Nucleoporin 98	5.98	124.81
IPI00222307	Q8BJ71	Nup93	Similar To Nucleoporin 93	5.50	93.28
IPI00457815	Q3TIX9	Usp39	Ubiquitin Specific Peptidase 39	9.01	65.15
IPI00751568	Q497V5	Srbd1	S1 Rna Binding Domain 1	9.01	114.09
IPI00309733	Q8BGW5	Obfc2A	Oligonucleotide/Oligosaccharide-Binding Fold Containing 2A	9.45	21.75
IPI00132415	Q9D0D4	Dimt1	Dim1 Dimethyladenosine Transferase 1-Like	10.01	35.27
IPI00463468	Q6DFW4	Nop58	Nop58 Ribonucleoprotein Homolog	8.53	60.34
IPI00124057	Q8C4J7	Tbl3	Transducin (Beta)-Like 3	6.34	88.27
IPI00119727	Q8C2N1	Q8C2N1	Putative Uncharacterized Protein	11.10	24.84
IPI00122318	Q921W0	Chmp1A	Chromatin Modifying Protein 1A	7.77	21.61
IPI00229025	Q8CEC6	Ppwd1	Peptidylprolyl Isomerase Domain And Wd Repeat Containing 1	6.73	73.25
IPI00119442	Q9JHI7	Exosc9	Exosome Component 9	5.03	48.94
IPI00127174	Q3UEB3	Puf60	Poly-U Binding Splicing Factor 60	5.20	60.25
IPI00459381	Q8K363	Ddx18	Predicted Gene 16433	9.54	74.18
IPI00224351	Q8BRG8	Tmem209	Transmembrane Protein 209	8.89	62.98
IPI00153371	Q8R1F9	Rpp40	Ribonuclease P 40 Subunit	6.21	41.55
IPI00113134	Q9CZU3	Skiv2L2	Superkiller Viralicidic Activity 2-Like 2	6.02	117.51
IPI00123870	Q9CU62	Smc1A	Structural Maintenance Of Chromosomes 1A	7.51	143.23
IPI00463666	Q9R0Q4	Morf4L2	Mortality Factor 4 Like 2	9.72	32.18
IPI00972898	Q32M04	Prps1	Mirror-Image Polydactyly Gene 1 Homolog	6.19	35.09
IPI00137848	Q9D554	Sf3A3	Splicing Factor 3A, Subunit 3	5.23	58.84
IPI00311873	P62141	Ppp1Cb	Protein Phosphatase 1, Catalytic Subunit, Beta Isoform	5.85	37.06
IPI00875090	E9QLE0	Ifi204	Interferon-Activable Protein 204	9.05	71.69
IPI00116442	Q3UMU9	Hdgfrp2	Hepatoma-Derived Growth Factor, Related Protein 2	8.72	74.29
IPI00121562	Q9JJA4	Wdr12	Wd Repeat Domain 12	5.36	47.22
IPI00331601	Q8R2N2	Cirh1A	Cirrhosis, Autosomal Recessive 1A	9.06	76.91
IPI00135252	Q8CDM1	Atad2	Atpase Family, Aaa Domain Containing 2	6.46	117.94
IPI00121758	Q921F2	Tardbp	Tar Dna Binding Protein	6.26	44.55
IPI00116747	Q99LC2	Cstf1	Cleavage Stimulation Factor, 3' Pre-Rna, Subunit 1	6.12	48.38
IPI00402911	Q810V0	Mphosph10	M-Phase Phosphoprotein 10	4.78	78.73
IPI00410792	Q8K2F0	Brd3	Bromodomain Containing 3	9.38	79.76
IPI00331424	Q8CCF0	Prpf31	Prp31 Pre-Mrna Processing Factor 31 Homolog	5.55	55.43
IPI00915480	Q4FZH3	Sap18	Similar To Sap18	9.38	17.60
IPI00330958	Q60668	Hnrnpd	Heterogeneous Nuclear Ribonucleoprotein D	7.61	38.35
IPI00894870	Q1HFZ0	Nsun2	Nol1/Nop2/Sun Domain Family Member 2	6.16	85.45
IPI00128615	Q8VHR5	Gatad2B	Gata Zinc Finger Domain Containing 2B	9.73	65.41
IPI00263042	Q6ZWM4	Naa38	Lsm8 Homolog, U6 Small Nuclear Rna Associated	4.34	10.27
IPI00221767	Q8BH74	Nup107	Nucleoporin 107	5.26	106.72
IPI00124272	P97386	Lig3	Ligase Iii, Dna, Atp-Dependent	9.16	113.07
IPI00404707	Q8C2Q3	Rbm14	Rna Binding Motif Protein 14	9.68	69.45
IPI00125325	Q9WV68	Decr2	2-4-Dienoyl-Coenzyme A Reductase 2	9.04	31.30
IPI00459787	Q8VCD5	Med17	Mediator Complex Subunit 17	6.86	72.46
IPI00938530	E9QPE7	Myh11	Myosin-11	5.42	223.36
IPI00330263	Q8CFQ3	Aqr	Aquarius	5.87	170.29
IPI00169700	Q76KJ5	Cd3Eap	Cd3E Antigen, Epsilon Polypeptide Associated Protein	9.63	43.08
IPI00653643	Q3UMT7	Hnrnpl	Heterogeneous Nuclear Ribonucleoprotein L	7.27	64.08
IPI00318548	Q9D883	U2Af1	U2 Small Nuclear Ribonucleoprotein Auxiliary Factor 1	9.10	27.68
IPI00225192	Q8BTS4	Nup54	Nucleoporin 54	6.53	55.73
IPI00221822	Q8BHB4	Wdr3	Wd Repeat Domain 3	6.20	105.78
IPI00119892	O54941	Smarce1	Brg1-Associated Factor 57	4.84	46.64
IPI00331172	Q922V4	Plrg1	Pleiotropic Regulator 1, Prl1 Homolog	9.25	56.94
IPI00551412	P61327	Magoh	Mago-Nashi Homolog, Proliferation-Associated	5.74	17.16
IPI00918121	O88559	Men1	Multiple Endocrine Neoplasia 1	5.99	67.50
IPI00876121	Q3TAQ9	Wdr36	Wd Repeat Domain 36	6.64	99.72
IPI00462502	A2BE28	Las1L	Las1-Like	4.37	89.41
IPI00123881	P97311	Mcm6	Minichromosome Maintenance Deficient 6	5.31	92.87
IPI00321912	Q8K202	Polr1E	Polymerase (Rna) I Polypeptide E	8.43	54.03
IPI00380355	Q8BTZ4	Anapc5	Anaphase-Promoting Complex Subunit 5	6.24	83.10
IPI00480507	Q99KP6	Prpf19	Prp19/Pso4 Pre-Mrna Processing Factor 19 Homolog	6.14	55.11
IPI00320399	Q61029	Tmpo	Thymopoietin	9.46	50.24
IPI00458057	Q3URQ0	Tex10	Testis Expressed Gene 10	9.26	105.21
IPI00420597	Q65Z40	Wapal	Wings Apart-Like Homolog	5.26	134.07
IPI00129184	Q91XI1	Dus3L	Dihydrouridine Synthase 3-Like	8.34	70.95
IPI00620167	Q9EQ61	Pes1	Pescadillo Homolog 1	6.41	67.80
IPI00135646	P55096	Abcd3	Atp-Binding Cassette, Sub-Family D, Member 3	9.32	75.47
IPI00119227	P63280	Ube2I	Ubiquitin-Conjugating Enzyme E2I	8.87	18.01
IPI00317701	Q9CZ04	Cops7A	Constitutive Photomorphogenic Homolog, Subunit 7A	7.67	30.09
IPI00625464	Q3TZX8	Nol9	Nucleolar Protein 9	9.54	80.71
IPI01023317	Q8QZV7	Asun	Protein Asunder Homolog	6.46	82.78
IPI00759925	Q9ERG0	Limа1	Lim Domain And Actin Binding 1	6.18	84.06
IPI00828490	Q61191	Hcfc1	Similar To Transcription Factor C1	4.67	63.47
IPI00462762	Q640M1	Utp14A	Utp14, U3 Small Nucleolar Ribonucleoprotein, Homolog A	9.22	87.27
IPI00117288	Q99020	Hnrnpab	Heterogeneous Nuclear Ribonucleoprotein A/B	7.69	30.83
IPI00938465	Q6ZQL4	Wdr43	Wd Repeat Domain 43	5.22	75.38
IPI00672180	Q9Z103	Adnp	Activity-Dependent Neuroprotective Protein	5.70	92.06
IPI00153664	Q8R2U4	Mettl11A	Methyltransferase Like 11A	6.42	25.29
IPI00874482	P63260	Actg1	Actin, Gamma, Cytoplasmic 1	5.31	41.79
IPI00120145	Q9DC48	Cdc40	Cell Division Cycle 40 Homolog	6.62	65.46
IPI00116031	Q99KG3	Rbm10	Rna Binding Motif Protein 10	5.66	103.49
IPI00129222	Q03147	Cdk7	Cyclin-Dependent Kinase 7	8.66	38.97
IPI00323748	P54116	Stom	Stomatin	6.46	31.38
IPI00858099	Q09XV5	Chd8	Chromodomain Helicase Dna Binding Protein 8	6.00	290.85
IPI00410836	Q3TGH6	Fen1	Flap Structure Specific Endonuclease 1	8.68	42.56
IPI00828488	O88569	Hnrnpa2B1	Heterogeneous Nuclear Ribonucleoprotein A2/B1	8.97	37.40

Protein ID	Uniprot	Symbol	Protein name	pI	Mw (kDa)
IPI00221690	Q8BGS0	Mak16	Mak16 Homolog	5.24	35.19
IPI00719915	Q9CW46	Raver1	Ribonucleoprotein, Ptb-Binding 1	8.91	79.25
IPI00124938	Q9WUP7	Uchl5	Ubiquitin Carboxyl-Terminal Esterase L5	5.24	37.62
IPI00128183	Q9R0X0	Med20	Mediator Of Rna Polymerase Ii Transcription Subunit 20	6.42	23.19
IPI00132093	Q9QUR7	Pin1	Protein (Peptidyl-Prolyl Cis/Trans Isomerase) Nima-Interacting 1	8.93	18.37
IPI00112763	Q9CZJ1	Utp11L	Utp11-Like, U3 Small Nucleolar Ribonucleoprotein	10.26	30.55
IPI00230429	O35344	Kpna3	Karyopherin Alpha 3	4.80	57.64
IPI00311968	P97376	Frg1	Fshd Region Gene 1	9.03	29.13
IPI00311534	Q8VDG3	Parn	Poly(A)-Specific Ribonuclease	5.68	71.56
IPI00331597	P43277	Hist1H1D	Histone Cluster 1, H1D	11.03	21.97
IPI00109696	Q9CWW6	Pin4	Protein (Peptidyl-Prolyl Cis/Trans Isomerase) Nima-Interacting, 4	9.78	13.81
IPI00135099	Q9QXK7	Cpsf3	Cleavage And Polyadenylation Specificity Factor 3	5.37	77.50
IPI00625105	Q62376	Snrnp70	Small Nuclear Ribonucleoprotein 70	9.94	51.99
IPI00458056	Q3UYV9	Ncbp1	Expressed Sequence Au014645	6.17	91.93
IPI00169888	Q8K2D3	Edc3	Enhancer Of Mrna Decapping 3 Homolog	6.63	55.96
IPI00467338	P46061	Rangap1	Ran Gtpase Activating Protein 1	4.59	63.40
IPI00420602	Q6ZQH8	Nup188	Nucleoporin 188	6.57	196.56
IPI00877286	Q9CY46	Lsm4	Lsm4 Homolog, U6 Small Nuclear Rna Associated	10.08	15.20
IPI00169460	Q99K95	Ct043	Upf0549 Protein C20Orf43 Homolog	9.05	33.93
IPI00112769	P70700	Polr1B	Polymerase (Rna) I Polypeptide B	7.65	128.21
IPI00338887	Q9R1C7	Prpf40A	Prp40 Pre-Mrna Processing Factor 40 Homolog A	7.39	108.48
IPI00132376	P63154	Crnkl1	Crn, Crooked Neck-Like 1	6.53	83.42
IPI00125510	Q9JMD0	Zfp207	Zinc Finger Protein 207	9.20	52.79
IPI00117016	P49717	Mcm4	Minichromosome Maintenance Deficient 4 Homolog	6.77	96.74
IPI00130185	P62137	Ppp1Ca	Protein Phosphatase 1, Catalytic Subunit, Alpha Isoform	5.94	37.41
IPI00128268	Q91WN1	Dnajc9	Dnaj Homolog, Subfamily C, Member 9	5.76	30.06
IPI00120691	Q9JIK5	Ddx21	Dead (Asp-Glu-Ala-Asp) Box Polypeptide 21	9.19	93.55
IPI00133562	Q9CRB9	Chchd3	Coiled-Coil-Helix-Coiled-Coil-Helix Domain Containing 3	8.57	26.20
IPI00133491	P83870	Phf5A	Phd Finger Protein 5A	8.78	12.41
IPI00626752	Q9WVA3	Bub3	Budding Uninhibited By Benzimidazoles 3 Homolog	6.37	36.95
IPI00172197	Q8K298	Anln	Anillin	6.59	122.79
IPI00113746	P26369	U2Af2	U2 Small Nuclear Ribonucleoprotein Auxiliary Factor 2	9.19	53.39
IPI00120344	Q920B9	Supt16H	Suppressor Of Ty 16 Homolog	5.50	119.69
IPI00848672	Q3UIX4	Sfrs11	Splicing Factor, Arginine/Serine-Rich 11	10.58	53.10
IPI00330763	Q80XP8	Fam76B	Family With Sequence Similarity 76, Member B	9.42	38.42
IPI00120744	Q9DCD2	Xab2	Xpa Binding Protein 2	5.87	99.99
IPI00108271	P70372	Elavl1	Embryonic Lethal, Abnormal Vision -Like 1	9.12	36.17
IPI00323357	P63017	Hspa8	Heat Shock Protein 8	5.37	70.74
IPI00974806	Q6PDM2	Sfrs1	Splicing Factor, Arginine/Serine-Rich 1	10.37	27.61
IPI00317794	P09405	Ncl	Nucleolin	4.68	76.59
IPI00402914	Q9JJ89	Ccdc86	Coiled-Coil Domain Containing 86	9.67	46.49
IPI00112963	P26231	Ctnna1	Catenin, Alpha 1	5.91	99.98
IPI00121073	P60824	Cirbp	Cold Inducible Rna Binding Protein	9.61	18.61
IPI00272622	Q8BP48	Metap1	Methionyl Aminopeptidase 1	6.80	43.09
IPI00226891	Q8C854	Myef2	Myelin Basic Protein Expression Factor 2, Repressor	8.96	63.16
IPI00139259	P62996	Tra2B	Transformer 2 Beta Homolog	11.25	33.67
IPI00121623	P63168	Dynll1	Similar To Cytoplasmic Dynein Light Chain 1	6.89	10.37
IPI00265217	Q8CFE3	Rcor1	Rest Corepressor 1	6.56	52.50
IPI00222763	Q8BL97	Sfrs7	Splicing Factor, Arginine/Serine-Rich 7	11.89	30.82
IPI00314467	Q9R1P1	Psmb3	Proteasome Subunit, Beta Type 3	6.13	22.83
IPI00130409	Q91YR7	Prpf6	Prp6 Pre-Mrna Splicing Factor 6 Homolog	8.31	106.72
IPI00226466	Q5U458	Dnajc11	Dnaj Homolog, Subfamily C, Member 11	8.51	63.23
IPI00114953	Q99J95	Cdk9	Cyclin-Dependent Kinase 9	8.97	42.76
IPI00314302	O35218	Cpsf2	Cleavage And Polyadenylation Specific Factor 2	4.98	88.38
IPI00750671	P62627	Dynlrb1	Dynein Light Chain Roadblock-Type 1	6.84	10.86
IPI00469755	Q8BU03	Pwp2	Pwp2 Periodic Tryptophan Protein Homolog	5.83	102.91
IPI00553777	P49312	Hnrnpa1	Heterogeneous Nuclear Ribonucleoprotein A1-Like 2	9.27	34.07
IPI00134747	Q9D2E2	Toe1	Target Of Egr1, Member 1	6.20	56.74
IPI00223422	Q8K114	Ints9	Integrator Complex Subunit 9	5.97	74.08
IPI00221621	Q8R349	Cdc16	Cdc16 Cell Division Cycle 16 Homolog	5.48	71.46
IPI00313817	P51859	Hdgf	Hepatoma-Derived Growth Factor	4.80	26.27
IPI00469260	O08810	Eftud2	Elongation Factor Tu Gtp Binding Domain Containing 2	4.86	109.36
IPI00853911	Q8K4B0	Mta1	Metastasis-Associated Protein	9.37	80.80
IPI00115588	Q99JX7	Nxf1	Nuclear Rna Export Factor 1 Homolog	8.93	70.17
IPI00126716	Q91VC3	Eif4A3	Eukaryotic Translation Initiation Factor 4A Isoform 3	6.33	46.71
IPI00849838	Q9WTK2	Cdyl	Chromodomain Protein, Y Chromosome-Like	8.85	65.21
IPI00170345	Q8JZM7	Cdc73	Parafibromin	9.63	60.45
IPI00228272	Q9CXV9	Dcun1D5	Dcn1, Defective In Cullin Neddylation 1, Domain Containing 5	5.33	27.58
IPI00353010	Q8R3N1	Nop14	Nop14 Nucleolar Protein Homolog	7.34	98.77
IPI00987239	Q08EC1	Wdr75	Wd Repeat Domain 75	5.78	93.92
IPI00230388	P62311	Lsm3	Lsm3 Homolog, U6 Small Nuclear Rna Associated	4.58	11.71
IPI00229397	Q8CG47	Smc4	Structural Maintenance Of Chromosomes 4	6.91	146.89
IPI00135420	Q9QY15	Ddx25	Dead (Asp-Glu-Ala-Asp) Box Polypeptide 25	5.71	54.88
IPI00109588	P02463	Col4A1	Collagen, Type Iv, Alpha 1	8.39	144.02
IPI00421119	Q8BU35	Rbm25	Rna Binding Motif Protein 25	4.86	36.19
IPI00311904	Q8VE80	Thoc3	Tho Complex 3	5.70	38.61
IPI00119632	Q9DBE9	Ftsj3	Ftsj Homolog 3	8.51	95.53
IPI00408796	Q8K4Z5	Sf3A1	Splicing Factor 3A, Subunit 1	5.15	88.54
IPI00119478	Q9JHJ0	Tmod3	Tropomodulin 3	5.02	39.50
IPI00123651	Q61655	Ddx19A	Dead (Asp-Glu-Ala-Asp) Box Polypeptide 19A	6.28	53.80
IPI00785240	Q8BTI8	Srrm2	Serine/Arginine Repetitive Matrix 2	12.02	294.84
IPI00470152	P62983	Rps27A	Ubiquitin-40S Ribosomal Protein S27A	6.56	8.56
IPI00120257	Q99P31	Hspbp1	Hspa Binding Protein, Cytoplasmic Cochaperone 1	5.26	39.17
IPI00378469	Q08619	Mnda	Myeloid Cell Nuclear Differentiation Antigen	8.20	46.98
IPI00263028	Q8BI72	Cdkn2Aip	Cdkn2A Interacting Protein	9.27	59.61
IPI00153653	Q8R332	Nupl1	Nucleoporin Like 1	9.31	59.45
IPI00762287	Q8K335	Grwd1	Glutamate-Rich Wd Repeat Containing 1	4.70	37.91
IPI00110725	Q9CY28	Gtpbp8	Gtp-Binding Protein 8	9.34	31.87
IPI00856427	Q80X82	Sympk	Symplekin	5.77	142.15
IPI00331170	Q922U1	Prpf3	Prp3 Pre-Mrna Processing Factor 3 Homolog	9.50	77.45
IPI00467084	Q9CWS4	Cpsf3L	Cleavage And Polyadenylation Specific Factor 3-Like	8.11	67.84
IPI00876050	O35900	Lsm2	Lsm2 Homolog, U6 Small Nuclear Rna Associated	6.05	10.83
IPI00135921	Q9D3E6	Stag1	Stromal Antigen 1	5.40	144.44
IPI00553784	Q6P8I4	Pcnp	Pest Proteolytic Signal Containing Nuclear Protein	6.86	18.96
IPI00118139	Q60596	Xrcc1	Dna Repair Protein Xrcc1	5.97	68.97
IPI00133920	Q9D1M0	Sec13	Sec13 Homolog	5.15	35.43
IPI00111981	Q9CZ30	Ola1	Obg-Like Atpase 1	7.64	44.73

Protein ID	Uniprot	Symbol	Protein name	pI	Mw (kDa)
IPI00474883	Q3TVK4	Capzb	Capping Protein Muscle Z-Line, Beta	5.56	30.62
IPI00313726	O35134	Polr1A	Polymerase (Rna) I Polypeptide A	6.50	194.11
IPI00881462	Q9D824	Fip1L1	Fip1 Like 1	5.54	64.96
IPI00134300	P32067	Ssb	Sjogren Syndrome Antigen B	9.77	47.76
IPI00331361	Q7TPV4	Mybbp1A	Myb Binding Protein 1A	9.08	152.04
IPI00226073	Q9Z2X1	Hnrnpf	Heterogeneous Nuclear Ribonucleoprotein F	5.30	45.73
IPI00462979	Q91Z49	Fyttd1	Forty-Two-Three Domain Containing 1	11.83	35.89
IPI00649329	O35345	Kpna6	Karyopherin Alpha 6	4.86	59.96
IPI00221908	Q8BHN5	Rbm45	Similar To Developmentally Regulated Rna-Binding Protein 1	7.57	53.32
IPI00229721	Q8BG81	Poldip3	Polymerase, Delta Interacting Protein 3	10.06	46.00
IPI00114407	O08583	Thoc4	Tho Complex 4	11.15	26.81
IPI00323674	Q9Z315	Sart1	Squamous Cell Carcinoma Antigen Recognized By T-Cells 1	5.66	90.89
IPI00123878	Q8VDW0	Ddx39	Dead (Asp-Glu-Ala-Asp) Box Polypeptide 39	5.46	48.94
IPI00554845	Q8CAQ8	Immt	Inner Membrane Protein, Mitochondrial	6.18	83.90
IPI00320016	Q99K48	Nono	Non-Pou-Domain-Containing, Octamer Binding Protein	9.01	54.54
IPI00130591	Q9Z1X4	Ilf3	Interleukin Enhancer Binding Factor 3	8.86	96.02
IPI00323881	P70168	Kpnb1	Karyopherin Beta 1	4.68	97.18
IPI00116929	Q99LI7	Cstf3	Cleavage Stimulation Factor, 3' Pre-Rna, Subunit 3	8.26	82.88
IPI00121788	P35700	Prdx1	Peroxiredoxin 1	8.26	22.18
IPI00133440	P67778	Phb	Prohibitin	5.57	29.82
IPI00129323	P84104	Sfrs3	Splicing Factor, Arginine/Serine-Rich 3	11.64	19.33
IPI00127763	Q8VH51	Rbm39	Rna Binding Motif Protein 39	10.10	59.28
IPI00828892	Q5SFM8	Rbm27	Rna Binding Motif Protein 27	9.24	118.55
IPI00475378	Q3U5I2	Ptbp1	Polypyrimidine Tract Binding Protein 1	9.22	59.28
IPI00331163	Q9WTX5	Skp1A	S-Phase Kinase-Associated Protein 1A	4.40	18.54
IPI00989934	E9PWB2	Csnk1A1	Casein Kinase I Isoform Alpha?	9.49	43.40
IPI01008455	E9QPT2	Ncapd2	Condensin Complex Subunit 1?	5.80	156.81
IPI00124240	P97377	Cdk2	Cyclin-Dependent Kinase 2	8.79	38.98
IPI00137668	P70288	Hdac2	Histone Deacetylase 2	5.59	55.30
IPI00153778	Q8R3N6	Thoc1	Tho Complex 1	4.89	75.44
IPI00132208	P63037	Dnaja1	Dnaj (Hsp40) Homolog, Subfamily A, Member 1	6.65	44.55
IPI01023287	Q3UXW3	Ddx5	Dead (Asp-Glu-Ala-Asp) Box Polypeptide 5	9.06	69.23
IPI00330862	P26040	Ezr	Ezrin	5.83	69.28
IPI01007734	Q6A4J8	Usp7	Ubiquitin Specific Peptidase 7	5.29	128.48
IPI00395213	P28659	Celf1	Cug Triplet Repeat, Rna Binding Protein 1	8.70	52.11
IPI00117063	P56959	Fus	RNA-binding protein FUS	9.40	52.67
IPI00222461	Q8CI11	Gnl3	Guanine Nucleotide Binding Protein-Like 3	9.21	60.79
IPI00420745	P49722	Psma2	Proteasome Subunit, Alpha Type 2	8.42	25.79
IPI00663587	Q91VM5	Rbmxrt	Rna Binding Motif Protein, X Chromosome Retrogene	10.00	42.16
IPI00454118	Q9JLV6	Pnkp	Polynucleotide Kinase 3'- Phosphatase	8.03	57.22
IPI00421162	Q6NZF1	Zc3H11A	Zinc Finger Cch Type Containing 11A	8.39	86.49
IPI00340529	Q3TMP1	Gtf3C3	General Transcription Factor Iiic, Polypeptide 3	5.04	100.62
IPI00890268	Q99104	Myo5A	Myosin Va	8.82	215.54
IPI00122743	Q922B2	Dars	Aspartyl-Trna Synthetase	6.06	57.15
IPI00113686	Q9ESZ8	Gtf2I	General Transcription Factor Ii I	6.22	112.13
IPI00342382	P56960	Exosc10	Exosome Component 10	8.51	100.94
IPI00330066	Q3UJB9	Edc4	Enhancer Of Mrna Decapping 4	5.51	152.35
IPI00124052	Q9WTX8	Mad1L1	Mitotic Arrest Deficient 1-Like 1	5.52	83.54
IPI00110456	Q9CXL3	Cg050	Uncharacterized Protein C7Orf50 Homolog	9.49	22.27
IPI00399961	O35841	Api5	Apoptosis Inhibitor 5	5.72	56.65
IPI00128818	O35286	Dhx15	Deah (Asp-Glu-Ala-His) Box Polypeptide 15	7.12	91.01
IPI00828361	Q6NZN0	Rbm26	Rna Binding Motif Protein 26	9.21	114.14
IPI00119959	O54962	Banf1	Barrier To Autointegration Factor 1	5.79	10.10
IPI00227657	Q9ESP1	Sdf2L1	Stromal Cell-Derived Factor 2-Like 1	6.37	20.90
IPI00221793	Q8BGZ4	Cdc23	Cell Division Cycle 23	6.77	68.56
IPI00752710	P53569	Cebpz	Ccaat/Enhancer Binding Protein Zeta	5.53	120.26
IPI00108143	P70333	Hnrnph2	Heterogeneous Nuclear Ribonucleoprotein H2	5.89	49.28
IPI00132957	Q9D0R4	Ddx56	Dead (Asp-Glu-Ala-Asp) Box Polypeptide 56	9.26	61.21
IPI00284444	Q6A068	Cdc5L	Predicted Gene 9040	7.98	92.19
IPI00127987	Q9R0Q6	Arpc1A	Actin Related Protein 2/3 Complex, Subunit 1A	8.46	41.63
IPI00139994	Q63850	Nup62	Nucleoporin 62	5.19	53.25
IPI00127071	Q91VN6	Ddx41	Dead (Asp-Glu-Ala-Asp) Box Polypeptide 41	6.27	69.82
IPI00115862	O55135	Eif6	Eukaryotic Translation Initiation Factor 6	4.63	26.51
IPI00135087	O35864	Cops5	Cop9 Homolog, Subunit 5	6.11	37.42
IPI00114593	P68033	Actc1	Actin, Alpha, Cardiac Muscle 1	5.23	41.78
IPI00134746	P16460	Ass1	Argininosuccinate Synthetase 1	8.36	46.58
IPI00230649	O08573	Leg9	Lectin, Galactose Binding, Soluble 9	9.41	40.04
IPI00349401	Q3UAI4	Sf3B2	Splicing Factor 3B, Subunit 2	5.47	98.19
IPI00987797	Q8VEM8	Slc25A3	Solute Carrier Family 25, Member 3	9.11	34.84
IPI00331556	Q61316	Hspa4	Heat Shock Protein 4	5.15	94.13
IPI00221523	Q8BFY9	Tnpo1	Predicted Gene 6493	4.84	102.36
IPI00421196	Q3TLT4	Ddx31	Dead/H (Asp-Glu-Ala-Asp/His) Box Polypeptide 31	9.78	76.93
IPI00653307	Q3U741	Ddx17	Dead (Asp-Glu-Ala-Asp) Box Polypeptide 17	8.88	72.58
IPI00380281	Q7TN25	Sf3A2	Splicing Factor 3A, Subunit 2	9.65	51.31
IPI00121887	P10711	Tcea1	Transcription Elongation Factor A 1	8.65	33.88
IPI00331174	P80313	Cct7	Chaperonin Containing Tcp1, Subunit 7 (Eta)	7.95	59.65
IPI00113845	O09061	Psmb1	Proteasome Subunit, Beta Type 1	8.32	23.55
IPI00266463	Q99MR6	Srrt	Serrate Rna Effector Molecule Homolog	5.71	100.45
IPI00129512	P99026	Psmb4	Proteasome Subunit, Beta Type 4	5.43	24.36
IPI00131810	O88532	Zfr	Zinc Finger Rna Binding Protein	9.17	116.86
IPI00314984	Q3UXS8	Sfrs13A	Predicted Gene 5446	11.22	31.23
IPI00131845	Q9QUM9	Psma6	Proteasome Subunit, Alpha Type 6	6.34	27.37
IPI00409462	Q9Z1N5	Bat1A	Hla-B-Associated Transcript 1A	5.44	48.90
IPI00453826	Q8K310	Matr3	Matrin 3	5.87	94.50
IPI00222687	Q8BKT7	Thoc5	Tho Complex 5	6.68	78.69
IPI00109764	Q04750	Top1	Topoisomerase (Dna) I	9.35	90.74
IPI00116284	Q64213	Sf1	Splicing Factor 1	9.14	70.27
IPI00128904	P60335	Pcbp1	Poly(Rc) Binding Protein 1	6.66	37.50
IPI00331654	Q8K2T8	Paf1	Paf1, Rna Polymerase Ii Associated Factor, Homolog	4.55	60.52
IPI00131406	Q9Z2U0	Psma7	Proteasome Subunit, Alpha Type 7	8.59	27.72
IPI00465574	Q3U6X2	Hnrnpk	Heterogeneous Nuclear Ribonucleoprotein K	5.70	51.06
IPI00310880	Q3TWW8	Sfrs6	Splicing Factor, Arginine/Serine-Rich 6	11.46	39.03
IPI00122202	B2RQA7	Ncapg	Non-Smc Condensin I Complex, Subunit G	5.55	73.80
IPI00135207	Q8CH18	Ccar1	Cell Division Cycle And Apoptosis Regulator 1	5.57	132.06
IPI00122011	Q921M3	Sf3B3	Splicing Factor 3B, Subunit 3	5.13	135.55
IPI00785231	Q3TUQ5	Pnn	Pinin	6.58	82.50
IPI00131871	O88544	Cops4	Cop9 Homolog, Subunit 4	5.57	46.15

Protein ID	Uniprot	Symbol	Protein name	pI	Mw (kDa)
IPI00400168	Q7TPW1	Nexn	Nexilin	4.98	72.11
IPI00627045	Q6ZQK0	Ncapd3	Non-Smc Condensin Ii Complex, Subunit D3	6.74	169.43
IPI00132340	Q9D0B0	Sfrs9	Splicing Factor, Arginine/Serine Rich 9	8.74	25.66
IPI00108085	P70318	Tial1	Tia1 Cytotoxic Granule-Associated Rna Binding Protein-Like 1	8.11	43.39
IPI00229604	Q8CGZ0	Cherp	Calcium Homeostasis Endoplasmic Reticulum Protein	9.21	106.17
IPI00329839	Q810A7	Ddx42	Dead (Asp-Glu-Ala-Asp) Box Polypeptide 42	6.50	101.96
IPI00379480	Q8BZX4	Sfrs12	Splicing Factor, Arginine/Serine-Rich 12	10.48	56.76
IPI00622716	Q9CWL8	Ctnnbl1	Catenin, Beta Like 1	4.98	64.98
IPI00320208	O70251	Eef1B2	Eukaryotic Translation Elongation Factor 1 Beta 2	4.53	24.56
IPI00121159	Q9JJ80	Rpf2	Brix Domain Containing 1	10.05	35.36
IPI00380738	Q6PFF0	Sfrs15	Splicing Factor, Arginine/Serine-Rich 15	9.62	131.68
IPI00830853	Q6NV83	Sr140	U2 Snrnp-Associated Surp Motif-Containing Protein	8.60	118.26
IPI00135655	Q9QY76	Vapb	Vesicle-Associated Membrane Protein, Associated Protein B And C	7.84	26.82
IPI00113576	Q3U7R4	Ddx24	Dead (Asp-Glu-Ala-Asp) Box Polypeptide 24	9.40	96.33
IPI00340815	Q0VBL3	Rbm15	Rna Binding Motif Protein 15	10.09	105.72
IPI00875068	Q52L67	Tecr	Trans-2,3-Enoyl-Coa Reductase	9.48	41.90
IPI00132456	Q9CQE8	Cn166	Upf0568 Protein C14Orf166 Homolog	6.40	28.15
IPI00122227	Q62150	Rnps1	Hypothetical Protein Loc100044797	10.82	40.89
IPI00230133	P43276	Hist1H1B	Histone Cluster 1, H1B	10.91	22.44
IPI00131224	P62869	Tceb2	Transcription Elongation Factor B (Siii), Polypeptide 2	4.87	13.17
IPI00468896	Q569Z5	Ddx46	Dead (Asp-Glu-Ala-Asp) Box Polypeptide 46	9.30	117.45
IPI00380737	Q8K3Z9	Pom121	Nuclear Pore Membrane Protein 121	10.21	121.02
IPI00403509	Q9CX56	Psmd8	Proteasome 26S Subunit, Non-Atpase, 8	9.61	39.93
IPI00468437	Q9CR47	Nsa2	Ribosome Biogenesis Protein Nsa2 Homolog	10.25	30.04
IPI00109813	Q9CX86	Hnrnpa0	Heterogeneous Nuclear Ribonucleoprotein A0	9.35	30.53
IPI00133163	Q9CR51	Atp6V1G1	Atpase, H+ Transporting, Lysosomal V1 Subunit G1	7.99	13.59
IPI00112414	Q9ERK4	Cse1L	Chromosome Segregation 1-Like	5.52	110.45
IPI00116283	P80318	Cct3	Chaperonin Containing Tcp1, Subunit 3 (Gamma)	6.28	60.63
IPI00654283	Q3U3M5	Ccnk	Cyclin K	8.60	64.35
IPI00116277	P80315	Cct4	Chaperonin Containing Tcp1, Subunit 4 (Delta)	8.33	57.94
IPI00122698	Q60973	Rbbp7	Retinoblastoma Binding Protein 7	4.89	47.79
IPI00406492	Q9JII5	Dazap1	Daz Associated Protein 1	8.73	43.21
IPI00408215	Q7TQD7	Myo1B	Myosin Ib	9.39	132.05
IPI00623284	Q99NB9	Sf3B1	Splicing Factor 3B, Subunit 1	6.65	145.82
IPI00224729	Q8C2Q7	Hnrnph1	Heterogeneous Nuclear Ribonucleoprotein H1	6.33	51.22
IPI00127315	Q91W53	Golga7	Golgi Autoantigen, Golgin Subfamily A, 7	6.60	15.79
IPI00453707	Q8BYB9	Ktelc1	Ktel (Lys-Tyr-Glu-Leu) Containing 1	8.83	43.73
IPI00330406	D3Z0M9	Ddx23	Mcg18410, Isoform Cra_A	9.60	95.49
IPI00138790	Q3USK2	Csnk1D	Casein Kinase 1, Delta	9.95	49.12
IPI00354819	Q60605	Myl6	Myosin, Light Polypeptide 6	4.56	16.80
IPI00309195	Q8C7Q4	Rbm4	Rna Binding Motif Protein 4	6.61	40.05
IPI00556768	Q569Z6	Thrap3	Thyroid Hormone Receptor Associated Protein 3	10.17	108.18
IPI00113262	O35593	Psmd14	Proteasome 26S Subunit, Non-Atpase, 14	6.06	34.58
IPI00117247	Q99LW6	Yaf2	Yy1 Associated Factor 2	9.65	19.65
IPI00123292	Q0P6B2	Fubp1	Far Upstream Element Binding Protein 1	7.18	67.20
IPI00469268	P42932	Cct8	Chaperonin Containing Tcp1, Subunit 8	5.43	59.42
IPI00845638	Q4VA53	Pds5B	Pds5, Regulator Of Cohesion Maintenance, Homolog B	8.71	164.42
IPI00876109	Q80WV6	Prmt1	Protein Arginine N-Methyltransferase 1	5.45	40.76
IPI00108335	P70388	Rad50	Rad50 Homolog	6.53	153.49
IPI00116279	P80316	Cct5	Chaperonin Containing Tcp1, Subunit 5 (Epsilon)	5.72	59.49
IPI00474430	Q8C671	Sfrs2	Splicing Factor, Arginine/Serine-Rich 2	11.23	29.00
IPI00606586	Q3ULS2	Smc2	Structural Maintenance Of Chromosomes 2	8.55	139.29
IPI00123624	Q8VDP4	K1967	Dbird Complex Subunit Kiaa1967 Homolog	5.15	103.00
IPI00415385	Q8K019	Bclaf1	Bcl2-Associated Transcription Factor 1	10.00	106.00
IPI00653841	Q3UJV2	Capza1	Capping Protein Muscle Z-Line, Alpha 1	6.26	33.29
IPI00120046	Q9DBR1	Xrn2	5'-3' Exoribonuclease 2	7.52	108.69
IPI00108895	P54775	Psmc4	Proteasome 26S Subunit, Atpase, 4	5.09	47.41
IPI00169797	Q8K205	Pop1	Processing Of Precursor 1, Ribonuclease P/Mrp Family	9.30	117.37
IPI00828225	Q3U9U5	Bcap31	B-Cell Receptor-Associated Protein 31	8.42	27.99
IPI00458583	Q8VEK3	Hnrnpu	Heterogeneous Nuclear Ribonucleoprotein U	5.92	87.79
IPI00311453	Q922K7	Nop2	Nop2 Nucleolar Protein Homolog	9.27	86.75
IPI00877221	Q6P4S8	Ints1	Integrator Complex Subunit 1	5.87	245.17
IPI00225254	O88441	Mtx2	Metaxin 2	5.44	29.76
IPI00318841	Q9D8N0	Eef1G	Eukaryotic Translation Elongation Factor 1 Gamma	6.33	49.93
IPI00320217	P80314	Cct2	Chaperonin Containing Tcp1, Subunit 2 (Beta)	5.98	57.35
IPI00944159	D3YXK2	Safb1	Scaffold Attachment Factor B1	5.25	104.97
IPI00130115	O88384	Vti1B	Vesicle Transport Through Interaction With T-Snares 1B Homolog	8.75	26.58
IPI00109672	Q04736	Yes1	Yamaguchi Sarcoma Viral (V-Yes) Oncogene Homolog 1	6.23	60.50
IPI00387354	P97452	Bop1	Block Of Proliferation 1	5.86	82.41
IPI00187270	Q9CYA6	Zcchc8	Zinc Finger, Cchc Domain Containing 8	4.65	77.89
IPI00283862	Q9R1P4	Psma1	Proteasome Subunit, Alpha Type 1	6.00	29.55
IPI00675850	Q91VJ5	Pqbp1	Polyglutamine Binding Protein 1	5.86	30.47
IPI00118853	Q61216	Mre11A	Meiotic Recombination 11 Homolog A	5.70	80.22
IPI00380394	Q7TPD0	Ints3	Integrator Complex Subunit 3	5.53	117.94
IPI00330483	Q80W00	Ppp1R10	Protein Phosphatase 1, Regulatory Subunit 10	9.21	94.37
IPI00112320	Q9ERF3	Wdr61	Wd Repeat Domain 61	5.10	33.64
IPI00122038	Q921N6	Ddx27	Dead (Asp-Glu-Ala-Asp) Box Polypeptide 27	9.29	85.94
IPI00132443	Q9D0E1	Hnrnpm	Heterogeneous Nuclear Ribonucleoprotein M	8.81	77.52
IPI00229728	Q8CHT3	Ints5	Integrator Complex Subunit 5	6.60	108.35
IPI00114667	P26516	Psmd7	Proteasome 26S Subunit, Non-Atpase, 7	6.31	36.41
IPI00331644	O70435	Psma3	Proteasome Subunit, Alpha Type 3	5.29	28.27
IPI00400163	Q6PGB6	Naa50	N-Acetyltransferase 13	8.96	19.41
IPI00340860	Q05CL8	Larp7	La Ribonucleoprotein Domain Family, Member 7	9.56	64.80
IPI00319509	P97449	Anpep	Alanyl (Membrane) Aminopeptidase	5.62	109.52
IPI00750595	Q9CQ19	Myl9	Myosin, Light Polypeptide 9	4.78	19.72
IPI00119166	Q9DB85	Rrp8	Ribosomal Rna Processing 8	9.79	51.07
IPI00117771	Q99MJ9	Ddx50	Dead (Asp-Glu-Ala-Asp) Box Polypeptide 50	9.33	82.18
IPI00407764	Q9CSH3	Dis3	Dis3 Mitotic Control Homolog	7.23	108.84
IPI00153421	Q8R1Q8	Dync1Li1	Dynein Cytoplasmic 1 Light Intermediate Chain 1	6.01	56.61
IPI00330057	Q9CQJ6	Denr	Density-Regulated Protein	5.21	22.03
IPI00137400	P70227	Itpr3	Inositol 1,4,5-Triphosphate Receptor 3	6.11	304.27
IPI00314709	O35326	Sfrs5	Splicing Factor, Arginine/Serine-Rich 5	11.38	30.94
IPI00115833	Q7TSJ2	Mtap6	Microtubule-Associated Protein 6	9.51	96.45
IPI00626860	Q9DB27	Mcts1	Malignant T Cell Amplified Sequence 1	8.98	20.56
IPI00119224	P62320	Snrpd3	Small Nuclear Ribonucleoprotein D3	10.33	13.92
IPI01027807	Q00PI9	Hnrnpul2	Heterogeneous Nuclear Ribonucleoprotein U-Like 2	4.83	85.00
IPI00113798	Q9D3L3	Snap23	Synaptosomal-Associated Protein 23	4.84	24.55

Protein ID	Uniprot	Symbol	Protein name	pI	Mw (kDa)
IPI00118447	P42669	Pura	Similar To Hcg45299	6.06	34.88
IPI00753815	P16546	Spna2	Spectrin Alpha 2	5.20	284.60
IPI00620222	Q9WTI7	Myo1C	Myosin Ic	9.41	121.94
IPI00858139	E9Q360	Ints10	Integrator Complex Subunit 10	7.03	84.83
IPI00119036	Q9DB40	Med27	Mediator Complex Subunit 27	9.37	35.30
IPI00223714	P43274	Hist1H1E	Histone Cluster 1, H1E	11.10	21.85
IPI00458765	Q60749	Khdrbs1	Kh Domain Containing, Rna Binding, Signal Transduction Associated 1	8.81	48.37
IPI00111265	P47754	Capza2	Capping Protein Muscle Z-Line, Alpha 2	5.58	32.84
IPI00319830	Q62261	Spnb2	Spectrin Beta 2	5.40	274.22
IPI00648927	Q3THU7	Clta	Clathrin, Light Polypeptide	4.39	23.56
IPI00322922	Q9WV03	Fam50A	Family With Sequence Similarity 50, Member A	6.39	40.25
IPI00169463	P68372	Tubb2C	Tubulin, Beta 2C	4.79	49.83
IPI00113660	P61290	Psme3	Proteaseome 28 Subunit, 3	5.69	29.37
IPI00470178	P97314	Csrp2	Cysteine And Glycine-Rich Protein 2	8.96	20.79
IPI00339468	O70133	Dhx9	Deah (Asp-Glu-Ala-His) Box Polypeptide 9	6.39	149.47
IPI00116281	P80317	Cct6A	Chaperonin Containing Tcp1, Subunit 6A (Zeta)	6.67	57.87
IPI00129299	Q9Z0P5	Twf2	Twinfilin, Actin-Binding Protein, Homolog 2	6.35	39.34
IPI00130489	Q6PHN9	Rab35	Rab35, Member Ras Oncogene Family	8.54	22.89
IPI00111556	P62715	Ppp2Cb	Protein Phosphatase 2 (Formerly 2A), Catalytic Subunit, Beta Isoform	5.21	35.58
IPI00471361	Q9WUD1	Stub1	Stip1 Homology And U-Box Containing Protein 1	5.71	34.91
IPI00127707	Q61990	Pcbp2	Poly(Rc) Binding Protein 2	6.33	38.22
IPI00459493	P11983	Tcp1	T-Complex Protein 1	5.82	60.45
IPI00119806	Q8BJW6	Eif2A	Eukaryotic Translation Initiation Factor 2A	9.04	64.27
IPI00471277	Q8CGF7	Tcerg1	Transcription Elongation Regulator 1	8.71	123.79
IPI00115607	Q99JY0	Hadhb	Trifunctional Enzyme Subunit Beta, Mitochondrial	9.24	47.58
IPI00225912	Q91VE6	Mki67Ip	Mki67 (Fha Domain) Interacting Nucleolar Phosphoprotein	10.24	36.13
IPI00221608	Q8BGH2	Samm50	Sorting And Assembly Machinery Component 50 Homolog	6.34	51.86
IPI00395100	Q7M754	Try10L	Try10-Like Trypsinogen	4.83	24.78
IPI00131873	O88545	Cops6	Cop9 Homolog, Subunit 6	5.47	35.88
IPI00130510	Q91YU8	Ppan	Peter Pan Homolog	10.33	52.76
IPI01026971	P35601	Rfc1	Replication Factor C 1	9.38	125.99
IPI00123181	Q8VDD5	Myh9	Myosin, Heavy Polypeptide 9, Non-Muscle	5.54	226.24
IPI00331091	Q7TQK1	Ints7	Integrator Complex Subunit 7	8.54	106.86
IPI00468924	Q8BMD8	Slc25A24	Solute Carrier Family 25, Member 24	7.02	52.90
IPI00130304	Q91YN9	Bag2	Bcl2-Associated Athanogene 2	6.01	23.47
IPI00129685	P63028	Tpt1	Tumor Protein, Translationally-Controlled 1	4.76	19.46
IPI00125267	Q9WV55	Vapa	Vesicle-Associated Membrane Protein, Associated Protein A	8.60	27.72
IPI00133428	P62192	Psmc1	Protease 26S Subunit, Atpase 1	5.87	49.05
IPI00314507	O88291	Zfp326	Zinc Finger Protein 326	5.09	65.23
IPI00229883	Q8CIM8	Ints4	Integrator Complex Subunit 4	5.98	108.19
IPI00136483	P70195	Psmb7	Proteasome Subunit, Beta Type 7	5.84	25.25
IPI00120919	Q62018	Ctr9	Ctr9, Paf1/Rna Polymerase Ii Complex Component, Homolog	6.08	133.41
IPI00129430	Q8VIJ6	Sfpq	Splicing Factor Proline/Glutamine Rich	9.45	75.44
IPI00229571	Q8CH25	Sitm	Safb-Like, Transcription Modulator	7.49	116.79
IPI00944009	P57776	Eef1D	**Elongation factor 1-delta**	4.91	31.16
IPI00890038	Q6ZWR6	Syne1	Synaptic Nuclear Envelope 1	5.43	1009.93
IPI00671847	Q9DBR7	Ppp1R12A	Protein Phosphatase 1, Regulatory Subunit 12A	5.38	115.00
IPI00352475	Q3UHX2	Pdap1	Pdgfa Associated Protein 1	6.80	20.60
IPI00131870	O88543	Cops3	Cop9 Homolog, Subunit 3	6.20	47.70
IPI00128918	Q8VI84	Noc3L	Nucleolar Complex Associated 3 Homolog	9.16	93.21
IPI00318750	Q99LB2	Dhrs4	Dehydrogenase/Reductase Member 4	9.56	29.91
IPI00132462	P52912	Tia1	Cytotoxic Granule-Associated Rna Binding Protein 1	7.62	42.80
IPI00124819	Q9WUM3	Coro1B	Coronin, Actin Binding Protein 1B	5.54	53.91
IPI00467104	Q9JJ28	Flii	Flightless I Homolog	5.75	144.80
IPI00119239	Q60692	Psmb6	Proteasome Subunit, Beta Type 6	4.99	22.00
IPI00307837	P10126	Eef1A1	Eukaryotic Translation Elongation Factor 1 Alpha 1	9.10	50.11
IPI00120264	Q60766	Irgm1	Immunity-Related Gtpase Family M Member 1	8.56	46.55
IPI00137212	Q9QZB9	Dctn5	Dynactin 5	8.32	20.14
IPI00120083	Q9DBS1	Tmem43	Transmembrane Protein 43	6.93	44.65
IPI00114878	Q99J47	Dhrs7B	Dehydrogenase/Reductase Member 7B	9.66	34.99
IPI00117569	Q9DB79	Rps11	Ribosomal Protein S11	10.15	19.41
IPI00136002	Q91Z31	Ptbp2	Polypyrimidine Tract Binding Protein 2	8.72	57.49
IPI00222515	Q8BG32	Psmd11	Proteasome 26S Subunit, Non-Atpase, 11	6.09	47.31
IPI00319965	Q99JI4	Psmd6	Proteasome 26S Subunit, Non-Atpase, 6	5.38	45.41
IPI00131407	Q9Z2U1	Psma5	Proteasome Subunit, Alpha Type 5	4.74	26.41
IPI00454049	Q8BH95	Echs1	Enoyl Coenzyme A Hydratase, Short Chain, 1, Mitochondrial	7.78	28.47
IPI00322562	P62264	Rps14	Predicted Gene 6204	10.08	16.14
IPI00129792	O35343	Kpna4	Karyopherin Alpha 4	4.79	57.79
IPI00129178	P29758	Oat	Ornithine Aminotransferase	5.73	45.79
IPI00138089	Q505F5	Lrrc47	Leucine Rich Repeat Containing 47	8.39	63.46
IPI00755200	A2AQP0	Myh7B	Myosin, Heavy Chain 7B, Cardiac Muscle, Beta	5.69	221.50
IPI00420344	Q6P5B0	Rrp12	Ribosomal Rna Processing 12 Homolog	9.07	143.13
IPI00124820	Q9WUM4	Coro1C	Coronin, Actin Binding Protein 1C	6.65	53.12
IPI00117910	Q61171	Prdx2	Peroxiredoxin 2	5.20	21.65
IPI00625263	Q3UGL7	Parp3	Poly (Adp-Ribose) Polymerase Family, Member 3	6.69	59.45
IPI00137612	P70279	Surf6	Surfeit Gene 6	10.52	41.23
IPI00310091	Q76MZ3	Ppp2R1A	Protein Phosphatase 2, Regulatory Subunit A	5.00	65.19
IPI00322492	Q5SUS9	Ewsr1	Ewing sarcoma breakpoint region 1	9.33	69.04
IPI00621842	Q03173	Enah	Enabled Homolog	7.62	85.84
IPI00227299	P20152	Vim	Vimentin	5.05	53.56
IPI00465876	Q6DVA0	Lemd2	Lem Domain Containing 2	9.18	57.51
IPI01027353	Q8BHD7	Rod1	Rod1 Regulator Of Differentiation 1	9.20	56.70
IPI00118022	P62743	Ap2S1	Adaptor-Related Protein Complex 2, Sigma 1 Subunit	5.80	17.02
IPI00114368	O08547	Sec22B	Sec22 Vesicle Trafficking Protein Homolog B	8.68	24.61
IPI00387439	Q80UZ2	Sdad1	Sda1 Domain Containing 1	9.25	79.56
IPI00121319	Q9DCT8	Crip2	Cysteine Rich Protein 2	8.94	22.73
IPI00652660	Q3UFM5	Nom1	Nucleolar Protein With Mif4G Domain 1	9.01	95.96
IPI00314439	P14685	Psmd3	Proteasome 26S Subunit, Non-Atpase, 3	8.48	60.72
IPI00153212	Q8R0K4	Ccdc137	Coiled-Coil Domain Containing 137	10.69	32.92
IPI00406117	Q7TMK9	Syncrip	Synaptotagmin Binding, Cytoplasmic Rna Interacting Protein	8.68	69.50
IPI00664886	Q3UUT9	Thoc2	Tho Complex 2	5.18	46.46
IPI00270326	P46471	Psmc2	Proteasome 26S Subunit, Atpase 2	5.72	48.52
IPI00318561	Q9D7Z3	Noi7	Nucleolar Protein 7	9.62	28.97
IPI00465946	Q80VD1	Fam98B	Family With Sequence Similarity 98, Member B	8.77	45.35
IPI00124291	P97390	Vps45	Vacuolar Protein Sorting 45	8.42	65.05
IPI00458958	Q9CYX7	Rrp15	Ribosomal Rna Processing 15 Homolog	8.86	31.06
IPI00620256	P48678	Lmna	Lamin A	6.54	73.91

Pl: isoelectric point Mw: molecular weight (kDa)

Table S2. The sequences of the primers for quantitative RT-PCR and RT-PCR

Gene, accession no.	Primer sequence (5′ to 3′)	Product size
		bp
Quantitative RT-PCR		
Parp1, NM_007415.2	F: CGGAGAGGCTTTATCGAGTGGAGTA; R: AAGCAGGAGAAGTGGTACCAGTGTG	157
Nanog, NM_028016.2	F: TGGTCCCCACAGTTTGCCTAGTTCT; R: GGTAGAAGAATCAGGGCTGCCTTGA	192
Gapdh, NM_008084.2	F: CTCATGACCACAGTCCATGC; R: TTCAGCTCTGGGATGACCTT	155
RT-PCR		
Nanog, NM_028016.2	F: CCTTGAGCCGTTGGCCTTCAGAT; R: GCTGCCCCACATGGAAAGGCT	808
Dppa5aL (Esg1), NM_025274.3	F: CGCCCACACAGGTACTAAAACTTCCTG; R: ACACTGGCCACAGCTTAACCTGC	515
ErasL, NM_181548.2	F: CCAACTGTCCGGTCAGATCCGC; R: GCCTCCTGGGCCCTCTGAATCT	713
mRex1 (Zfp42), NM_009556.3	F: GCCAGCAGCTCCTGCACACA; R: TGAGCTCGCCCCAACCCTCA	631
Nat (Eif4g2), NM_001040131.2	F: ATTCTTCGTTGTCAAGCCGCCAAAGTGGAG; R: AGTTGTTTGCTGCGGAGTTGTCATCTCGTC	223

F, forward; R, reverse.

Table S3. The sequences of shRNA and the primers for Parp1 promoter constructs

shRNA/construct	Sequence/primer (5′ to 3′)
shParp1	
TRCN0000071209	GCCCTTGGAAACATGTATGAA
shParp2	
Oligo Sequence	CCGGCGGTTACCAGTCTCTCAAGAACTCGAGTTCTTGAGAGACTGGTAACCGTTTTT
Parp1 promoter constructs	
−2,000 fragment	F: CCATGATACAATGACATGGCGAAAG; R: CTCTTCGCGTACTCCACTCGATAAA
−1,650 fragment	F: AGACAGGGTTTCTCTGTGTAGCCCT; R: CTCTTCGCGTACTCCACTCGATAAA
−1,100 fragments	F: GAAAAAGAGCAGCAACAGAGGAAGC; R: CTCTTCGCGTACTCCACTCGATAAA
−600 fragments	F: GATGAGAACACACGACATCTGTTGT; R: CTCTTCGCGTACTCCACTCGATAAA
−125 fragments	F: CTAGGCATCAGTAATCTATCCTGAG; R: CTCT TCGCGTACTCCACTCGATAAA
C1 c-Myc site	F: TTCCAGACAGGGTTTCTCTGTGTAG; R: CAAGTCCTCTGAAAGAGTAACCAGT
C2 c-Myc site	F: CTTTATAGTGAGACCCTGCATCACG; R: TAGATCA G GCTGGCCAAGAACTCAC
C3 c-Myc site	F: AAGCCTTTCTGGGACAAACCGACAA; R: TCAGGATAGATTACTGATGCCTAGC

F, forward; R, reverse.

Table S4. List of proteins tested by antibodies

Protein	Assay	Antibody	Origin	Dilution	Incubation period
Oct4	WB	mmAb	Cell Signaling Technology	1:1,000	Overnight
Oct4	IF	rmAb	Cell Signaling Technology	1:200	Overnight
Sox2	WB	rmAb	Cell Signaling Technology	1:1,000	Overnight
Klf4	WB	rpAb	Cell Signaling Technology	1:1,000	Overnight
c-Myc	WB	rmAb	Cell Signaling Technology	1:1,000	Overnight
Parp1	WB, IF, IP	rmAb	Cell Signaling Technology	1:1,000, 1:200, 1:100	Overnight
Nanog	WB	rpAb	Millipore	1:1,000	Overnight
lamin A/C	WB	rmAb	Cell Signaling Technology	1:1,000	Overnight
Pcna	WB	mpAb	Cell Signaling Technology	1:2,000	Overnight
Topoisomerase IIα	WB	rpAb	Cell Signaling Technology	1:500	Overnight
Parp2	WB	mmAb	Millipore	1:500	Overnight
Chd1L	WB	mmAb	Abcam	1:50	Overnight
Ssrp1	WB	mmAb	Santa Cruz Biotechnology, Inc.	1:300	Overnight
DNA ligase III	WB	rpAb	GeneTex	1:500	Overnight
Ku-70(Xrcc-6)	WB	gpAb	Santa Cruz Biotechnology, Inc.	1:500	Overnight
Poly(ADP-ribose)	WB, IF	mmAb	Enzo Life Sciences	1:1,000, 1:100	Overnight
β-Actin	WB	mmAb	Millipore	1:10,000	Overnight
α-Tubulin	WB	mmAb	Sigma-Aldrich	1:10,000	Overnight

Abbreviations: WB, Western blot; mmAb, mouse mAb; rmAb, rabbit mAb; rpAb, rabbit polyclonal Ab; gpAb, goat pAb; FC, flow cytometry; IF, immunofluorescence; IP, immunoprecipitation.