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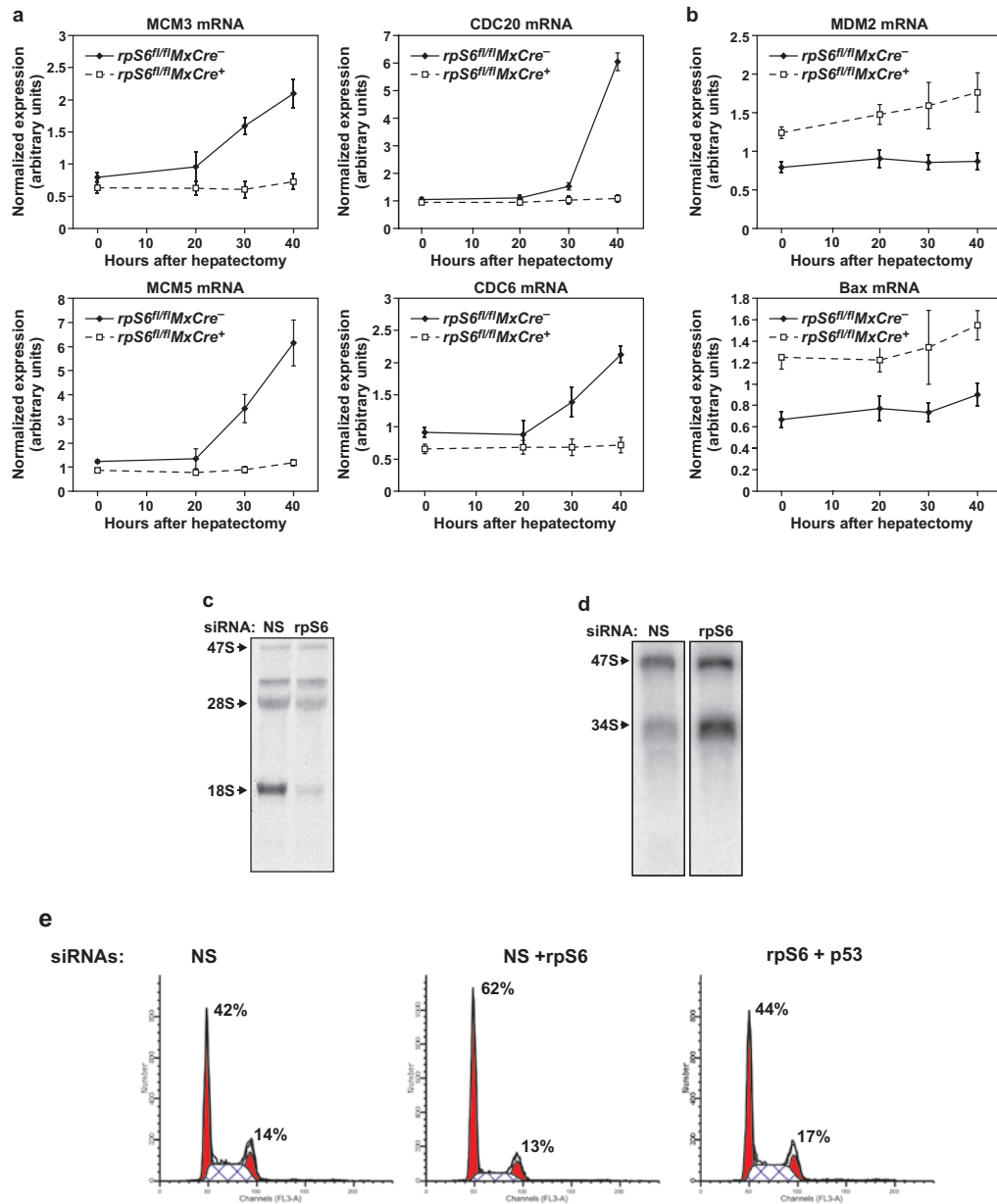


Figure S1 P53 dependent inhibition of cell cycle progression by S6 depletion
a Expression kinetics of MCM5, MCM3, CDC20 and CDC6 mRNAs following partial hepatectomy in the livers of *rpS6^{fl/fl}MxCre⁻* and *rpS6^{fl/fl}MxCre⁺* mice, as measured by hybridization of DNA microarrays. The data are presented as mean values of three independent experiments \pm SEM. **b** The kinetics of the expression of the MDM2 and Bax mRNAs, following partial hepatectomy, in the livers of *rpS6^{fl/fl}MxCre⁻* and *rpS6^{fl/fl}MxCre⁺* mice as measured by hybridization of DNA microarrays. The data are presented as the mean values of three independent experiments \pm SEM. **c** Autoradiogram of a northern blot showing ^3H -labelled RNA extracted from A549 cells transfected for 24 hrs with either NS or rpS6 siRNA2 and subjected to a pulse-chase with ^3H -uridine. Cells were pulsed for 45min with 1.2 $\mu\text{Ci/ml}$ of [5, 6- ^3H]-uridine

(specific activity 37 Ci/mmol, Amersham, Biosciences) and then chased for 2hrs in the absence of radioactive uridine. The amount of extracted total RNA corresponding to 10,000 cpm was processed for transfer to Hybond N+ membrane (Amersham Biosciences) After spraying with EN³HANCER (Perkin Elmer), blots were exposed for autoradiography. **d** RNAs extracted from cells transfected with the indicated siRNAs, hybridized with a probe directed against the 5'-ETS (5'-External Transcribed Spacer) of the rRNA gene. Arrows indicate the 47S pre-rRNA transcript and the 34S precursor of the 18S rRNA. **e** Profiles of the ploidy of propidium iodide stained A549 cells transfected for 24 hrs with the indicated siRNAs. For each sample are shown the percent of cells in the G1 (left peak) and G2 (right peak) phase of the cell cycle.

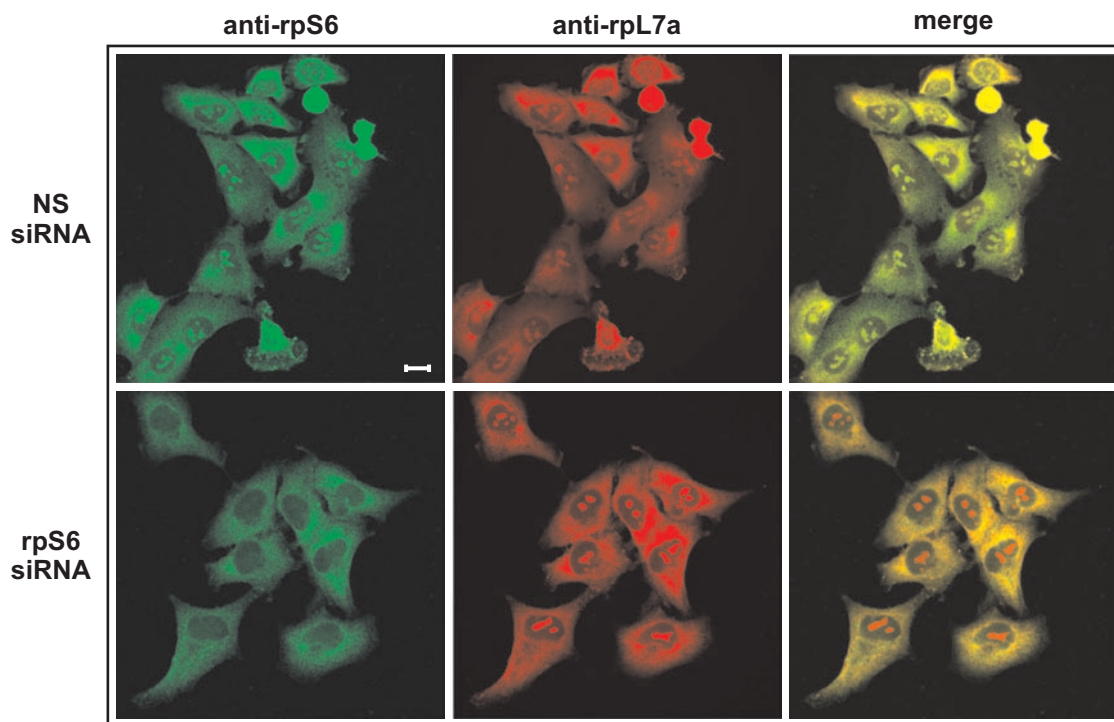


Figure S2 Depletion of rpS6 does not alter recruitment of the large ribosomal subunit protein rpL7a. A549 cells treated with either NS siRNA or rpS6 siRNA2 for 48 hrs were fixed and co-stained

with anti-rpS6 and anti-rpL7a antibodies and analyzed by confocal microscopy with a Plan-Apochromat 63X/1.4 Oil Dic objective (Zeiss, see Methods). The bar corresponds to a size of 10 μm .

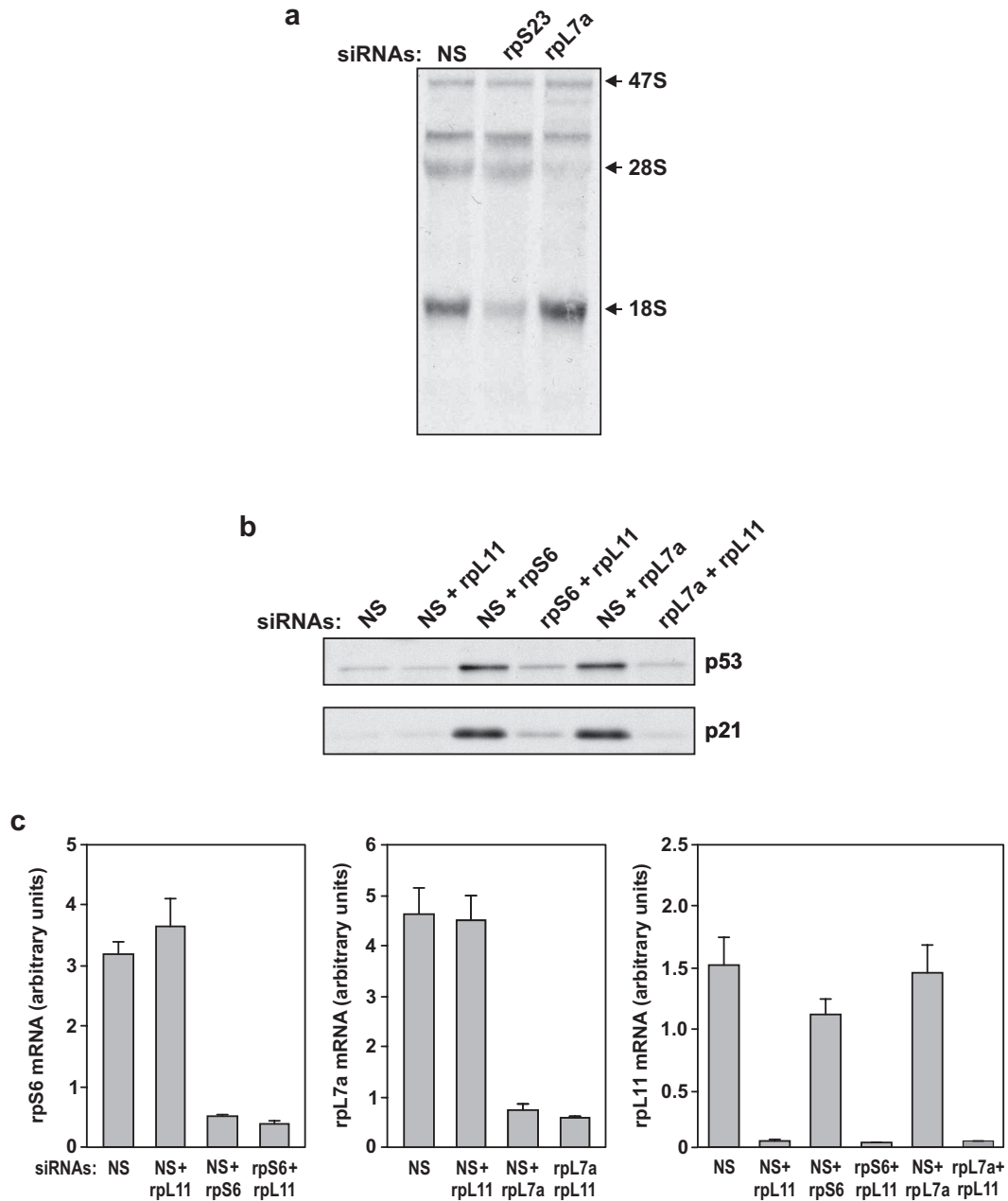


Figure S3 a Inhibition of ribosome biogenesis and rpl11-dependent upregulation of p53 in response to depletion of ribosomal proteins. Autoradiogram of a northern blot showing ^3H -labelled RNA extracted from A549 cells transfected for 24 hrs with the indicated siRNAs and subjected to a pulse-chase with ^3H -uridine as described for Suppl. Fig. 1c. **b**) Analysis of the expression of the p53 and p21 proteins in cells transfected with the indicated

siRNAs. The target sequence of the rpl11 siRNA used for this experiment is: 5'-GCGGGAGTATGAGTTAAGAAA-3'. **c**) Total RNA extracted from the indicated transfections performed in parallel to those of panel **b**, were used to measure the levels of the rpS6, rpL7a and rpL11 mRNAs by q-PCR. Each bar represents the mean \pm SEM of the ratio of the indicated mRNA to that of β -actin mRNA, as calculated from three independent transfection experiments.

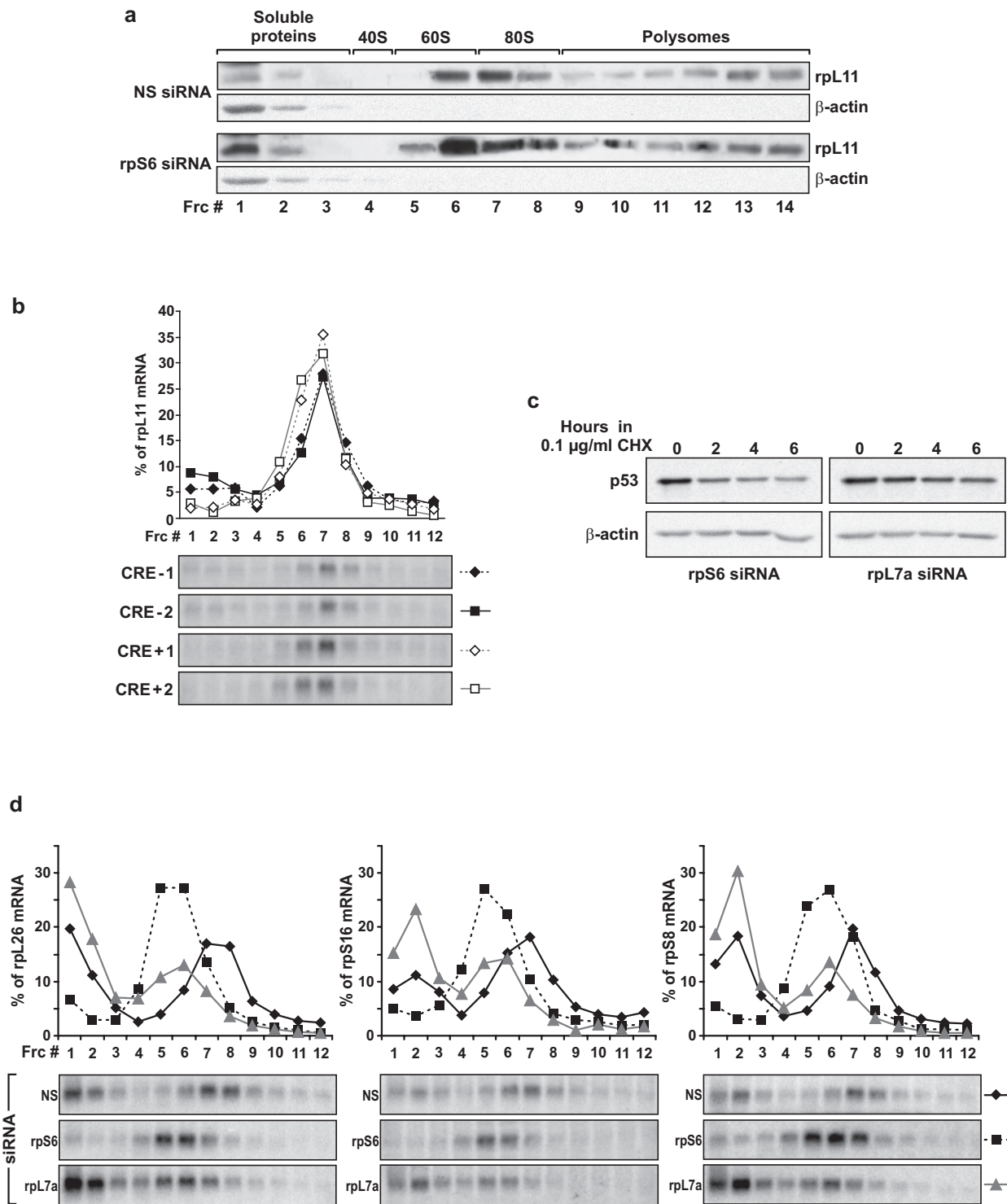


Figure S4 Impairment of 40S ribosome biogenesis results in translational upregulation of mRNAs encoding ribosomal proteins. **a)** Extracts of A549 cells transfected for 30 hrs with either NS or rpS6 siRNA2 were resolved on sucrose gradients, fractionated, and the fractions analyzed by western blot analysis for the presence of rpL11 and β-actin. **b)** Northern blot analysis of the distribution of the rpL11 mRNA on polysomes in the livers of *rpS6^{fl/fl}MxCre⁻* (CRE-1 and CRE-2) and *rpS6^{fl/fl}MxCre⁺* (CRE+1 and

CRE+2) mice at 30 hrs following partial hepatectomy. **c)** Western blots showing the levels of p53 and β-actin proteins in cells transfected for 24 hours with either rpS6 or rpL7a siRNAs and treated for the indicated times with 0.1 μg/ml of cyclohexamide. **d)** Northern blot analysis of the distribution of the rpL26 (left panel), rpS16 (middle panel) and rpS8 (right panel) mRNAs on polysomes from cells transfected with NS, rpS6 or rpL7a siRNAs for 24 hours.



Figure S5 Scans of the immunoblots shown in each figure. The rectangles indicate parts of the experiments that have been omitted from the corresponding figures.

SUPPLEMENTARY INFORMATION

Table S1 List of the genes differentially expressed in the livers of *rpS6^{fl/fl}MxCre⁺* vs. *rpS6^{fl/fl}MxCre⁻* mice following partial hepatectomy. List of genes whose mRNA levels are either increased (positive values in fold change, white background) or decreased (negative values in fold change, yellow background) in the liver of *rpS6^{fl/fl}MxCre⁺* vs. *rpS6^{fl/fl}MxCre⁻* mice at 0, 20, 30 and 40 hrs after partial hepatectomy, as measured by hybridization of DNA microarrays. For the genes upregulated in the liver of *rpS6^{fl/fl}MxCre⁺* mice the fold change is the ratio between the mean of the normalized expression of triplicate samples of *rpS6^{fl/fl}MxCre⁺* and that of *rpS6^{fl/fl}MxCre⁻* mice. Conversely for the genes downregulated in *rpS6^{fl/fl}MxCre⁺* mice the fold change is the negative of the reciprocal of the ratio between the mean of the normalized expression of triplicate samples of *rpS6^{fl/fl}MxCre⁺* and that of *rpS6^{fl/fl}MxCre⁻* mice. Known gene targets of transcription factors of the E2F family that are found downregulated in the livers of *rpS6^{fl/fl}MxCre⁺* vs. *rpS6^{fl/fl}MxCre⁻* mice at 40 hrs after surgery, are highlighted in green.

Time (h)	ProbeSet	Gene Symbol	Description	Fold Change	Change pValue
0	94881_at	Cdkn1a	Cyclin-dependent kinase inhibitor 1A (P21)	3.87	1.02E-03
0	98067_at	Cdkn1a	Cyclin-dependent kinase inhibitor 1A (P21)	1.91	3.26E-03
0	93536_at	Bax	Bcl2-associated X protein	1.86	7.47E-03
0	98056_at	Phlda3	pleckstrin homology-like domain, family A, member 3	1.83	3.22E-03
0	100050_at	Idb1	Inhibitor of DNA binding 1	1.81	2.19E-03
0	101587_at	Ephx1	Epoxide hydrolase 1 microsomal	1.81	1.38E-03
0	97497_at	Notch1	Notch gene homolog 1 (Drosophila)	1.69	1.88E-03
0	98110_at	Mdm2	Transformed mouse 3T3 cell double minute 2	1.57	1.07E-03
0	160265_at	Eif5	Eukaryotic translation initiation factor 5	1.5	9.61E-03
0	104248_at	Ssr3	Signal sequence receptor gamma	-1.5	4.80E-03
0	94939_at	Cd53	CD53 antigen	-1.5	6.59E-03
0	96426_at	Tmsb4x	Thymosin beta 4 X-linked	-1.5	2.75E-03
0	100397_at	Tyrobp	TYRO protein tyrosine kinase binding protein	-1.51	4.56E-03
0	104249_g_at	Ssr3	Signal sequence receptor gamma	-1.69	1.05E-03
0	96020_at	C1qb	Complement component 1 q subcomponent beta polypeptide	-1.73	1.12E-03
0	103284_at	Cyp8b1	Cytochrome P450 family 8 subfamily b polypeptide 1	-1.74	6.68E-03
0	96662_at	Ppap2b	Transcribed locus	-1.83	8.48E-03
0	93445_at	Cd5l	CD5 antigen-like	-2.45	9.98E-04
0	161968_f_at	Ccr5	Chemokine (C-C motif) receptor 5	-2.52	6.22E-03
0	93987_f_at	3110001N18Rik	ribosomal protein L22 like	-3.23	5.74E-04
0	101577_at	Rps6	Ribosomal Protein S6	-21.43	6.79E-05
20	98056_at	Phlda3	Pleckstrin homology-like domain	2.29	9.59E-03
20	99148_at	Fh1	Fumarate hydratase 1	2.02	1.28E-04
20	104072_at	Apcs	Serum amyloid P-component	1.92	3.06E-03
20	102013_at	Rdh6	Retinol dehydrogenase 16	1.69	1.96E-03
20	98467_at	Itih4	Inter alpha-trypsin inhibitor heavy chain 4	1.69	7.16E-04
20	103334_at	Crcp	Calcitonin gene-related peptide-receptor component protein	1.68	5.02E-04
20	96058_s_at	Aldh2	Aldehyde dehydrogenase 2 mitochondrial	1.65	2.82E-03
20	93536_at	Bax	Bcl2-associated X protein	1.58	1.36E-03
20	98915_at	Rnf149	Ring finger protein 149	1.52	4.77E-03
20	102879_s_at	Fcgr1	Fc receptor IgG high affinity I	-1.5	1.54E-03
20	94425_at	Ly86	Lymphocyte antigen 86	-1.51	9.34E-04
20	92217_s_at	Gp49b	Leukocyte immunoglobulin-like receptor subfamily B member 4	-1.52	5.08E-03
20	104093_at	Lsp1	Lymphocyte specific 1	-1.53	6.24E-03
20	100059_at	Cyba	Cytochrome b-245 alpha polypeptide	-1.54	6.67E-03
20	97013_f_at	Cyba	Cytochrome b-245 alpha polypeptide	-1.54	8.20E-03
20	92558_at	Vcam1	Vascular cell adhesion molecule 1	-1.56	1.37E-03
20	104354_at	Csf1r	Colony stimulating factor 1 receptor	-1.57	3.69E-03
20	102807_at	9230112O05Rik	Prune homolog (Drosophila)	-1.64	3.80E-03
20	92858_at	Slpi	Secretory leukocyte peptidase inhibitor	-1.73	7.17E-03
20	103016_s_at	Cd68	CD68 antigen	-1.79	5.66E-03
20	101468_at	Pfc	Complement factor properdin	-1.92	2.27E-04
20	100397_at	Tyrobp	TYRO protein tyrosine kinase binding protein	-2.19	6.12E-03
20	102974_at	Marco	Macrophage receptor with collagenous structure	-2.24	6.89E-03
20	92223_at	C1qg	Complement component 1 q subcomponent C chain	-2.28	1.46E-04
20	98562_at	C1qa	Complement component 1 q subcomponent alpha polypeptide	-2.28	2.32E-04
20	96020_at	C1qb	Complement component 1 q subcomponent beta polypeptide	-2.33	1.39E-03
20	92222_f_at	H2-Q1	Histocompatibility 2 Q region locus 1	-2.67	2.12E-05
20	101577_at	Rps6	Ribosomal Protein S6	-17.79	5.40E-04
30	94881_at	Cdkn1a	Cyclin-dependent kinase inhibitor 1A (P21)	5.12	5.22E-03
30	95518_at	1810015C04Rik	RIKEN cDNA 1810015C04 gene	4.66	3.74E-03
30	160092_at	Ifrd1	Interferon-related developmental regulator 1	4.54	7.05E-04
30	92796_at	Akp2	Alkaline phosphatase liver/bone/kidney	3.77	3.47E-04
30	102701_at	Cyp2b20	Cytochrome P450 family 2 subfamily b polypeptide 10	3.66	3.77E-03
30	102847_s_at	Cyp2a4	Cytochrome P450 family 2 subfamily a polypeptide 4	3.42	5.66E-03
30	98596_s_at	Siat9	ST3 beta-galactoside alpha-23-sialyltransferase 5	3.28	5.38E-03
30	102699_at	Mx2	Myxovirus (influenza virus) resistance 2	3.24	5.29E-04
30	160265_at	Eif5	Eukaryotic translation initiation factor 5	2.39	4.03E-04
30	97317_at	Enpp2	Ectonucleotide pyrophosphatase/phosphodiesterase 2	2.39	7.46E-03
30	96348_at	0610039C21Rik	Patatin-like phospholipase domain containing 2	2.27	1.78E-03
30	97965_at	Pla2g6	Phospholipase A2 group VI	2.22	3.81E-03
30	98973_at	2610318G08Rik	WD repeat domain 43	2.15	3.85E-03
30	99133_at	Slc3a2	Solute carrier family 3 (activators of dibasic and neutral amino acid transport) member 2	2.14	1.12E-03
30	101088_f_at	Cnbp1	Cellular nucleic acid binding protein	2.04	7.79E-03
30	98608_at	Etf1	Eukaryotic translation termination factor 1	2.02	4.50E-03
30	101582_at	BC003262	Guanine nucleotide binding protein-like 2 (nucleolar)	1.97	1.06E-03
30	92739_at	Ivl	Involucrin	1.94	2.31E-03
30	100535_at	E130105L1 1Rik	Eukaryotic translation initiation factor 4 gamma 2	1.93	7.45E-03
30	102315_at	Tex292	Cirrhosis autosomal recessive 1A (human)	1.93	6.56E-03
30	95409_at	1110019J04Rik	RIKEN cDNA 1110019J04 gene	1.93	2.10E-03
30	92569_f_at	Nol5	Nucleolar protein 5	1.91	9.97E-03
30	101889_s_at	Rora	RAR-related orphan receptor alpha	1.89	5.13E-03
30	93782_at	Rnf4	Ring finger protein 4	1.89	8.22E-03
30	93741_at	C87860	NMD3 homolog (S. cerevisiae)	1.87	1.07E-03
30	160266_r_at	1110064N10Rik	Brix domain containing 2	1.85	3.80E-03
30	160283_at	2410005K20Rik	Ribosomal L1 domain containing 1	1.85	3.24E-03
30	100554_at	Pdlim1	PDZ and LIM domain 1 (elfin)	1.82	1.45E-04
30	160676_at	1810012N18Rik	RIKEN cDNA 1810012N18 gene	1.8	5.76E-03
30	99849_at	---	---	1.79	3.81E-03
30	102114_f_at	Angptl4	Angiopietin-like 4	1.77	2.55E-03
30	104666_at	E430039K05Rik	zinc finger protein 653	1.74	7.24E-03
30	160384_at	Bat1a	HLA-B-associated transcript 1A	1.74	2.28E-03
30	97824_at	Nola2	Nucleolar protein family A member 2	1.73	9.54E-03
30	98081_at	Rpo1-3	RNA polymerase 1-3	1.72	2.34E-03

30	102385_at	2610318G08Rik	WD repeat domain 43	1.7	5.30E-05
30	103010_at	2610005L07Rik	RIKEN cDNA 2610005L07 gene	1.7	3.48E-03
30	160451_at	Etf1	Eukaryotic translation termination factor 1	1.67	8.86E-04
30	103389_at	Aass	Aminoadipate-semialdehyde synthase	1.64	6.20E-03
30	103753_at	Zzz3	zinc finger, ZZ domain containing 3	1.64	9.31E-03
30	94502_at	D13Wsu50e	Mediator of RNA polymerase II transcription subunit 10 homolog (NUT2 <i>S. cerevisiae</i>)	1.64	2.93E-04
30	97819_at	Gsto1	glutathione S-transferase omega 1	1.64	9.26E-03
30	101587_at	Ephx1	Epoxide hydrolase 1 microsomal	1.62	6.38E-03
30	96326_at	Ta t	Tyrosine aminotransferase	1.62	1.67E-03
30	102091_f_at	---	---	1.59	2.45E-03
30	92659_at	Rapgef4	Rap guanine nucleotide exchange factor (GEF) 4	1.59	2.96E-03
30	99019_at	Por	P450 (cytochrome) oxidoreductase	1.58	4.73E-03
30	100985_at	Siah1a	Seven in absentia 1A	1.57	3.43E-03
30	104560_at	Slc25a28	Solute carrier family 25 member 28	1.56	3.32E-03
30	101964_at	Tkt	Transketolase	1.55	2.98E-03
30	103907_at	Nedd4l	Neural precursor cell expressed developmentally down-regulated gene 4-like	1.53	7.49E-03
30	98950_at	Rragc	Ras-related GTP binding C	1.53	8.69E-03
30	160605_s_at	Usp38	Ubiquitin specific peptidase 38	1.52	6.15E-03
30	93619_at	Per1	Period homolog 1 (<i>Drosophila</i>)	1.52	2.57E-03
30	99180_at	Gtpbp4	GTP binding protein 4	1.52	4.10E-03
30	102663_at	Plaur	Plasminogen activator urokinase receptor	1.5	1.90E-03
30	103498_at	Gcgr	Glucagon receptor	-1.51	1.95E-03
30	93485_at	Ptprd	Protein tyrosine phosphatase receptor type D	-1.52	1.65E-03
30	93550_at	Csrp2	Cysteine and glycine-rich protein 2	-1.53	6.37E-03
30	95709_at	Vkorc1	Vitamin K epoxide reductase complex subunit 1	-1.54	8.89E-03
30	96172_at	Ian1	GTPase IMAP family member 4	-1.54	4.92E-03
30	93237_s_at	Tyms-ps	Thymidylate synthase	-1.55	4.69E-04
30	99056_at	Pcbd	Pterin 4 alpha carbinolamine dehydratase/dimerization cofactor of hepatocyte nuclear factor 1 alpha (TCF1) 1	-1.56	7.16E-03
30	94024_at	Ris2	Chromatin licensing and DNA replication factor 1	-1.57	8.75E-03
30	160957_at	D12Ert47e	Dicer1 Dcr-1 homolog (<i>Drosophila</i>)	-1.58	1.19E-03
30	99469_at	Pex6	Peroxisomal biogenesis factor 6	-1.58	4.31E-03
30	93437_f_at	4632419I22Rik	integrator complex subunit 2	-1.62	5.52E-03
30	100612_at	Rrm1	Ribonucleotide reductase M1	-1.63	0.00665121
30	93236_s_at	Tyms	Thymidylate synthetase	-1.63	4.49E-03
30	160203_at	Dnajc9	DnaJ (Hsp40) homolog subfamily C member 9	-1.68	2.47E-03
30	98033_at	1100001H23Rik	RIKEN cDNA 1100001H23 gene	-1.68	8.84E-03
30	99963_at	Zfp101	Zinc finger protein 101	-1.69	6.10E-03
30	98076_at	Erp29	Endoplasmic reticulum protein 29	-1.71	3.74E-03
30	102797_at	Dhrs3	Dehydrogenase/reductase (SDR family) member 3	-1.73	3.30E-05
30	103695_f_at	C330007P06Rik	RIKEN cDNA C330007P06 gene	-1.74	8.23E-03
30	160197_at	Pycrl	Pyrraline-5-carboxylate reductase-like	-1.75	6.18E-03
30	96336_at	Gatm	Glycine amidinotransferase (L-arginine:glycine amidinotransferase)	-1.76	3.82E-03
30	100737_at	Onecut1	One cut domain family member 1	-1.77	3.46E-03
30	100916_at	Slc22a1	Solute carrier family 22 (organic cation transporter) member 1	-1.77	3.24E-04
30	92697_at	Foxa1	Forkhead box A1	-1.77	6.51E-03
30	99632_at	Mad2l1	MAD2 (mitotic arrest deficient homolog)-like 1 (yeast)	-1.77	1.00E-03
30	102354_at	Tcf19	Transcription factor 19	-1.78	7.05E-03
30	160759_at	Rfc2	Replication factor C (activator 1) 2	-1.78	2.97E-03
30	161787_f_at	Ris2	Chromatin licensing and DNA replication factor 1	-1.78	1.39E-03
30	97309_at	Stt13	Suppression of tumorigenicity 13	-1.79	9.71E-03
30	103071_at	2810429C13Rik	Topoisomerase (DNA) II beta binding protein	-1.8	7.55E-05
30	104476_at	Rbl1	Retinoblastoma-like 1 (p107)	-1.8	7.14E-03
30	93843_at	Dhrs1	Dehydrogenase/reductase (SDR family) member 1	-1.82	2.29E-03
30	103207_at	Pola1	Polymerase (DNA directed) alpha 1	-1.86	5.96E-04
30	101962_at	2610007K22Rik	DEAD (Asp-Glu-Ala-Asp) box polypeptide 17	-1.88	9.52E-03
30	103418_at	Rfc4	Replication factor C (activator 1) 4	-1.88	7.67E-04
30	94393_r_at	Elov12	Elongation of very long chain fatty acids (FEN1/Elo2/SUR4/Elo3 yeast)-like 2	-1.88	1.14E-03
30	97866_at	2510049I19Rik	RIKEN cDNA 2510049I19 gene	-1.88	3.90E-03
30	100062_at	Mcm3	Minichromosome maintenance deficient 3 (<i>S. cerevisiae</i>)	-1.9	6.86E-03
30	101515_at	Acox1	Acyl-Coenzyme A oxidase 1 palmitoyl	-1.93	8.38E-03
30	96122_at	2310016A09Rik	Carboxymethylenebutenolidase-like (<i>Pseudomonas</i>)	-1.93	9.00E-03
30	96710_at	H2av	H2A histone family member V	-1.93	9.34E-03
30	92590_at	Hmgcs2	3-hydroxy-3-methylglutaryl-Coenzyme A synthase 2	-1.96	3.29E-03
30	96086_at	1110031B06Rik	RIKEN cDNA 1110031B06 gene	-1.96	9.04E-03
30	96792_at	Apop	Apolipoprotein B	-1.97	5.88E-03
30	98071_f_at	Dck	Deoxycytidine kinase	-1.97	4.56E-03
30	103036_at	G22p1	X-ray repair complementing defective repair in Chinese hamster cells 6	-1.98	7.99E-03
30	160371_at	Arl6ip1	ADP-ribosylation factor-like 6 interacting protein 1	-1.98	4.39E-03
30	96925_at	2810024B22Rik	Glycosyltransferase 25 domain containing 1	-1.98	2.82E-04
30	98594_at	1190002N15Rik	RIKEN cDNA 1190002N15 gene	-1.98	2.01E-03
30	101065_at	Pcna	Proliferating cell nuclear antigen	-2.03	3.83E-03
30	160104_at	Hsd3b7	Hydroxy-delta-5-steroid dehydrogenase 3 beta- and steroid delta-isomerase 7	-2.04	1.39E-03
30	100494_at	Fgf1	Fibroblast growth factor 1	-2.06	4.95E-03
30	101877_at	Slc31a1	Solute carrier family 31 member 1	-2.09	5.37E-03
30	98587_at	Nap111	Nucleosome assembly protein 1-like 1	-2.1	6.64E-03
30	93041_at	Mcm4	Minichromosome maintenance deficient 4 homolog (<i>S. cerevisiae</i>)	-2.24	9.41E-04
30	100128_at	Cdc2a	Cell division cycle 2 homolog A (<i>S. pombe</i>)	-2.25	4.86E-03
30	103794_i_at	Timd2	T-cell immunoglobulin and mucin domain containing 2	-2.26	5.14E-03
30	103697_at	AW061234	Transcribed locus	-2.27	7.93E-03
30	160496_s_at	Mcm3	Minichromosome maintenance deficient 3 (<i>S. cerevisiae</i>)	-2.27	2.59E-03
30	97411_at	Ect2	Ect2 oncogene	-2.29	1.42E-03
30	101002_at	Oazin	Antizyme inhibitor 1	-2.32	7.79E-03
30	93728_at	Tgfb1i4	TSC22 domain family member 1	-2.39	7.02E-03
30	93987_f_at	3110001N18Rik	ribosomal protein L22 like 1	-2.45	1.35E-03
30	92808_f_at	Fkbp4	FK506 binding protein 4	-2.51	3.83E-03
30	97987_at	Igfals	Insulin-like growth factor binding protein acid labile subunit	-2.65	2.83E-03
30	104328_at	Aqp9	Aquaporin 9	-2.89	7.95E-03
30	93445_at	Cd5l	CD5 antigen-like	-3.02	9.83E-03
30	94797_at	Slc26a1	solute carrier family 26 (sulfate transporter), member 1	-3.3	8.24E-03
30	96594_at	Hspa4	Heat shock protein 4	-3.58	2.00E-03
30	103534_at	Hbb-b1	Hemoglobin beta adult major chain	-5.8	7.23E-03
30	101577_at	Rps6	Ribosomal Protein S6	-22.5	6.71E-05

SUPPLEMENTARY INFORMATION

Time (h)	ProbeSet	Gene Symbol	Description	Fold Change	Change pValue
40	160092_at	Ifrd1	Interferon-related developmental regulator 1	4.69	1.95E-03
40	160265_at	Eif5	Eukaryotic translation initiation factor 5	3.42	6.66E-05
40	96156_at	1110008H02Rik	Small nucleolar RNA host gene (non-protein coding) 6	2.17	5.70E-03
40	104745_at	Arl6ip2	ADP-ribosylation factor-like 6 interacting protein 2	2.06	2.74E-04
40	97205_at	Eif3s1	eukaryotic translation initiation factor 3, subunit J	2.01	4.35E-03
40	98056_at	Phlda3	Pleckstrin homology-like domain	2.01	1.04E-03
40	100535_at	E130105L11Rik	Eukaryotic translation initiation factor 4 gamma 2	2	7.55E-03
40	104601_at	Thbd	Thrombomodulin	1.97	5.90E-03
40	104588_at	1810073K19Rik	hepcidin antimicrobial peptide 2	1.91	4.85E-06
40	95721_at	Mapkapk2	MAP kinase-activated protein kinase 2	1.87	2.45E-03
40	101890_f_at	Zrf2	DnaJ (Hsp40) homolog subfamily C member 2	1.86	5.29E-03
40	98545_at	Bcap37	Prohibitin 2	1.86	4.87E-03
40	160090_f_at	Aldo1	Aldolase 1 A isoform	1.83	1.64E-03
40	160310_at	D19Bwg1357e	Pumilio domain-containing protein KIAA0020.	1.82	7.85E-03
40	95409_at	1110019J04Rik	RIKEN cDNA 1110019J04 gene	1.81	4.33E-03
40	98102_at	Pdha1	Pyruvate dehydrogenase E1 alpha 1	1.8	5.28E-04
40	95034_f_at	Ipo4	Importin 4	1.78	9.18E-03
40	100720_at	Pabpc1	poly A binding protein, cytoplasmic 1	1.75	2.69E-04
40	103808_at	Golga5	Golgi autoantigen golgin subfamily a 5	1.72	4.54E-03
40	93752_at	Iars	Isoleucine-tRNA synthetase	1.71	8.03E-03
40	99019_at	Por	P450 (cytochrome) oxidoreductase	1.7	4.51E-03
40	101093_at	Col4a1	Collagen type IV alpha 1	1.69	7.50E-03
40	160279_at	4930588M1 Rik	deoxynucleotidyltransferase, terminal, interacting protein 2	1.68	9.90E-03
40	160321_at	Zfp216	Zinc finger AN1-type domain 5	1.68	6.40E-04
40	96346_at	Cdo1	Cysteine dioxygenase 1 cytosolic	1.68	3.76E-03
40	97880_at	Dlst	Dihydrolypoamide 5-succinyltransferase (E2 component of 2-oxo-glutarate complex)	1.66	1.89E-03
40	93342_at	Mki67ip	Mki67 (FHA domain) interacting nucleolar phosphoprotein	1.63	4.00E-03
40	98999_at	Adsl	Adenylosuccinate lyase 1	1.62	8.92E-03
40	95690_at	1110030L07Rik	Sorting and assembly machinery component 50 homolog (S. cerevisiae)	1.61	1.82E-03
40	104033_at	Mgea6	Meningioma expressed antigen 6 (coiled-coil proline-rich)	1.6	8.82E-04
40	160585_at	Bxdc1	Brix domain containing 1	1.59	9.92E-03
40	93798_at	Atp1a1	ATPase Na ⁺ /K ⁺ transporting alpha 1 polypeptide	1.59	2.54E-04
40	103345_at	Spna2	Spectrin alpha 2	1.58	4.03E-03
40	94048_at	Cdc34	Cell division cycle 34 homolog (S. cerevisiae)	1.58	4.36E-03
40	95378_at	A1842396	Expressed sequence A1842396	1.58	6.78E-04
40	93308_s_at	Pcx	Pyruvate carboxylase	1.55	3.54E-03
40	103027_at	1810030O07Rik	RIKEN cDNA 1810030O07 gene	1.54	6.26E-04
40	93257_at	Ddx1	DEAD (Asp-Glu-Ala-Asp) box polypeptide 1	1.53	1.15E-03
40	102385_at	2610318G08Rik	WD repeat domain 43	1.52	2.87E-03
40	161332_f_at	2610036L13Rik	Cell division cycle associated 5	-1.52	6.29E-03
40	93676_at	Rad51ap1	RAD51 associated protein 1	-1.52	4.81E-03
40	94971_at	Cdkn3	Cyclin-dependent kinase inhibitor 3	-1.53	1.17E-03
40	99546_at	Fkbp2	FK506 binding protein 2	-1.53	2.40E-03
40	104579_r_at	Actn1	Actinin alpha 1	-1.54	1.23E-03
40	93095_at	Hmgb1	High mobility group box 1	-1.54	9.93E-03
40	97903_at	Leng5	tRNA splicing endonuclease 34 homolog (SEN34 S. cerevisiae)	-1.54	9.22E-04
40	92782_at	Tmpo	Thymopoietin	-1.55	3.23E-03
40	104670_at	1700065A05Rik	DENN/MADD domain containing 4C	-1.59	4.67E-03
40	102976_at	Brc1	Breast cancer 1	-1.6	8.94E-03
40	161856_f_at	Kif20a	Kinesin family member 20A	-1.6	1.26E-04
40	94915_at	Ppib	Casein kinase 1 gamma 1	-1.6	6.34E-03
40	94953_at	Racgap1	Rac GTPase-activating protein 1	-1.6	2.70E-03
40	98489_at	Dlg7	Discs large homolog 7 (Drosophila)	-1.6	5.69E-03
40	102773_at	Car8	Carbonic anhydrase 8	-1.61	4.65E-03
40	104097_at	Bub1	Budding uninhibited by benzimidazoles 1 homolog (S. cerevisiae)	-1.61	1.24E-03
40	97560_at	Psap	Prosaposin	-1.62	4.45E-03
40	101350_g_at	Plk1	Polo-like kinase 1 (Drosophila)	-1.64	9.02E-03
40	93984_at	Atpi	ATPase inhibitory factor 1	-1.64	6.72E-04
40	98469_at	Aurkb	Aurora kinase B	-1.65	3.60E-03
40	100343_f_at	Tuba1	Tubulin alpha 1	-1.68	1.29E-03
40	104578_f_at	Actn1	Actinin alpha 1	-1.69	2.38E-03
40	94784_at	D030034H08	IQ motif containing GTPase activating protein 3	-1.7	1.23E-03
40	95406_at	1810037I17Rik	RIKEN cDNA 1810037I17 gene	-1.7	9.38E-03
40	97238_at	Tacc3	Transforming acidic coiled-coil containing protein 3	-1.7	1.93E-03
40	160069_at	Gmnn	Geminin	-1.71	2.81E-03
40	93023_f_at	Hist2h3c2	Histone 2 H3c2	-1.72	7.43E-03
40	97895_f_at	Hat1	Histone aminotransferase 1	-1.72	1.28E-03
40	101543_f_at	Tuba6	Tubulin alpha 1C	-1.73	4.19E-04
40	93615_at	Pbx3	Pre B-cell leukemia transcription factor 3	-1.73	8.10E-03
40	95118_r_at	Kif22	Kinesin family member 22	-1.78	4.61E-03
40	93441_at	2700099C18Rik	NDC80 homolog, kinetochore complex component (S. cerevisiae)	-1.81	5.13E-03
40	94075_at	Fabp1	Fatty acid binding protein 1 liver	-1.81	1.58E-03
40	93548_at	Sec61b	Sec61 beta subunit	-1.84	5.31E-03
40	104259_at	Cbx5	Chromobox homolog 5 (Drosophila HP1a)	-1.86	7.36E-03
40	99186_at	Ccna2	Cyclin A2	-1.89	8.42E-05
40	98759_f_at	Tuba2	Tubulin alpha 2	-1.91	1.26E-03
40	94024_at	Ris2	Chromatin licensing and DNA replication factor 1	-1.92	6.58E-04
40	93495_at	Prdx4	Peroxisiredoxin 4	-1.93	1.17E-03
40	104476_at	Rbl1	Retinoblastoma-like 1 (p107)	-1.94	1.79E-03
40	100944_at	AW112010	Expressed sequence AW112010	-1.97	1.94E-03
40	160371_at	Arl6ip1	ADP-ribosylation factor-like 6 interacting protein 1	-1.97	4.03E-03
40	160638_at	Cdkn2c	Cyclin-dependent kinase inhibitor 2C (p18 inhibits CDK4)	-1.97	8.78E-05
40	160569_at	2310008M10Rik	RIKEN cDNA 2310008M10 gene	-1.98	1.70E-04
40	99917_at	Ezh2	Enhancer of zeste homolog 2 (Drosophila)	-1.99	9.80E-03
40	99926_at	Pigr	Polymeric immunoglobulin receptor	-2	7.03E-03
40	100616_at	Cenpa	Centromere autoantigen A	-2.01	5.56E-04
40	96081_at	Tk1	Thymidine kinase 1	-2.01	9.78E-03
40	160517_at	Lmnb1	Lamin B1	-2.03	2.91E-03
40	94217_f_at	Cdca3	Cell division cycle associated 3	-2.03	7.25E-05
40	104423_at	2810047L02Rik	Denticleless homolog (Drosophila)	-2.09	3.11E-04
40	93099_f_at	Plk1	Polo-like kinase 1 (Drosophila)	-2.15	1.70E-03

40	99564_at	Uhrf1	Ubiquitin-like containing PHD and RING finger domains 1	-2.19	3.02E-03
40	104322_at	Ckap2	Cytoskeleton associated protein 2	-2.22	3.99E-04
40	94805_f_at	Hist1h2ac	Histone 1 H2ac	-2.24	1.22E-03
40	96680_at	Dnajb9	Dnaj (Hsp40) homolog subfamily B member 9	-2.24	1.92E-03
40	100612_at	Rrm1	Ribonucleotide reductase M1	-2.26	2.31E-03
40	98996_at	Plk4	Polo-like kinase 4 (Drosophila)	-2.35	5.35E-03
40	95753_at	A730011O11Rik	Non-SMC condensin I complex subunit H	-2.36	2.08E-03
40	93237_s_at	Tyms-ps	Thymidylate synthase	-2.38	2.61E-03
40	101538_i_at	Ces3	Carboxylesterase 3	-2.43	9.19E-03
40	102354_at	Tcf19	Transcription factor 19	-2.43	9.93E-03
40	160496_s_at	Mcm3	Minichromosome maintenance deficient 3 (S. cerevisiae)	-2.53	3.76E-03
40	100116_at	2810417H13Rik	RIKEN cDNA 2810417H13 gene	-2.57	1.48E-03
40	160755_at	Kif2c	Kinesin family member 2C	-2.57	1.72E-04
40	99578_at	Top2a	Topoisomerase (DNA) II alpha	-2.6	1.50E-03
40	103821_at	Cdc6	Cell division cycle 6 homolog (S. cerevisiae)	-2.63	5.08E-04
40	97295_at	D4Ert421e	Cell division cycle associated 8	-2.64	2.86E-03
40	96710_at	H2av	H2A histone family member V	-2.72	4.48E-04
40	100955_at	2700084L22Rik	Ubiquitin-conjugating enzyme E2T (putative)	-2.76	2.85E-03
40	101521_at	Birc5	Baculoviral IAP repeat-containing 5	-2.76	6.03E-04
40	97468_at	Cks1	CDC28 protein kinase 1b	-2.79	6.28E-03
40	96784_at	Anln	Anillin actin binding protein (scraps homolog Drosophila)	-2.82	3.59E-03
40	160648_at	Fign1	Fidgetin-like 1	-2.86	2.89E-03
40	96016_at	2700094K13Rik	thioredoxin domain containing 14	-2.97	4.86E-03
40	100885_at	Nek2	NIMA (never in mitosis gene a)-related expressed kinase 2	-3.02	3.63E-03
40	94294_at	Ccnb2	Cyclin B2	-3.21	1.90E-04
40	160501_at	Kif20a	Kinesin family member 20A	-3.33	1.49E-03
40	93250_r_at	Hmgb2	High mobility group box 2	-3.34	3.31E-03
40	162457_f_at	Hba-a1	Hemoglobin alpha adult chain 1	-3.52	3.12E-03
40	101954_at	H2afz	H2A histone family member Z	-3.66	2.10E-03
40	161000_i_at	Nusap1	Nucleolar and spindle associated protein 1	-3.91	4.50E-03
40	99632_at	Mad211	MAD2 (mitotic arrest deficient homolog)-like 1 (yeast)	-4.39	3.90E-03
40	97327_at	Fen1	Flap structure specific endonuclease 1	-4.46	4.39E-03
40	94795_at	Hsd3b4	Hydroxy-delta-5-steroid dehydrogenase 3 beta- and steroid delta-isomerase 5	-4.89	7.94E-03
40	92639_at	Stk6	Aurora kinase A	-5.1	1.16E-03
40	100156_at	Mcm5	Minichromosome maintenance deficient 5 cell division cycle 46 (S. cerevisiae)	-5.3	6.37E-03
40	96319_at	Cdc20	Cell division cycle 20 homolog (S. cerevisiae)	-5.7	1.08E-04
40	160159_at	Ccnb1	Cyclin B1	-5.84	1.53E-03
40	93019_at	H2afx	H2A histone family member X	-6.48	6.55E-03
40	102001_at	Rrm2	Ribonucleotide reductase M2	-7.54	5.83E-03
40	94781_at	Hba-a1	Hemoglobin alpha adult chain 1	-11.6	5.00E-03
40	101869_s_at	Hbb-b1	hemoglobin beta adult major chain	-13.31	6.06E-03
40	101577_at	Rps6	Ribosomal Protein S6	-16.29	1.10E-04