

# Rapid Isolation of Glomeruli Coupled with Gene Expression Profiling Identifies Downstream Targets in Pod1 Knockout Mice

Shiyong Cui,\* Chengjin Li,\* Masatsugu Ema,<sup>†</sup> Jordan Weinstein,<sup>‡</sup> and Susan E. Quaggin\*<sup>‡</sup>

\*The Samuel Lunenfeld Research Institute, University of Toronto, Toronto, Ontario, Canada; <sup>†</sup>Department of Anatomy and Embryology, Institute of Basic Medical Sciences, Division of Developmental Technology, Laboratory Animal Resource Center, University of Tsukuba, Tsukuba, Ibaraki, Japan; and <sup>‡</sup>Division of Nephrology, St. Michael's Hospital, University of Toronto, Toronto, Ontario, Canada

Mouse mutations have provided tremendous insights into the molecular basis of renal and glomerular development. However, genes often play important roles during multiple stages of nephrogenesis, making it difficult to determine the role of a gene in a specific cell lineage such as the podocyte. Conditional gene targeting and chimeric analysis are two possible approaches to dissect the function of genes in specific cell populations. However, these are labor-intensive and costly and require the generation, validation, and analysis of additional transgenic lines. For overcoming these shortcomings and, specifically, for studying the role of gene function in developing glomeruli, a technique to isolate and purify glomeruli from murine embryos was developed. Combined with gene expression profiling, this method was used to identify differentially expressed genes in glomeruli from Pod1 knockout (KO) mice that die in the perinatal period with multiple renal defects. Glomeruli from early developing stages (late S-shape/early capillary loop) onward can be isolated successfully from wild-type and KO kidneys at 18.5 d postcoitus, and RNA can readily be obtained and used for genome-wide microarray analysis. With this approach, 3986 genes that are differentially expressed between glomeruli from Pod1 KO and wild-type mice were identified, including a four-fold reduction of  $\alpha 8$  integrin mRNA in glomeruli from Pod1 KO mice that was confirmed by immunostaining. This procedure may be adapted to any transgenic strain, providing a rapid and efficient method to dissect the function of specific genes in glomerular development.

*J Am Soc Nephrol* 16: 3247–3255, 2005. doi: 10.1681/ASN.2005030278

Over the past decade, gene-targeting studies have identified many genes that play essential roles in glomerular development, including Wilms tumor suppressor gene, LIM homeobox transcription factor 1 $\beta$ , Pod1, Kreisler, vascular endothelial growth factor A (VEGF-A), basic fibroblast growth factor, PDGFB/PDGFR- $\beta$ , endothelial cell tyrosine kinase receptor, angiopoietin-1, and hepatocyte growth factor (reviewed in 1,2). Although knockout (KO) studies have provided definitive proof that these genes are important in renal development, elucidation of the specific role for each of these genes in glomerulogenesis has been difficult because many of them play multiple roles in renal development and in other organs. In our laboratory, we identified the basic helix-loop-helix transcription factor Pod1 (also called Tcf21/capsulin/epicardin) to be expressed in developing and mature podocytes from the S-shape stage of glomerular development onward. However, Pod1 is also expressed in condensing metanephric

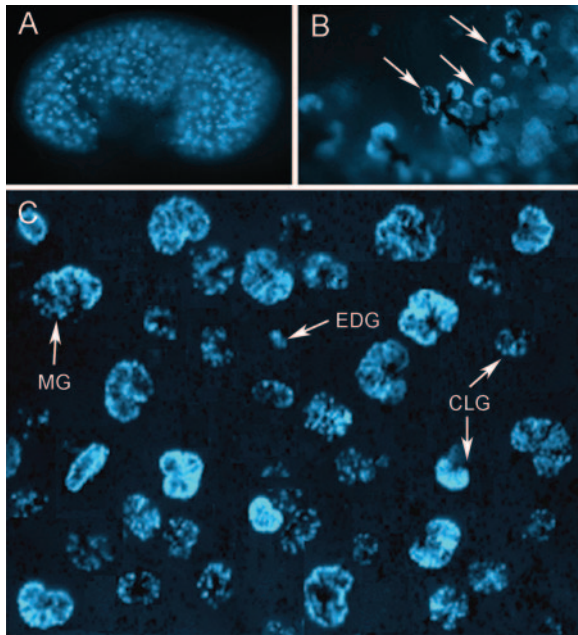
mesenchymal cells that give rise to stromal cell lineages, to pericytes, to peritubular interstitial cells, and in the mesenchyme of many other organs (3). Pod1 KO mice die in the perinatal period as a result of major lung and cardiac defects. Furthermore, Pod1 is required for sex determination and gonad and spleen development (4–6). Analysis of chimeric mice showed that Pod1 is required in the developing stroma for glomerular development (3); however, the role of Pod1 within podocytes is still unclear. One approach to answer this question is to generate a conditional KO that deletes the Pod1 gene only from podocytes. However, this approach is not yet possible as no Cre driver mouse line is available to excise genes specifically from S-shape stage podocytes when Pod1 is first expressed. Because of this, we sought to develop an alternative method to identify biologic effectors of Pod1 function within the glomerulus.

In this article, we describe an adaptation of the glomerular isolation method developed by Takemoto *et al.* (7) that permits us to isolate glomeruli from embryonic-stage (18.5 d postcoitus [dpc]) kidneys. This is critical in the case of Pod1 KO mice because they die within minutes after birth as a result of respiratory distress. Using this method, we were able to isolate large quantities of glomeruli (approximately 2500) from early developing stages (late S-shape/early capillary loop) onward. Furthermore, we generated RNA from glomerular pools that were

Received March 14, 2005. Accepted August 4, 2005.

Published online ahead of print. Publication date available at [www.jasn.org](http://www.jasn.org).

**Address correspondence to:** Dr. Susan E. Quaggin, The Samuel Lunenfeld Research Institute, Department of Maternal Health & Fetal Health, Mount Sinai Hospital, 600 University Avenue, Toronto, Ontario, M5G 1X5 Canada. Phone: 416-586-4800 ext. 2859; Fax: 416-586-8588; E-mail: [quaggin@mshri.on.ca](mailto:quaggin@mshri.on.ca)



**Figure 1.** Glomerular isolation under the dissecting microscope. (A) Glomeruli in kidneys from Nephrlin-cyan fluorescent protein (CFP) mice at 18.5 d post coitum (dpc) fluoresce under a CFP filter before infusion of Dynabeads. (B) Dynabeads that were injected into the aorta are seen in afferent arterioles (dark outlines) entering glomeruli (arrows). (C) Different developmental stages of glomeruli can be seen after isolation with the magnetic concentrator. EDG, early developing glomeruli (late S-shape/early capillary loop); CLG, capillary loop glomeruli; MG, mature glomeruli.

isolated from Pod1 KO or wild-type mice and used it to generate gene expression profiles. Using this method, we identified a number of genes whose expression is disrupted in Pod1 KO kidneys, including  $\alpha 8$  integrin, and confirmed that it is reduced in glomeruli from Pod1 KO mice.

## Materials and Methods

### Experimental Animals

Mice that were used for these studies were maintained at the animal facility of the Samuel Lunenfeld Research Institute at Mount Sinai Hospital, Toronto, according to Canadian animal research regulations. ICR (Institute for Cancer Research) mice were purchased from Harlan Sprague Dawley (Indianapolis, IN). Podocyte-specific Nephrlin-cyan fluorescent protein (CFP) mice, expressing a Cyan fluorescent protein in the ICR background, were generated by subcloning the CFP cDNA (gift from A. Nagy and K. Hadjantonakis, Samuel Lunenfeld Research Institute, Toronto, Canada) into the EcoR1 site of the NXPRS nephrlin construct (1,8). Pod1 KO and heterozygous (Pod1 +/–) mice in the SVJ 129 background were generated as described previously (4,9). VEGF receptor 2–green fluorescence protein (VEGFR-2–GFP) knock-in mice were provided by J. Rossant (Samuel Lunenfeld Research Institute, Toronto, Ontario, Canada). In these transgenic mice, a GFP cassette is knocked into the VEGFR-2 locus under regulation of the endogenous promoter; GFP expression in this transgenic line faithfully recapitulates endogenous VEGFR-2 expression (M.E. and J. Rossant, unpublished observations).

### Reagents

HBSS was made by the Samuel Lunenfeld Research Institute at Mount Sinai Hospital. Tosylactivated Dynabeads M-450 (product no. 14004) and a magnetic particle concentrator were purchased from Dynal Biotech ASA (Oslo, Norway). Collagenase A was purchased from Roche Applied Science (Mississauga, Ontario, Canada). Deoxyribonuclease I was from Invitrogen Canada Inc. (Burlington, ON, Canada). Cell strainers (0.1 mm diameter) were from Falcon (BD Biosciences, Mississauga, Ontario, Canada).  $\alpha 8$  antibody was provided by Dr. Ulrich Mueller (Scripps Research Institute, La Jolla, CA).

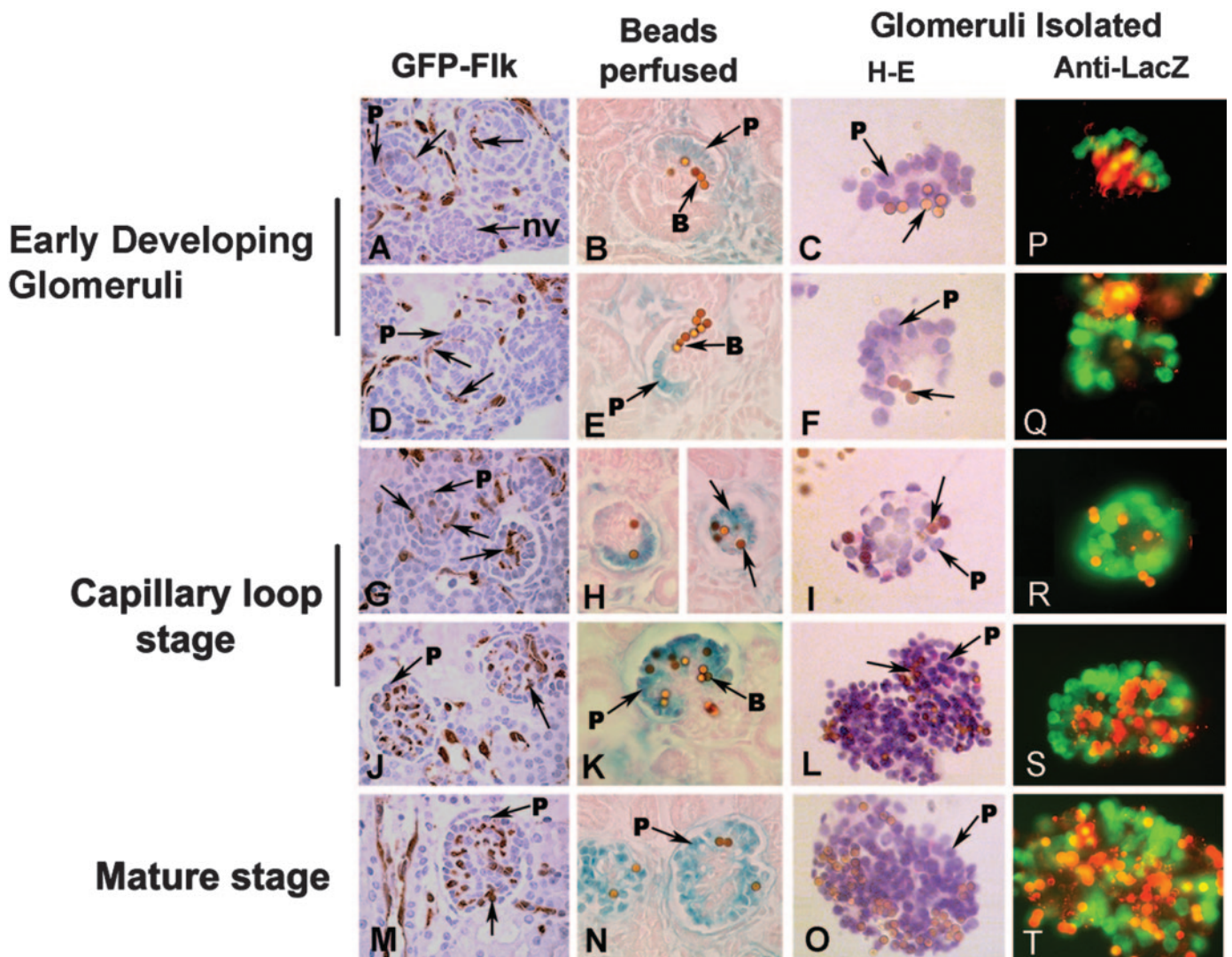
### Isolation of Different Stages of Developing Glomeruli

The procedure of isolation of immature and mature glomeruli from embryonic mice is similar to the isolation of glomeruli from adult mice described previously by Takemoto *et al.* (7), with some modifications. As this procedure depends on the circulation of blood and the circulatory pathways are different in embryonic and adult mice, we needed to modify the procedure during Dynabead perfusion. Briefly, embryos at 18.5 dpc were dissected and incubated in PBS on ice. According to the specific pathway of embryonic blood circulation before birth (septal opening between left and right atrium and patent ductus between lung and aortic vessels), the direction of the needle 301/2G (Becton Dickinson and Co., Franklin Lakes, NJ) was adjusted at 70 to 80° to the longitudinal axis of the heart, which allowed almost all perfused Dynabeads to pass through the pathway of the aortic arch leading to the ascending aorta and then to the microvascular circulation of the kidneys (10 ml/4 to 5 min). For decreasing the effect of pressure on the blood vessel wall and for ensuring that enough beads were perfused into the kidneys, the abdominal cavity was opened before microperfusion. The embryo was microperfused with  $2 \times 10^7$  Dynabeads diluted in 10 ml of HBSS buffer through the beating heart under a dissecting microscope ( $\times 6.3$ ). For avoiding the effect of collagenase digestion of the kidney on the glomerular structure, the kidneys first were minced into pieces as small as possible with a scalpel blade after Dynabead perfusion, then collagenase was added. Ten minutes after the digestion procedure was started, the solution was pipetted gently approximately 10 times. After digestion in HBSS with collagenase A (1 mg/ml) and deoxyribonuclease I (100 U/ml) at 37°C for <20 min, the tissue was diluted in 3 ml of HBSS and gently pressed through a cell strainer followed by rinsing with 3 ml of HBSS. Glomeruli that contained Dynabeads were isolated with a magnetic particle concentrator and washed three times with HBSS.

### X-Gal Staining, Histology, and Quantification of Isolated Glomeruli

After isolation, glomeruli from Pod1 KO and heterozygous mice were fixed in lacZ fixative for 3 to 4 min at room temperature. After rinsing in the lacZ wash buffer twice, isolated glomeruli were stained with X-gal for 10 min at 37°C, followed by counterstaining with Nuclear Fast Red. These glomeruli were collected with the Dynabead concentrator and further fixed in 10% formalin. Consequently, isolated glomeruli were dropped directly onto glass slides, left to dry at room temperature for 10 min and mounted with GVA mounting solution (cat. no. 00-8000; ZYMED Laboratories Inc., Burlington, Ontario, Canada). Finally, isolated glomeruli were examined and counted under the light microscope. Different stages of glomerular development were identified by the number and shape of isolated structures that contained blue cells (podocytes) on the slide. A Bright-Line Hemacytometer (Hausser Scientific, Horsham, PA) was used for counting glomeruli from 12 kidneys. A total of 14,000 glomeruli were counted. For transmission electron microscopic and scanning electron microscopic (SEM)





**Figure 2.** Different stages of glomeruli captured by Dynabeads. Immunostaining to green fluorescent protein (GFP; brown) marks endothelial cells in developing glomeruli isolated from GFP-Flk (VEGFR2) mice (A, D, G, J, and M). LacZ staining (blue) in kidneys from Pod1<sup>+/−</sup> mice identifies podocytes in developing glomeruli after capture with Dynabeads (gold particles; B, E, H, K, and N); isolated glomeruli are stained with hematoxylin and eosin (H-E) (C, F, I, L, and O) or immunostained with an antibody to LacZ (green) that marks podocytes (P, Q, R, S, and T). Dynabeads appear red in the anti-LacZ column. Early developing glomeruli: Nv, nephrogenic vesicle; unlabeled arrow, vascular cleft; p, podocytes. Capillary loop stage: unlabeled arrows, capillaries, p, podocytes, B, Dynabeads.

examination, isolated glomeruli were fixed with 2% glutaraldehyde in PBS buffer. For SEM, isolated glomeruli were osmicated according to the OTOTO protocol (7,10) and dried using hexamethyldisilazane evaporation (11). Finally, specimens were examined by electron microscopy.

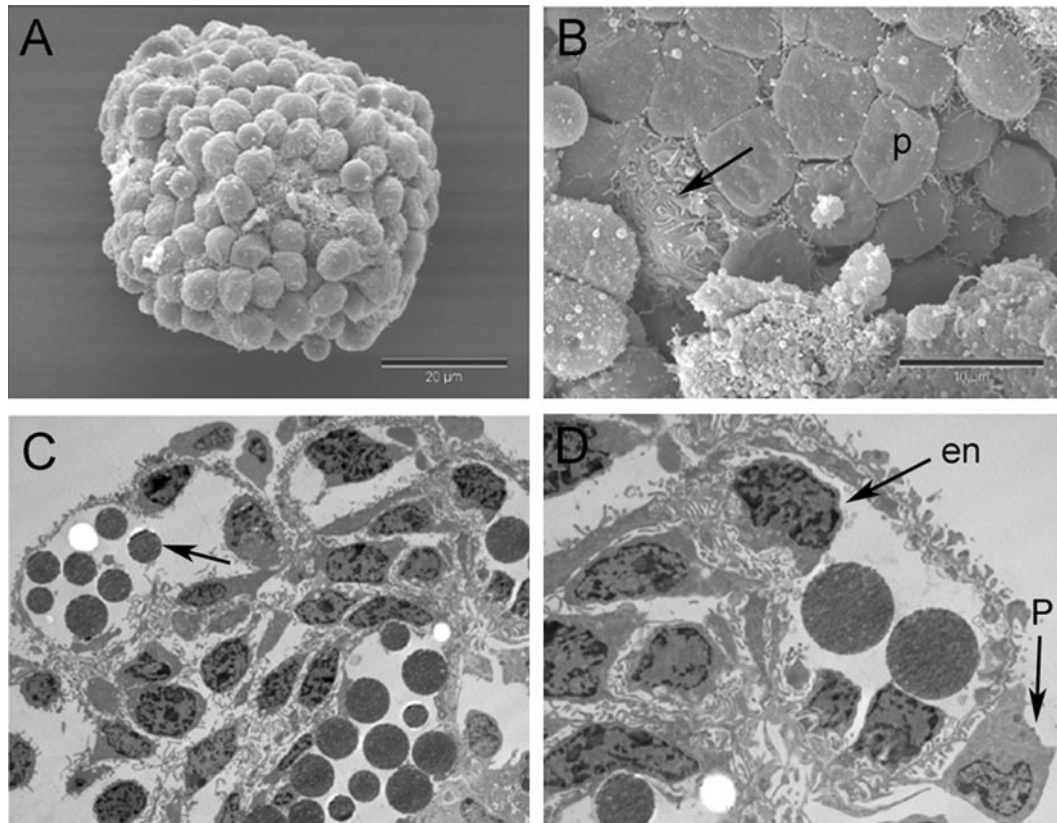
#### Analysis of RNA Integrity and Microarray Data

Total RNA was purified using the RNeasy Micro Kit (50; Qiagen Inc., Mississauga, Ontario, Canada) according to the manufacturer's instructions. The concentration of total RNA was measured by an Eppendorf Biophotometer (AG 2231 CE, Eppendorf, Germany), and the quality was tested by both electrophoreses and electrophogram. Mouse Affymetrix GeneChips 430-2.0 (Santa Clara, CA) were used for RNA microarray analysis, which was performed at the microarray facility in the Center for Applied Genomics (The Hospital for Sick Children,

Toronto, ON, Canada). For microarray hybridization, RNA was amplified using the Affymetrix two-cycle kit, and the data analysis was performed using Microsoft Excel program. Four thousand genes whose expression was either up- or downregulated at least two-fold between Pod1 KO and wild-type mice were chosen for further analysis by Affymetrix G-COS, SpotFire, and Array assist programs.

#### Immunohistochemistry

To demonstrate proof of principle and utility of the microarray screen in Pod1 KO mice, we chose to examine the expression of  $\alpha 8$  integrin, one of the candidate genes related to kidney development, identified in our microarray screen. Because  $\alpha 8$  is expressed in metanephric mesenchymal cells that surround the ureteric bud during early nephrogenesis (12,13) and mesangial cells of mature glomeruli in adult kidneys (14,15), embryonic kidneys were dissected at 13 and 18.5 dpc



**Figure 3.** Structural integrity of isolated glomeruli. The quality of isolated glomeruli was examined by electron microscopy. Scanning electron micrographs are shown in A and B, and transmission electron micrographs are shown in C and D. Intact glomerulus with podocytes and multiple foot processes are shown in A and B (unlabeled arrow, foot processes in B). Fenestrated endothelial cells and foot processes of podocytes in contact with the glomerular basement membrane are present in C and D (unlabeled arrow, Dynabeads in C). en, endothelium, p, podocyte.

and fixed in 4% PFA. Ten-micrometer cryosections were prepared as described previously (16). The primary antibodies used were anti- $\alpha$  8 integrin (1:1500 dilution). Samples were incubated in primary antibody at 4°C overnight. After washing three times for at least 1 h in PBS, samples were incubated with the secondary biotin-related anti-rabbit antibody for 1 h (Vectastain Kit; Vector Laboratories, Burlingame, CA). Samples then were incubated in ABC solution (Vectastain Kit) and further developed with DAB (Peroxidase Substrate Kit DAB, Vector Laboratories) color staining. Samples were counterstained with hematoxylin, dehydrated, mounted, and photographed.

The immunofluorescent staining procedure was described previously (16). The secondary antibodies used were FITC-conjugated goat anti-rabbit IgG (Jackson Laboratories, West Grove, PA; 1:400) to detect anti- $\alpha$  8 integrin and Cy3-conjugated donkey anti-mouse IgG (Jackson Laboratories, 1:500) to detect anti-lacZ. Samples were washed three times for 1 h in wash buffer (3% BSA, 0.5% goat serum, and 0.1% Triton X-100 in PBS) and mounted in mounting solution (Sigma, St. Louis, MO) for subsequent microscopic observation.

## Results

### *Isolation of Immature, Maturing, and Mature Glomeruli from Embryonic Mice*

To our knowledge, the isolation and characterization of different stages of developing and mature glomeruli from embryonic mice have not previously been reported. To enable us to develop a protocol of glomerular isolation from embryonic

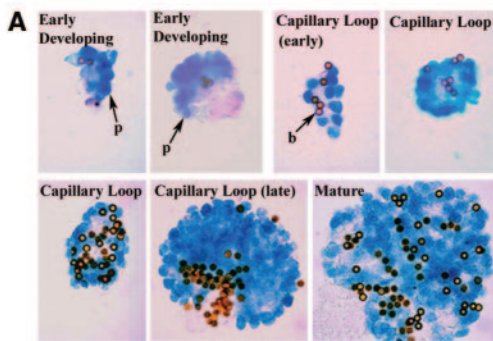
kidneys, we first used Neph1-CFP embryonic mice as glomerular donors, which allowed us to determine the location of Dynabeads in glomeruli under the dissecting microscope immediately following Dynabead perfusion (Figure 1). It also allowed us to examine the morphology and count the number of isolated glomeruli by checking the fluorescence using a CFP filter (Figure 1). Moreover, it confirmed that this method was successful to isolate large quantities of glomeruli from the embryonic kidneys, because the number of CFP-positive glomeruli and/or cells was very low in the solution discarded after filtration through the cell strainer and collection by the magnetic concentrator. X-gal staining of the kidneys from Pod1<sup>+/-</sup> embryonic mice perfused with Dynabeads revealed that the beads were distributed in the vessels of all glomerular stages, including early developing (late S-shape/early capillary loop), maturing (capillary loop), and mature glomeruli (Figure 2). However, perfused beads, as expected, were not found in the early S-shaped stages, as no vascular network (Figure 2A) has assembled by this stage. Hematoxylin and eosin staining of glomeruli that were isolated from Neph1-CFP embryonic mice and immunohistochemistry staining of glomeruli that were isolated from Pod1 heterozygous mice showed that different stages of glomeruli were present on the slides (Figure 2) and demonstrated that this protocol is useful to isolate various



stages of glomeruli from embryonic kidneys. SEM revealed that the morphology of isolated glomeruli was intact (Figure 3A), and primary processes from the main podocyte cell bodies remain wrapped around individual capillary loops in mature isolated glomeruli (Figure 3B). Transmission electron microscopy further demonstrated that the ultrastructure of isolated glomeruli was intact (Figure 3C). The capillary network of isolated glomeruli was seen to consist of fenestrated endothelial cells; in addition, thin diaphragms were sometimes observed extending across these fenestrae. Foot processes of podocytes could be seen in contact with the glomerular basement membrane (Figure 3D). The number of isolated glomeruli that were collected from a single 18.5 dpc embryonic mouse was estimated to be  $2164 \pm 326$ , which consisted of 37.6% glomeruli at early developing stage (late S-shaped/early capillary loop), 43.6% at capillary loop stage, and 18.8% at the mature stage (Figure 4).

For ensuring a high quantity and quality of RNA, extraction of total RNA was begun immediately after isolation of the glomeruli. The amount of total RNA that was purified from isolated glomeruli of a single embryonic mouse was estimated to be 438 ng on average. To confirm the integrity of the RNA that was extracted from glomeruli, we performed electrophoretic and electrophogram analysis (Figure 5). Figure 5

### Stages of Developing Glomeruli Isolated



### Percentage of Different Stages

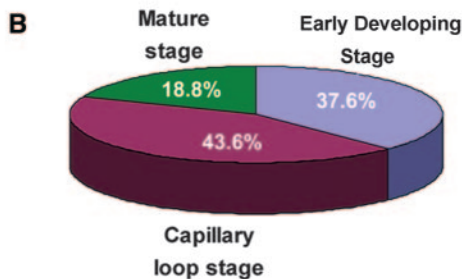


Figure 4. Proportion of glomerular stages isolated by Dynabead perfusion. (A) LacZ staining shows morphology of developmental stages of glomeruli that were isolated from Pod1+/- mice with Dynabeads. (B) The number of each developmental stage isolated as a percentage of total glomeruli.

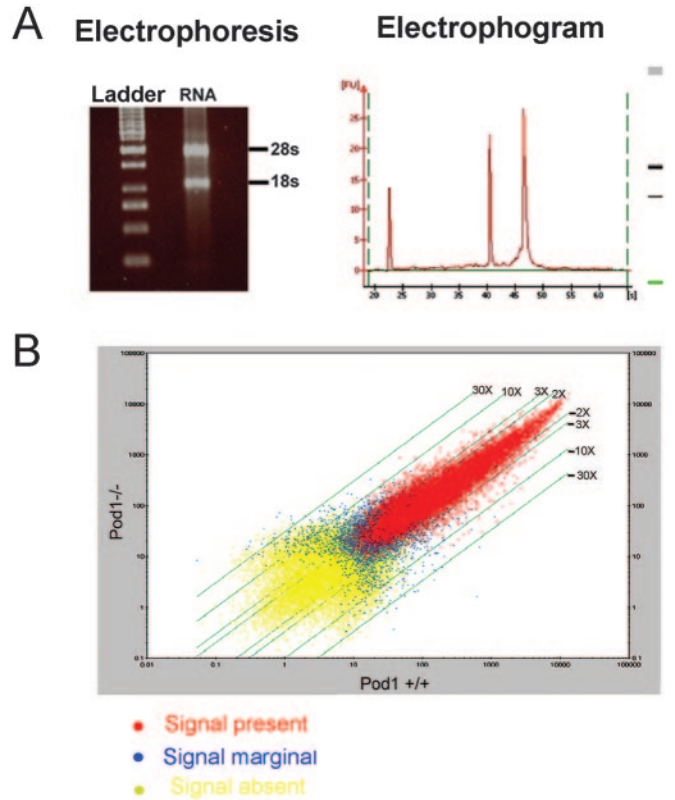
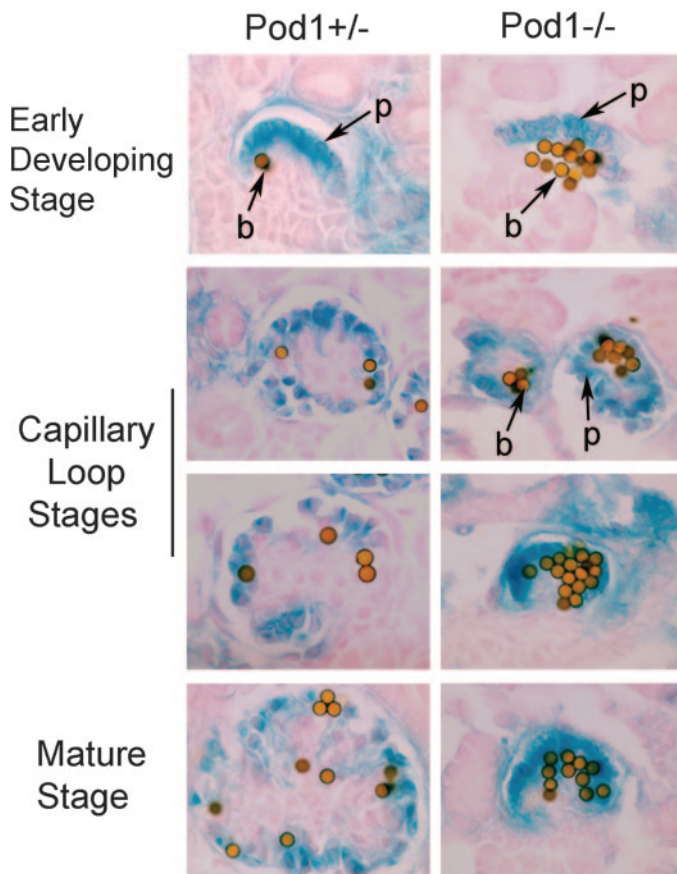


Figure 5. Evaluation of the integrity of RNA isolated for microarray analysis. (A) An ethidium bromide-stained gel of total RNA (left) and electrophogram of RNA after amplification with the Affymetrix two-cycle kit confirm the integrity of RNA purified from isolated glomeruli. (B) Scatter plot of the signal detection of gene expression from isolated glomeruli from Pod1 knockout (KO; -/-) compared with Pod1 wild-type (+/+) mice. Genes represented are from the microarray database.

shows that the integrity of RNA from glomeruli that were isolated using Dynabead perfusion was comparable to total RNA from snap-frozen whole kidney.

### Characterization of Glomeruli from Wild-Type and Pod1 KO Mice

Pod1 is a transcription factor expressed in many developing organs. We recently found that Pod1 plays an important role in podocytes and endothelial cell differentiation in glomeruli, particularly during remodeling and maturation of the vasculature (unpublished observations). To characterize further the role of Pod1 in the glomerulus, we wanted to isolate mutant glomeruli to profile their gene expression. This is important as the kidneys in Pod1 KO mice exhibit multiple defects, including disruption of ureteric bud branching, arrest of stromal cell development, and marked dysplasia with absence of the renal medulla (3,4). Figure 6 shows that the number of beads deposited was markedly increased in the capillaries of Pod1 KO glomeruli that were microperfused with Dynabeads when compared with wild-type glomeruli. Moreover, this heavy deposition could be observed from the beginning of glomerular formation onward, through early capillary loop stage, and in



**Figure 6.** Distribution of perfused Dynabeads in glomeruli from Pod1<sup>+/-</sup> and Pod1 KO mice at 18.5 dpc. Dynabeads aggregate in greater numbers in all stages of glomeruli from Pod1 KO kidneys compared with Pod1<sup>+/-</sup> glomeruli, suggesting that the lumen of capillaries are enlarged. Note that glomerular development is arrested at the capillary loop stage in Pod1 KO mice. Blue-stained cells = podocytes.

maturing capillary loop stage when Pod1 KO glomerular development becomes arrested. The results suggest that Pod1 plays an important role in vascular remodeling at the beginning of formation of glomerular architecture during a time when endothelial cells are undergoing differentiation and branching. To identify candidate genes that are related to podocyte and endothelial cell differentiation, we used RNA that was isolated from Pod1 KO glomeruli to screen the mouse Affymetrix GeneChips 430-2.0 compared with RNA from wild-type or heterozygous littermates. RNA was generated from glomeruli that were isolated from a total of 32 mutant and 12 wild-type embryos on two independent occasions. The hybridization results were normalized and analyzed by Affymetrix GCOS, SpotFire, and ArrayAssist programs. When KO samples were compared with control samples, a total of 3986 genes (approximately 8.9% of the 45,000 genes) whose transcript varied by at least 2 SD were identified. Tables 1 and 2 shows a partial list of genes that were most greatly up- or downregulated in glomeruli from Pod1 KO mice compared with wild-type littermates. The complete list of genes that are up- or downregulated at least two-fold is provided in the Appendix (available online only).

As proof of principle and to demonstrate the utility of this approach, we examined the expression of  $\alpha 8$  integrin that was significantly downregulated (four-fold) in glomeruli from Pod1 KO mice. Of note, expression of  $\alpha 8$  integrin has previously been reported in metanephric mesenchymal cells (13,17) and in mesangial cells (14,15) of the glomerulus. Figure 7 shows that the level of  $\alpha 8$  integrin expression is markedly decreased in metanephric mesenchymal cells of Pod1 KO kidneys compared with Pod1<sup>+/-</sup> kidneys. Furthermore,  $\alpha 8$  integrin is expressed in the mesangial cells of wild-type glomeruli, and this is markedly reduced in glomeruli from Pod1 KO mice. Together, these results demonstrate that this procedure will be valuable to identify downstream biologic effectors in transgenic mice.

## Discussion

In this article, we report a technique to isolate large quantities of developing and mature glomeruli from mouse embryos at 18.5 dpc. We show that it is possible to obtain high-quality RNA from glomeruli that are isolated from a single mouse that allows us to perform gene expression profiling from specific renal structures and cell populations. The major advantage of this procedure is that it permits the identification of a large number of differentially expressed genes from relatively homogeneous cell populations. To demonstrate the utility of this procedure in practice, we performed glomerular isolation and gene expression profiling in glomeruli from Pod1 KO mice. Although Pod1 is highly expressed in developing and mature podocytes from the S-shape stage onward, it has not been possible to determine the cell autonomous or non-cell autonomous roles of Pod1 within the glomerulus because of the critical role that Pod1 plays in earlier mesenchymal populations within the kidney. Although conditional gene targeting is a powerful and widely used technique that definitively defines the cell-autonomous role of a gene, it requires that cell-specific Cre-driver lines be available. In the case of Pod1, there are no Cre-driver lines yet available for early stages of podocyte differentiation, *i.e.*, S-shape stage, when Pod1 is first expressed.

Pod1 KO mice die within minutes after birth as a result of lung and cardiac defects. Glomerular development is arrested in Pod1 KO mice at the capillary loop stage. At most, only one capillary loop forms within the mutant Pod1 glomeruli. Despite the major defects in glomerular capillary formation, we show that magnetic beads that were infused into the aorta of Pod1 KO embryos become trapped in the single capillary loop, permitting glomerular isolation. The RNA that was generated from these isolated glomeruli is of high quality and was used to screen the Affymetrix microarray gene chips. A large number of differentially expressed genes were identified in glomeruli from Pod1 mice compared with glomeruli from wild-type littermates; these included NPHS2 (podocin) and Col4a3-2 genes that play important roles in glomerular development and disease.

As proof of principle, we show immunostaining in mutant and wild-type glomeruli for one of the identified genes:  $\alpha 8$  integrin. On microarray analysis,  $\alpha 8$  integrin was reduced four-fold in glomeruli from Pod1 KO mice. Expression of  $\alpha 8$  integrin in mesangial cells of the glomerulus and renal vascular

Table 1. Genes downregulated in glomeruli isolated from Pod1 KO compared to wild-type mice

Affy Probe ID	Gene Title	Gene Symbol	UniGene ID	Fold Difference
1424567_at	RIKEN cDNA 6330415F13 gene	6330415F13Rik	Mm.27469	−27.02
1419717_at	semaphorin 3E	Sema3e	Mm.134093	−20.86
1418093_a_at	epidermal growth factor	Egf	Mm.254772	−18.98
1424719_a_at	microtubule-associated protein tau	Mapt	Mm.1287	−14.24
1415824_at	stearoyl-Coenzyme A desaturase 2	Scd2	Mm.193096	−12.12
1433707_at	gamma-aminobutyric acid (GABA-A) re	Gabra4	Mm.248731	−10.21
1455028_at	microtubule-associated protein tau	Mapt	Mm.1287	−9.46
1441389_at	Mus musculus transcribed sequences	—	Mm.183689	−9.38
1427126_at	heat shock protein 1A	Hspa1a	Mm.275405	−9.23
1452907_at	galactosylceramidase	Galc	Mm.5120	−9.14
1452351_at	RIKEN cDNA C030027K23 gene	C030027K23Rik	Mm.291434	−8.57
1452388_at	heat shock protein 1A	Hspa1a	Mm.6388	−8.54
1460370_at	RIKEN cDNA 2900052H09 gene	2900052H09Rik	Mm.182401	−8.37
1425181_at	RIKEN cDNA 3110007P09 gene	3110007P09Rik	Mm.238094	−8.24
1422155_at	histone 2, H2aa1	Hist2h2aa1	Mm.261587	−8.16
1427127_x_at	heat shock protein 1A	Hspa1a	Mm.275405	−8.06
1437477_at	leucine rich repeat (in FLII) interacting	Lrrfip1	Mm.45039	−7.92
1452474_a_at	ADP-ribosyltransferase 3	Art3	Mm.133535	−7.35
1450224_at	procollagen, type IV, alpha 3	Col4a3	Mm.8069	−7.34
1439618_at	phosphodiesterase 10A	Pde10a	Mm.87161	−7.22
1424208_at	prostaglandin E receptor 4 (subtype EP)	Ptger4	Mm.18509	−7.08
1443906_at	decay accelerating factor 1	Daf1	Mm.101591	−6.84
1416077_at	adrenomedullin	Adm	Mm.1408	−6.84
1438779_at	procollagen, type IV, alpha 3	Col4a3	Mm.8069	−6.70
1457140_s_at	TEA domain family member 1	Tead1	Mm.62480	−6.65
1458381_at	chloride intracellular channel 5	Clic5	Mm.37666	−6.64
1434109_at	RIKEN cDNA A930014C21 gene	A930014C21Rik	Mm.100125	−6.47
1449957_at	protein tyrosine phosphatase, receptor t	Ptprv	Mm.4450	−6.33
1460297_at	nephrosis 2 homolog, podocin (human)	Nphs2	Mm.289099	−6.23
1433885_at	hypothetical protein A630053O10	A630053O10	Mm.38878	−6.20
1422804_at	serine (or cysteine) proteinase inhibitor	Serpnb6b	Mm.36526	−6.16
1450789_at	rhophilin, Rho GTPase binding protein	1Rhpn1	Mm.57052	−6.13
1418162_at	toll-like receptor 4	Tlr4	Mm.38049	−6.10
1447100_s_at	RIKEN cDNA 5730508B09 gene	5730508B09Rik	Mm.19330	−6.10
1422869_at	c-mer proto-oncogene tyrosine kinase	Mertk	Mm.239655	−5.98
1417623_at	solute carrier family 12, member 2	Slc12a2	Mm.228433	−5.83
1426252_a_at	uromodulin	Umod	Mm.10826	−5.71

smooth muscle cells was reported previously (14,18); here we show that it is expressed in mesangial cells of wild-type glomeruli as expected. Furthermore, we show that  $\alpha$  8 integrin staining is markedly reduced in mesangial cells in Pod1 KO glomeruli. This reduction occurs in glomeruli and also in metanephric mesenchymal populations that also normally express Pod1.

The method reported in this article also permitted us to quantify the number of glomeruli that were isolated within each of the major developmental stages: Late S-shape/early capillary loop, capillary loop, and mature. Two factors permitted us to perform this quantitative analysis. First, when we generated the null Pod1-targeting allele, we knocked in a  $\beta$ -galactosidase reporter gene into the Pod1 locus under regulation

of the endogenous promoter. Thus, lacZ expression recapitulates the endogenous expression of Pod1 and begins in podocyte precursors during the S-shape stage onward. As a result, it is very easy to identify cells of the podocyte lineage in developing glomerular structures. When counting glomeruli that are stained with X-gal under the light microscope, it thus was possible to exclude definitively contamination of other renal tissue, even when it was minimal contamination. This is an important point for effective quantitative analysis, especially to count the number of early-stage glomeruli isolated. As can be seen in the figures, early developing glomeruli (late S-shape/early capillary loop) are not globular and may have been counted as contaminants on the basis of morphology alone (*i.e.*, it would be hard to distinguish between S-body stage glomeruli



Table 2. Genes upregulated in glomeruli isolated from Pod1 KO compared to wild-type mice

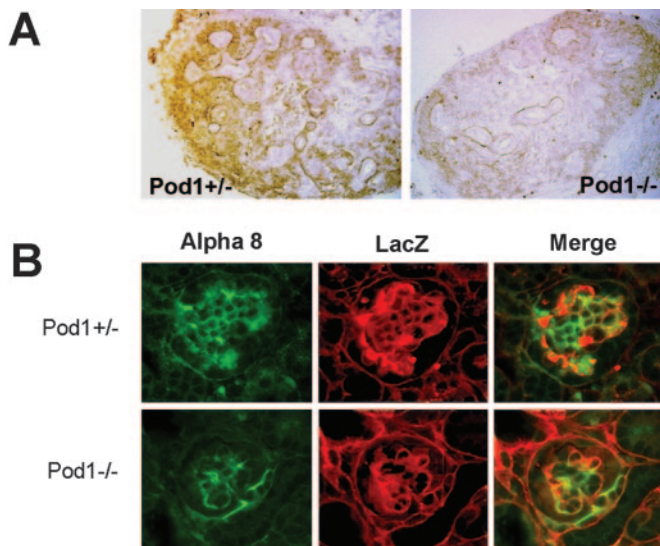
Affy Probe ID	Gene Title	Gene Symbol	UniGene ID	Fold Difference
1431225_at	SRY-box containing gene 11	Sox11	Mm.41702	18.17
1417552_at	fibroblast activation protein	Fap	Mm.41816	11.97
1454803_a_at	histone deacetylase 11	Hdac11	Mm.206218	11.36
1448590_at	procollagen, type VI, alpha 1	Col6a1	Mm.2509	8.80
1454159_a_at	insulin-like growth factor binding protein 2	Igfbp2	Mm.141936	7.54
1449368_at	decorin	Dcn	Mm.56769	6.99
1451456_at	Unknown (protein for MGC:66590)	MGC66590	Mm.299908	6.91
1423607_at	lumican	Lum	Mm.18888	6.76
1427038_at	preproenkephalin 1	Penk1	Mm.2899	6.60
1448229_s_at	cyclin D2	Ccnd2	Mm.294136	6.57
1421694_a_at	chondroitin sulfate proteoglycan 2	Cspg2	Mm.158700	6.57
1439427_at	claudin 9	Cldn9	Mm.103738	6.12
1419497_at	cyclin-dependent kinase inhibitor 1B (P27)	Cdkn1b	Mm.272101	5.98
1418450_at	immunoglobulin superfamily containing leucine-	Islr	Mm.38426	5.94
1424367_a_at	homer homolog 2 (Drosophila)	Homer2	Mm.228	5.92
1439757_s_at	Eph receptor A4	Epha4	Mm.3249	5.90
1416006_at	midkine	Mdk	Mm.57181	5.85
1429871_at	hyaluronan mediated motility receptor (RHAMM)	Hmmr	Mm.116997	5.83
1452250_a_at	procollagen, type VI, alpha 2	Col6a2	Mm.1949	5.82
1439556_at	neural cell adhesion molecule 1	Ncam1	Mm.4974	5.77
1448754_at	retinol binding protein 1, cellular	Rbp1	Mm.279741	5.71
1434129_s_at	expressed sequence AI447312	AI447312	Mm.205393	5.55
1439380_x_at	GTL2, imprinted maternally expressed untranslated	Gtl2	Mm.200506	5.40
1429051_s_at	SRY-box containing gene 11	Sox11	Mm.41702	5.39
1416211_a_at	pleiotrophin	Ptn	Mm.3063	5.29
1426658_x_at	3-phosphoglycerate dehydrogenase	Phgdh	Mm.298899	5.28
1417378_at	immunoglobulin superfamily, member 4	Igsf4	Mm.275051	5.24
1421074_at	cytochrome P450, family 7, subfamily b, polype	Cyp7b1	Mm.278588	5.09
1448956_at	START domain containing 10	Stard10	Mm.28896	5.08
1442144_at	Emu1 gene	Emu1	Mm.153507	5.03
1427256_at	chondroitin sulfate proteoglycan 2	Cspg2	Mm.158700	5.02
1434667_at	procollagen, type VIII, alpha 2	Col8a2	Mm.296327	5.01
1450288_at	cadherin 6	Cdh6	Mm.57048	4.98
1427883_a_at	procollagen, type III, alpha 1	Col3a1	Mm.249555	4.93
1452183_a_at	GTL2, imprinted maternally expressed untranslated	Gtl2	Mm.200506	4.93
1416168_at	serine (or cysteine) proteinase inhibitor, clade	Serpinf1	Mm.2044	4.93
1421075_s_at	cytochrome P450, family 7, subfamily b, polype	Cyp7b1	Mm.278588	4.87
1417845_at	claudin 6	Cldn6	Mm.86421	4.82
1416473_a_at	neighbor of Punc E11	Nope	Mm.209041	4.81
1448550_at	lipopolysaccharide binding protein	Lbp	Mm.218846	4.80
1423153_x_at	complement component factor h	Cfh	Mm.8655	4.80

and portions of proximal tubular contaminants). However, that there is intense lacZ staining in these structures confirms that they are glomerular in origin.

Second, we were able to determine which “vascular stage” is required for successful isolation. According to elegant studies by Hyink *et al.* (19), it is known that vascular progenitors migrate into the vascular cleft to produce the glomerular capillary network during the S-shape stage. Using a VEGFR-2-GFP

reporter mouse strain (the enhanced GFP is knocked into the VEGFR-2 locus), we were able to observe and confirm VEGFR-2-positive cells in the cleft at the late S-shape/early capillary loop stage. Immediately after perfusion with Dynabeads, the beads could be seen in the lumen of the capillary forming in the cleft of late S-shape/early capillary loop stage glomeruli on tissue sections (Figures 2 and 6). In conclusion, we report a highly efficient method to isolate embryonic glomeruli, provide





**Figure 7.** Expression of  $\alpha 8$  Integrin in Pod1 KO and wild-type kidneys. (A) Immunohistochemical staining of kidneys from mice at 13.5 dpc shows expression of  $\alpha 8$  integrin in condensing mesenchyme around ureteric buds of wild-type kidneys. Expression is markedly reduced in kidneys from Pod1 KO mice. (B) Glomeruli are double labeled with an antibody to  $\alpha 8$  integrin (green) and lacZ (red). LacZ is expressed in Pod1-expressing cells (podocytes and peritubular interstitial cells), whereas  $\alpha 8$  integrin is expressed in mesangial cells adjacent to endothelium. Note that  $\alpha 8$  integrin is reduced in glomeruli from Pod1 KO mice.

quantification of stages isolated, and demonstrate the utility and application of this protocol for gene expression profiling. This is a useful method to profile gene expression and identify relevant biologic effectors in glomeruli from KO mice.

## Acknowledgments

This work was supported by Canadian Institutes of Health Research grant MOP-62931 and the Kidney Foundation of Canada grant to S.E.Q.

We gratefully acknowledge Minoru Takemoto, who came to the laboratory and taught us his wonderful technique. We thank J. Rossant for critically reviewing the manuscript, D. Holmyard for expert electron microscopy assistance, and D. Vukasovic for excellent secretary assistance; S.E.Q. is the recipient of a CRC Tier II Research Chair and a Premier's Research of Excellence Award.

## References

- Kreidberg JA: Podocyte differentiation and glomerulogenesis. *J Am Soc Nephrol* 14: 806–814, 2003
- Quaggin SE: Transcriptional regulation of podocyte specification and differentiation. *Microsc Res Tech* 57: 208–211, 2002
- Cui S, Schwartz L, Quaggin SE: Pod1 is required in stromal cells for glomerulogenesis. *Dev Dyn* 226: 512–522, 2003
- Quaggin SE, Schwartz L, Post M, Rossant J: The basic-helix-loop-helix protein Pod-1 is critically important for kidney and lung organogenesis. *Development* 126: 5771–5783, 1999
- Lu J, Richardson JA, Olson EN: Capsulin: A novel bHLH transcription factor expressed in epicardial progenitors and mesenchyme of visceral organs. *Mech Dev* 73: 23–32, 1998
- Cui S, Li S, Quaggin SE: Pod1 is required for podocyte and endothelial cell differentiation in glomerulus. Presented at the annual meeting of American Society of Nephrology; 2004; St. Louis
- Takemoto M, Asker N, Gerhardt H, Lundkvist A, Johansson BR, Saito Y, Betsholtz C: A new method for large scale isolation of kidney glomeruli from mice. *Am J Pathol* 161: 799–805, 2002
- Wong MA, Cui S, Quaggin SE: Identification and characterization of a glomerular-specific promoter from the human nephrin gene. *Am J Physiol Renal Physiol* 279: F1027–F1032, 2000
- Quaggin SE, Vanden Heuvel GB, Igarashi P: Pod-1, a mesoderm-specific basic-helix-loop-helix protein expressed in mesenchymal and glomerular epithelial cells in the developing kidney. *Mech Dev* 71: 37–48, 1998
- Fredman P, Mansson JE, Svennerholm L, Samuelsson B, Pascher I, Pimlott W, Karlsson KA, Klinghardt GW: Chemical structures of three fucogangliosides isolated from nervous tissue of mini-pig. *Eur J Biochem* 116: 553–564, 1981
- Braet F, De Zanger R, Wisse E: Drying cells for SEM, AFM and TEM by hexamethyldisilazane: A study on hepatic endothelial cells. *J Microsc* 186: 84–87, 1997
- Denda S, Reichardt LF, Muller U: Identification of osteopontin as a novel ligand for the integrin alpha8 beta1 and potential roles for this integrin-ligand interaction in kidney morphogenesis. *Mol Biol Cell* 9: 1425–1435, 1998
- Muller U, Wang D, Denda S, Meneses JJ, Pedersen RA, Reichardt LF: Integrin alpha8beta1 is critically important for epithelial-mesenchymal interactions during kidney morphogenesis. *Cell* 88: 603–613, 1997
- Haas CS, Amann K, Schittny J, Blaser B, Muller U, Hartner A: Glomerular and renal vascular structural changes in alpha8 integrin-deficient mice. *J Am Soc Nephrol* 14: 2288–2296, 2003
- Bieritz B, Spessotto P, Colombatti A, Jahn A, Prols F, Hartner A: Role of alpha8 integrin in mesangial cell adhesion, migration, and proliferation. *Kidney Int* 64: 119–127, 2003
- Cui S, Ross A, Stallings N, Parker K, Capel B, Quaggin SE: Disrupted gonadogenesis and male-to-female sex reversal in Pod1 knockout mice. *Development*. 131: 4095–4105, 2004
- Denda S: [The role of integrin alpha 8 beta 1 in kidney morphogenesis]. *Tanpakushitsu Kakusan Koso* 44: 136–142, 1999
- Schnapp LM, Breuss JM, Ramos DM, Sheppard D, Pytela R: Sequence and tissue distribution of the human integrin alpha 8 subunit: A beta 1-associated alpha subunit expressed in smooth muscle cells. *J Cell Sci* 108: 537–544, 1995
- Hyink DP, Abrahamson DR: Origin of the glomerular vasculature in the developing kidney. *Semin Nephrol* 15: 300–314, 1995

## Appendix I - A

### Genes down-regulated in glomeruli isolated from Pod1 KO compared to WT mice

Affy Probe ID	Gene Title	Gene Symbol	UniGene ID	Fold Different
1424567_at	RIKEN cDNA 6330415F13 gene	6330415F13 Rik	Mm.27469	-27.02
1419717_at	sema domain, immunoglobulin domain (Ig), short basic domain, secreted, (semaphorin) 3E	Sema3e	Mm.134093	-20.86
1418093_a_at	epidermal growth factor	Egf	Mm.254772	-18.98
1424719_a_at	microtubule-associated protein tau	Mapt	Mm.1287	-14.24
1442226_at	sema domain, immunoglobulin domain (Ig), short basic domain, secreted, (semaphorin) 3E	Sema3e	Mm.134093	-12.98
1415824_at	stearoyl-Coenzyme A desaturase 2	Scd2	Mm.193096	-12.12
1448024_at	Mus musculus 0 day neonate lung cDNA, RIKEN full-length enriched library, clone:E030020K21 product:weakly similar to HYPOTHETICAL 13.8 KDA PROTEIN [Homo sapiens], full insert sequence	---	Mm.25259	-10.62
1433707_at	gamma-aminobutyric acid (GABA-A) receptor, subunit alpha 4	Gabra4	Mm.248731	-10.21
1427963_s_at	Mus musculus transcribed sequences	---	Mm.318186	-9.65
1455028_at	microtubule-associated protein tau	Mapt	Mm.1287	-9.46
1441389_at	Mus musculus transcribed sequences	---	Mm.183689	-9.38
1427126_at	heat shock protein 1A	Hspa1a	Mm.275405	-9.23
1436203_a_at	Mus musculus 18-day embryo whole body cDNA, RIKEN full-length enriched library, clone:1110059G02 product:unclassifiable, full insert sequence	---	Mm.86556	-9.15
1452907_at	galactosylceramidase	Galc	Mm.5120	-9.14
1452351_at	RIKEN cDNA C030027K23 gene	C030027K23 Rik	Mm.291434	-8.57
1452388_at	heat shock protein 1A	Hspa1a	Mm.6388	-8.54
1460370_at	RIKEN cDNA 2900052H09 gene	2900052H09 Rik	Mm.182401	-8.37
1418762_at	Mus musculus transcribed sequences	---	Mm.315871	-8.35
1425181_at	RIKEN cDNA 3110007P09 gene	3110007P09 Rik	Mm.238094	-8.24
1422155_at	histone 2, H2aa1	Hist2h2aa1	Mm.261587	-8.16

1427127_x_at	heat shock protein 1A	Hspa1a	Mm.275405	-8.06
1437477_at	leucine rich repeat (in FLII) interacting protein 1	Lrrfp1	Mm.45039	-7.92
1455150_at	Mus musculus 13 days embryo forelimb cDNA, RIKEN full-length enriched library, clone:5930438H13 product:unknown EST, full insert sequence	---	Mm.132150	-7.86
1443119_at	Mus musculus adult male medulla oblongata cDNA, RIKEN full-length enriched library, clone:6330570A01 product:unknown EST, full insert sequence	---	Mm.93367	-7.59
1452474_a_at	ADP-ribosyltransferase 3	Art3	Mm.133535	-7.35
1450224_at	procollagen, type IV, alpha 3	Col4a3	Mm.8069	-7.34
1439618_at	phosphodiesterase 10A	Pde10a	Mm.87161	-7.22
1424208_at	prostaglandin E receptor 4 (subtype EP4)	Ptger4	Mm.18509	-7.08
1436569_at	Mus musculus 13 days embryo lung cDNA, RIKEN full-length enriched library, clone:D430013K02 product:unknown EST, full insert sequence	---	Mm.138471	-6.96
1443906_at	decay accelerating factor 1	Daf1	Mm.101591	-6.84
1416077_at	adrenomedullin	Adm	Mm.1408	-6.84
1422561_at	a disintegrin-like and metalloprotease (reprolysin type) with thrombospondin type 1 motif, 5 (aggrecanase-2)	Adamts5	Mm.112933	-6.76
1438779_at	procollagen, type IV, alpha 3	Col4a3	Mm.8069	-6.70
1457140_s_at	TEA domain family member 1	Tead1	Mm.62480	-6.65
1458381_at	chloride intracellular channel 5	Clic5	Mm.37666	-6.64
1434109_at	RIKEN cDNA A930014C21 gene	A930014C21	Mm.100125	-6.47
1436204_at	Mus musculus 18-day embryo whole body cDNA, RIKEN full-length enriched library, clone:1110059G02 product:unclassifiable, full insert sequence	Rik	Mm.86556	-6.41
1449957_at	protein tyrosine phosphatase, receptor type, V	Ptprv	Mm.4450	-6.33
1460297_at	nephrosis 2 homolog, podocin (human)	Nphs2	Mm.289099	-6.23
1433885_at	hypothetical protein A630053O10	A630053O10	Mm.38878	-6.20
1455180_at	Mus musculus 16 days embryo head cDNA, RIKEN full-length enriched library, clone:C130030N11 product:unclassifiable, full insert sequence	---	Mm.297564	-6.17
1422804_at	serine (or cysteine) proteinase inhibitor, clade B, member 6b	Serpinb6b	Mm.36526	-6.16
1450789_at	rhopilin, Rho GTPase binding protein 1	Rhpn1	Mm.57052	-6.13
1418162_at	toll-like receptor 4	Tlr4	Mm.38049	-6.10



1447100_s_at	RIKEN cDNA 5730508B09 gene	5730508B09 Rik	Mm.19330	-6.10
1422869_at	c-mer proto-oncogene tyrosine kinase	Mertk	Mm.239655	-5.98
1417623_at	solute carrier family 12, member 2	Slc12a2	Mm.228433	-5.83
1416194_at	cytochrome P450, family 4, subfamily b, polypeptide 1	Cyp4b1	Mm.1840	-5.80
1426252_a_at	uromodulin	Umod	Mm.10826	-5.71
1427320_at	Mus musculus 0 day neonate lung cDNA, RIKEN full-length enriched library, clone:E030030K01 product:coatomer protein complex, subunit gamma 2, antisense 2, full insert sequence	---	Mm.22891	-5.70
1426246_at	protein S (alpha)	Pros1	Mm.127156	-5.65
1452291_at	hypothetical protein LOC212285	LOC212285	Mm.244403	-5.61
1448886_at	GATA binding protein 3	Gata3	Mm.606	-5.55
1429444_at	Mus musculus 18-day embryo whole body cDNA, RIKEN full-length enriched library, clone:1110065D03 product:weakly similar to CDNA FLJ14361 FIS, CLONE HEMBA1000491, WEAKLY SIMILAR TO RAS-LIKE PROTEIN 2 [Homo sapiens], full insert sequence	---	Mm.266978	-5.54
1458464_at	hypothetical protein D030049F17	D030049F17	Mm.212832	-5.52
1439836_at	Mus musculus transcribed sequences	---	Mm.305643	-5.47
1442051_at	Mus musculus transcribed sequence with strong similarity to protein ref:NP_003527.1 (H.sapiens) H3 histone family, member K [Homo sapiens]	---	Mm.298140	-5.45
1452318_a_at	heat shock protein 1A	Hspa1a	Mm.275405	-5.29
1451413_at	calpastatin	Cast	Mm.29163	-5.28
1428547_at	5' nucleotidase, ecto	Nt5e	Mm.244235	-5.27
1427386_at	Rho guanine nucleotide exchange factor (GEF) 16	Arhgef16	Mm.38481	-5.19
1435701_at	Mus musculus 10 days neonate medulla oblongata cDNA, RIKEN full-length enriched library, clone:B830010I11 product:unclassifiable, full insert sequence	---	Mm.170971	-5.19
1416676_at	histidine-rich glycoprotein	Hrg	Mm.2160	-5.18
1420532_at	activin receptor interacting protein 1	Acvrinp1	Mm.258603	-5.17
1433768_at	RIKEN cDNA 2410003B16 gene	2410003B16 Rik	Mm.29933	-5.15
1429779_at	eukaryotic translation initiation factor 2C, 4	Eif2c4	Mm.86705	-5.15
1451846_at	RIKEN cDNA 1200007O21 gene	1200007O21 Rik	Mm.120298	-5.14

1454604_s_at	EST AI426782	AI426782	Mm.21950	-5.13
1460295_s_at	interleukin 6 signal transducer	Il6st	Mm.4364	-5.12
1449519_at	growth arrest and DNA-damage-inducible 45 alpha	Gadd45a	Mm.1236	-5.11
1439566_at	hypothetical protein C730021L23	C730021L23	Mm.138080	-5.11
1460163_at	Mus musculus transcribed sequences	---	Mm.305341	-5.03
1420136_a_at	Mus musculus transcribed sequence with weak similarity to protein ref:NP_081764.1 (M.musculus) RIKEN cDNA 5730493B19 [Mus musculus]	---	Mm.174122	-5.01
1429954_at	RIKEN cDNA 3110037K17 gene	3110037K17 Rik	Mm.25684	-4.93
1417235_at	EH-domain containing 3	Ehd3	Mm.18526	-4.83
1460259_s_at	chloride channel calcium activated 2	Clca2	Mm.20897	-4.81
1419077_at	membrane protein, palmitoylated 3 (MAGUK p55 subfamily member 3)	Mpp3	Mm.20449	-4.76
1417236_at	EH-domain containing 3	Ehd3	Mm.18526	-4.75
1456306_a_at	uromodulin	Umod	Mm.10826	-4.71
1449984_at	chemokine (C-X-C motif) ligand 2	Cxcl2	Mm.4979	-4.70
1455995_at	DNA segment, Chr 10, Brigham & Women's Genetics 1379 expressed	D10Bwg1379 e	Mm.39193	-4.68
1425814_a_at	calcitonin receptor-like	Calclr	Mm.75467	-4.67
1425518_at	RIKEN cDNA 5730402K07 gene	5730402K07 Rik	Mm.196153	-4.65
1441075_at	nitric oxide synthase trafficker	LOC329416	Mm.90047	-4.64
1418072_at	histone 1, H2bc	Hist1h2bc	Mm.261676	-4.64
1434273_at	RIKEN cDNA A830073O21 gene	A830073O21 Rik	Mm.222728	-4.63
1457577_at	Mus musculus transcribed sequence with moderate similarity to protein ref:NP_081764.1 (M.musculus) RIKEN cDNA 5730493B19 [Mus musculus]	---	Mm.214743	-4.63
1418553_at	RIKEN cDNA D030053O22 gene	D030053O22 Rik	Mm.256018	-4.63
1431004_at	lysyl oxidase-like 2	Loxl2	Mm.116714	-4.57
1415806_at	plasminogen activator, tissue	Plat	Mm.154660	-4.55
1433664_at	RIKEN cDNA 3010021M21 gene	3010021M21 Rik	Mm.207894	-4.53
1448780_at	solute carrier family 12, member 2	Slc12a2	Mm.228433	-4.51
1456981_at	transmembrane channel-like gene family 7	Tmc7	Mm.69380	-4.50
1429030_at	C1q and tumor necrosis factor related protein 7	C1qtnf7	Mm.275553	-4.50
1459646_at	Mus musculus transcribed sequence with weak similarity to protein ref:NP_006033.1 (H.sapiens) heparan sulfate D-glucosaminyl 3-O-sulfotransferase 3A1; heparin-glucosamine 3-O-sulfotransferase [Homo sapiens]	---	Mm.31918	-4.50

1456404_at	a disintegrin-like and metalloprotease (repolysin type) with thrombospondin type 1 motif, 5 (aggrecanase-2)	Adamts5	Mm.112933	-4.49
1416702_at	serine (or cysteine) proteinase inhibitor, clade I, member 1	Serpini1	Mm.41560	-4.49
1422474_at	phosphodiesterase 4B, cAMP specific	Pde4b	Mm.124710	-4.48
1448443_at	serine (or cysteine) proteinase inhibitor, clade I, member 1	Serpini1	Mm.41560	-4.46
1419468_at	RIKEN cDNA 1200003C23 gene	1200003C23 Rik	Mm.280563	-4.43
1431067_at	RIKEN cDNA 6330404A07 gene	6330404A07 Rik	Mm.11014	-4.43
1452985_at	uveal autoantigen with coiled-coil domains and ankyrin repeats	Uaca	Mm.68819	-4.40
1453783_at	purine rich element binding protein A	Pura	Mm.231802	-4.40
1441964_at	Mus musculus 15 days embryo male testis cDNA, RIKEN full-length enriched library, clone:8030484F22 product:unknown EST, full insert sequence	---	Mm.130694	-4.39
1440146_at	Mus musculus transcribed sequence with moderate similarity to protein ref:NP_056001.1 (H.sapiens) chorein, isoform B [Homo sapiens]	---	Mm.328272	-4.38
1416749_at	protease, serine, 11 (Igf binding)	Prss11	Mm.30156	-4.36
1434369_a_at	crystallin, alpha B	Cryab	Mm.178	-4.36
1435987_x_at	Mus musculus 18-day embryo whole body cDNA, RIKEN full-length enriched library, clone:1110059G02 product:unclassifiable, full insert sequence	---	Mm.86556	-4.36
1419300_at	FMS-like tyrosine kinase 1	Flt1	Mm.241483	-4.35
1417852_x_at	chloride channel calcium activated 1	Clca1	Mm.275745	-4.34
1424842_a_at	RIKEN cDNA 0610025G21 gene	0610025G21 Rik	Mm.286599	-4.33
1439426_x_at	lysozyme	Lyzs	Mm.45436	-4.33
1426906_at	interferon activated gene 205	lfi205	Mm.255414	-4.32
1456721_at	Mus musculus similar to KIAA0960 protein (LOC384349), mRNA	---	Mm.258177	-4.31
1445723_at	hypothetical protein C230017K02	C230017K02	Mm.256756	-4.28
1455056_at	Mus musculus 0 day neonate lung cDNA, RIKEN full-length enriched library, clone:E030010D13 product:inferred: unnamed protein product {Homo sapiens}, full insert sequence	---	Mm.218981	-4.27
1421811_at	thrombospondin 1	Thbs1	Mm.4159	-4.26



1427123_s_at	Mus musculus 0 day neonate lung cDNA, RIKEN full-length enriched library, clone:E030030K01 product:coatomer protein complex, subunit gamma 2, antisense 2, full insert sequence	---	Mm.22891	-4.26
1436246_at	Mus musculus 10 days neonate cortex cDNA, RIKEN full-length enriched library, clone:A830014C16 product:unknown EST, full insert sequence	---	Mm.65317	-4.22
1457257_x_at	Mus musculus transcribed sequences	---	Mm.40477	-4.21
1440250_at	RIKEN cDNA E130010M05 gene	E130010M05 Rik	Mm.40253	-4.20
1454855_at	activin receptor interacting protein 1	Acvrinp1	Mm.303817	-4.20
1448213_at	annexin A1	Anxa1	Mm.248360	-4.20
1422659_at	calcium/calmodulin-dependent protein kinase II, delta	Camk2d	Mm.255822	-4.16
1448529_at	thrombomodulin	Thbd	Mm.24096	-4.14
1417282_at	matrix metalloproteinase 23	Mmp23	Mm.29373	-4.13
1431300_at	RIKEN cDNA 3110007P09 gene	3110007P09 Rik	Mm.238094	-4.09
1424325_at	RIKEN cDNA A930014I12 gene	A930014I12 Rik	Mm.210996	-4.08
1457968_at	Mus musculus adult male spinal cord cDNA, RIKEN full-length enriched library, clone:A330055K23 product:unclassifiable, full insert sequence	---	Mm.202341	-4.07
1439505_at	chloride intracellular channel 5	Clic5	Mm.37666	-4.06
1455030_at	Mus musculus 16 days neonate cerebellum cDNA, RIKEN full-length enriched library, clone:9630021C19 product:unknown EST, full insert sequence	---	Mm.260595	-4.06
1433761_at	RIKEN cDNA 9430063L05 gene	9430063L05 Rik	Mm.292563	-4.05
1460039_at	RIKEN cDNA 5930406N14 gene	5930406N14 Rik	Mm.131289	-4.03
1443833_at	Mus musculus transcribed sequences	---	Mm.152366	-4.02
1441254_at	Mus musculus transcribed sequences	---	Mm.132375	-4.00
1435679_at	optineurin	Optn	Mm.116942	-4.00
1424239_at	RIKEN cDNA 2310066E14 gene	2310066E14 Rik	Mm.41261	-3.99
1435409_at	Mus musculus transcribed sequences	---	Mm.2479	-3.99
1452013_at	ATPase, class V, type 10A	Atp10a	Mm.135129	-3.98
1415834_at	dual specificity phosphatase 6	Dusp6	Mm.1791	-3.98
1433512_at	Friend leukemia integration 1	Fli1	Mm.258908	-3.97
1427228_at	RIKEN cDNA 2410003B16 gene	2410003B16 Rik	Mm.29933	-3.96

1418788_at	endothelial-specific receptor tyrosine kinase	Tek	Mm.14313	-3.96
1456150_at	RIKEN cDNA A630082K20 gene	A630082K20 Rik	Mm.293175	-3.94
1426641_at	expressed sequence AW319517	AW319517	Mm.266679	-3.93
1418943_at	expressed sequence AV006891	AV006891	Mm.33127	-3.91
1454806_at	DNA segment, Chr 12, ERATO Doi 553, expressed	D12Erttd553e	Mm.275699	-3.91
1437928_at	protocadherin 12	Pcdh12	Mm.12862	-3.90
1417073_a_at	quaking	Qk	Mm.262294	-3.89
1430030_at	RIKEN cDNA 5330426P16 gene	5330426P16 Rik	Mm.139089	-3.89
1416818_at	parvin, alpha	Parva	Mm.143763	-3.87
1424470_a_at	RIKEN cDNA 9330170P05 gene	9330170P05 Rik	Mm.24028	-3.85
1452231_x_at	interferon activated gene 205	Ifi205	Mm.255414	-3.85
1421923_at	calpain 7	Capn7	Mm.201535	-3.84
1453782_at	RIKEN cDNA 0610012A05 gene	0610012A05 Rik	Mm.102470	-3.84
1457146_at	Mus musculus transcribed sequences	---	Mm.320466	-3.83
1433741_at	CD38 antigen	Cd38	Mm.249873	-3.83
1445328_at	RIKEN cDNA E130010M05 gene	E130010M05 Rik	Mm.40253	-3.82
1439925_at	transmembrane 4 superfamily member 1	Tm4sf1	Mm.856	-3.82
1445359_at	adenylate cyclase 1	Adcy1	Mm.259733	-3.81
1423176_at	transducer of ErbB-2.1	Tob1	Mm.259673	-3.81
1427489_at	integrin alpha 8	Itga8	Mm.220860	-3.81
1438251_x_at	protease, serine, 11 (Igf binding)	Prss11	Mm.30156	-3.80
1426471_at	zinc finger protein 52	Zfp52	Mm.296100	-3.80
1447584_s_at	myc target 1	Myct1	Mm.33762	-3.79
1424265_at	N-acetylneuraminate pyruvate lyase	Npl	Mm.24887	-3.79
1453201_at	TEA domain family member 1	Tead1	Mm.62480	-3.77
1418901_at	CCAAT/enhancer binding protein (C/EBP), beta	Cebpb	Mm.4863	-3.77
1420695_at	dachshund 1 (Drosophila)	Dach1	Mm.267141	-3.76
1441342_at	dipeptidylpeptidase 4	Dpp4	Mm.1151	-3.75
1422619_at	phosphatidic acid phosphatase 2a	Ppap2a	Mm.276039	-3.73
1451563_at	EGF-like module containing, mucin-like, hormone receptor-like sequence 4	Emr4	Mm.210497	-3.71
1448961_at	phospholipid scramblase 2	Plscr2	Mm.10306	-3.70
1438081_at	Mus musculus transcribed sequences	---	Mm.210479	-3.70
1448293_at	early B-cell factor 1	Ebf1	Mm.255321	-3.69
1417327_at	caveolin 2	Cav2	Mm.31915	-3.67
1456413_at	RIKEN cDNA 9430063L05 gene	9430063L05 Rik	Mm.129840	-3.67
1426893_at	RIKEN cDNA C230093N12 gene	C230093N12 Rik	Mm.4065	-3.66

1436698_x_at	Mus musculus 16 days neonate thymus cDNA, RIKEN full-length enriched library, clone:A130089K10 product:unknown EST, full insert sequence	---	Mm.34379	-3.66
1436197_at	cDNA sequence BC046418	BC046418	Mm.25332	-3.64
1452348_s_at	interferon activated gene 205	Ifi205	Mm.255414	-3.63
1416953_at	connective tissue growth factor	Ctgf	Mm.1810	-3.62
1419693_at	collectin sub-family member 12	Colec12	Mm.218571	-3.62
1438227_at	hypothetical protein 9430022A14	9430022A14	Mm.225	-3.61
1437012_x_at	RIKEN cDNA 9330170P05 gene	9330170P05 Rik	Mm.24028	-3.61
1425107_a_at	leukemia inhibitory factor receptor	Lifr	Mm.149720	-3.61
1438186_at	Mus musculus transcribed sequences	---	Mm.217907	-3.60
1452253_at	cysteine-rich motor neuron 1	Crim1	Mm.19271	-3.60
1453377_at	RIKEN cDNA 2210402M20 gene	2210402M20 Rik	Mm.40974	-3.59
1420897_at	synaptosomal-associated protein 23	Snap23	Mm.245715	-3.58
1440355_at	potassium channel tetramerisation domain containing 12b	Kctd12b	Mm.271572	-3.58
1434621_at	Mus musculus 16 days neonate thymus cDNA, RIKEN full-length enriched library, clone:A130089K10 product:unknown EST, full insert sequence	---	Mm.34379	-3.58
1418106_at	hairy/enhancer-of-split related with YRPW motif 2	Hey2	Mm.103573	-3.58
1435867_at	Mus musculus transcribed sequences	---	Mm.30702	-3.57
1421096_at	transient receptor potential cation channel, subfamily C, member 1	Trpc1	Mm.149633	-3.57
1457716_at	zinc finger, A20 domain containing 1	Za20d1	Mm.272336	-3.56
1424130_a_at	Mus musculus adult male tongue cDNA, RIKEN full-length enriched library, clone:2310075E07 product:unknown EST, full insert sequence	---	Mm.21864	-3.55
1442019_at	Mus musculus adult male corpora quadrigemina cDNA, RIKEN full-length enriched library, clone:B230343A10 product:unknown EST, full insert sequence	---	Mm.152121	-3.53
1433699_at	tumor necrosis factor, alpha-induced protein 3	Tnfaip3	Mm.116683	-3.53
1433795_at	Mus musculus 18-day embryo whole body cDNA, RIKEN full-length enriched library, clone:1110036H20 product:unknown EST, full insert sequence	---	Mm.45644	-3.52
1421064_at	membrane protein, palmitoylated 5 (MAGUK p55 subfamily member 5)	Mpp5	Mm.30561	-3.52
1424375_s_at	immune associated nucleotide 1	Ian1	Mm.262146	-3.52



1434472_at	Mus musculus 11 days pregnant adult female ovary and uterus cDNA, RIKEN full-length enriched library, clone:5031436O03 product:unknown EST, full insert sequence	---	Mm.229761	-3.52
1427199_at	RIKEN cDNA 2510002A14 gene	2510002A14 Rik	Mm.260594	-3.52
1418674_at	oncostatin M receptor	Osmr	Mm.10760	-3.52
1455901_at	synaptonemal complex protein 3	Sycp3	Mm.297977	-3.52
1450391_a_at	monoglyceride lipase	Mgll	Mm.272197	-3.52
1436568_at	junction adhesion molecule 2	Jam2	Mm.41758	-3.51
1438032_at	RIKEN cDNA 4832412D13 gene	4832412D13 Rik	Mm.288868	-3.50
1428662_a_at	RIKEN cDNA 2300002F06 gene	2300002F06 Rik	Mm.301373	-3.50
1424356_a_at	cDNA sequence BC019776	BC019776	Mm.153566	-3.49
1455870_at	Mus musculus transcribed sequence with weak similarity to protein sp:Q9Y2D5 (H.sapiens) AKA2_HUMAN A-kinase anchor protein 2 (Protein kinase A anchoring protein 2) (PRKA2)	---	Mm.302459	-3.49
1430247_at	dishevelled associated activator of morphogenesis 2	Daam2	Mm.211275	-3.48
1423516_a_at	Mus musculus transcribed sequence with weak similarity to protein pir:G00043 (H.sapiens) G00043 osteonidogen - human	---	Mm.320724	-3.48
1456288_at	schlafen 5	Slfn5	Mm.42147	-3.45
1416447_at	cytochrome c oxidase, subunit VIIa 2	Cox7a2	Mm.3819	-3.45
1448469_at	nidogen 1	Nid1	Mm.4691	-3.44
1438271_at	LIM domain containing preferred translocation partner in lipoma	Lpp	Mm.209385	-3.44
1435363_at	pleckstrin homology domain containing, family G (with RhoGef domain) member 1	Plekhg1	Mm.11768	-3.44
1436533_at	Sjogren syndrome antigen A2	Ssa2	Mm.40370	-3.42
1436870_s_at	expressed sequence AU041783	AU041783	Mm.226284	-3.42
1436216_s_at	RIKEN cDNA 2610204M08 gene	2610204M08 Rik	Mm.250193	-3.42
1425863_a_at	protein tyrosine phosphatase, receptor type, O	Ptpro	Mm.186361	-3.42
1429053_at	RIKEN cDNA 1110012J17 gene	1110012J17 Rik	Mm.33421	-3.42
1446524_at	Mus musculus 0 day neonate cerebellum cDNA, RIKEN full-length enriched library, clone:C230096N06 product:unclassifiable, full insert sequence	---	Mm.303797	-3.42
1428867_at	RIKEN cDNA 4933417E01 gene	4933417E01 Rik	Mm.90507	-3.42
1449334_at	tissue inhibitor of metalloproteinase 3	Timp3	Mm.132958	-3.41

1444735_at	zinc finger/RING finger 2	Znrf2	Mm.286149	-3.41
1440244_at	avian erythroblastosis virus E-26 (v-ets) oncogene related	Erg	Mm.164531	-3.40
1434013_at	RIKEN cDNA D930036B08 gene	D930036B08 Rik	Mm.38486	-3.39
1426218_at	glucocorticoid induced transcript 1	Glcci1	Mm.27320	-3.39
1427072_at	START domain containing 8	Stard8	Mm.236928	-3.39
1423585_at	polymerase (RNA) II (DNA directed) polypeptide B	Polr2b	Mm.273217	-3.39
1454086_a_at	LIM domain only 2	Lmo2	Mm.29266	-3.39
1419485_at	forkhead box C1	Foxc1	Mm.12949	-3.39
1460000_at	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4932442L11 product:hypothetical protein, full insert sequence	---	Mm.31814	-3.38
1446316_at	lipin 2	Lpin2	Mm.227924	-3.38
1419021_at	mcf.2 transforming sequence	Mcf2	Mm.93796	-3.38
1429184_at	RIKEN cDNA 9130002C22 gene	9130002C22 Rik	Mm.97986	-3.37
1437231_at	SLIT and NTRK-like family, member 6	Slitrk6	Mm.49728	-3.37
1421425_a_at	Down syndrome critical region gene 1-like 1	Dscr11	Mm.251242	-3.36
1427180_at	solute carrier family 27 (fatty acid transporter), member 3	Slc27a3	Mm.45519	-3.36
1416295_a_at	interleukin 2 receptor, gamma chain	Il2rg	Mm.2923	-3.36
1435595_at	RIKEN cDNA 1810011O10 gene	1810011O10 Rik	Mm.25775	-3.35
1453287_at	RIKEN cDNA 0610012A05 gene	0610012A05 Rik	Mm.300419	-3.35
1450658_at	a disintegrin-like and metalloprotease (reprolysin type) with thrombospondin type 1 motif, 5 (aggrecanase-2)	Adamts5	Mm.112933	-3.35
1450113_at	membrane protein, palmitoylated 5 (MAGUK p55 subfamily member 5)	Mpp5	Mm.30561	-3.32
1416811_s_at	trophoblast specific protein beta	Tpbpb	Mm.297920	-3.32
1454824_s_at	expressed sequence AI481402	AI481402	Mm.149438	-3.32
1437363_at	homer homolog 1 (Drosophila)	Homer1	Mm.37533	-3.31
1420944_at	zinc finger protein 185	Zfp185	Mm.1161	-3.30
1418749_at	cDNA sequence BC00398	BC003498	Mm.37607	-3.30
1448471_a_at	trophoblast specific protein beta	Tpbpb	Mm.297920	-3.30
1417540_at	E74-like factor 1	Elf1	Mm.24876	-3.30
1453593_at	RIKEN cDNA 1700110N18 gene	1700110N18 Rik	Mm.25670	-3.30
1426721_s_at	TCDD-inducible poly(ADP-ribose) polymerase	Tiparp	Mm.246398	-3.30
1455418_at	Mus musculus transcribed sequences	---	Mm.138292	-3.30
1436183_at	zinc finger CCCH type, antiviral 1	Zc3hav1	Mm.223550	-3.30
1429691_at	protein tyrosine phosphatase, receptor type, G	Ptprg	Mm.228269	-3.29
1427736_a_at	chemokine (C-C motif) receptor-like 2	Ccr12	Mm.7336	-3.29

1438201_at	Mus musculus, Similar to pyruvate dehydrogenase phosphatase, clone IMAGE:6492665, mRNA	---	Mm.257971	-3.29
1457435_x_at	myomesin 2	Myom2	Mm.272115	-3.29
1460670_at	RIO kinase 3 (yeast)	Riok3	Mm.28551	-3.29
1449229_a_at	cyclin-dependent kinase-like 2 (CDC2-related kinase)	Cdkl2	Mm.44963	-3.29
1454685_at	cDNA sequence BC003323	BC003323	Mm.270003	-3.28
1437347_at	endothelin receptor type B	Ednrb	Mm.229532	-3.28
1422414_a_at	calmodulin 3	Calm3	Mm.288630	-3.28
1439793_at	Mus musculus transcribed sequence with strong similarity to protein sp:P00722 (E. coli) BGAL_ECOLI Beta-galactosidase (Lactase)	---	Mm.30922	-3.27
1449022_at	nestin	Nes	Mm.298220	-3.27
1424431_at	RIKEN cDNA 4632415D10 gene	4632415D10 Rik	Mm.77112	-3.27
1428607_at	raf-related oncogene	Araf	Mm.220946	-3.27
1423061_at	armadillo repeat gene deleted in velo-cardio-facial syndrome	Arvcf	Mm.293599	-3.27
1455165_at	Mus musculus transcribed sequences	---	Mm.311415	-3.27
1455396_at	Mus musculus transcribed sequences	---	Mm.328319	-3.27
1418710_at	CD59a antigen	Cd59a	Mm.247265	-3.26
1417395_at	Kruppel-like factor 4 (gut)	Klf4	Mm.4325	-3.26
1452063_at	RIKEN cDNA 2410081M15 gene	2410081M15 Rik	Mm.32997	-3.26
1428562_at	RIKEN cDNA 2010305C02 gene	2010305C02 Rik	Mm.41393	-3.26
1452217_at	RIKEN cDNA 2310047C17 gene	2310047C17 Rik	Mm.35669	-3.25
1435280_at	Mus musculus transcribed sequences	---	Mm.269447	-3.25
1450418_a_at	RIKEN cDNA 2310034L04 gene	2310034L04 Rik	Mm.41891	-3.25
1438279_at	dipeptidylpeptidase 4	Dpp4	Mm.1151	-3.24
1436221_at	LISCH7-like	LOC381325	Mm.101743	-3.23
1436913_at	RIKEN cDNA A830059A17 gene	A830059A17 Rik	Mm.17647	-3.23
1436405_at	dedicator of cytokinesis 4	Dock4	Mm.109852	-3.23
1450410_a_at	RIKEN cDNA 4930570C03 gene	4930570C03 Rik	Mm.28955	-3.23
1433581_at	RIKEN cDNA 1190002N15 gene	1190002N15 Rik	Mm.258746	-3.22
1437868_at	cDNA sequence BC023892	BC023892	Mm.74610	-3.22
1422629_s_at	shroom	Shrm	Mm.46014	-3.22
1437113_s_at	phospholipase D1	Plid1	Mm.212039	-3.21
1429678_at	RIKEN cDNA 5730508B09 gene	5730508B09 Rik	Mm.19330	-3.21
1417111_at	mannosidase 1, alpha	Man1a	Mm.243941	-3.21
1424155_at	fatty acid binding protein 4, adipocyte	Fabp4	Mm.582	-3.20



145538_at	Mus musculus adult male aorta and vein cDNA, RIKEN full-length enriched library, clone:A530065B07 product:unknown EST, full insert sequence	---	Mm.44643	-3.20
1433455_at	spinocerebellar ataxia 2 homolog (human)	Sca2	Mm.295181	-3.20
1455301_at	Mus musculus adult male colon cDNA, RIKEN full-length enriched library, clone:9030621G03 product:unknown EST, full insert sequence	---	Mm.193102	-3.19
1453174_at	Mus musculus adult male tongue cDNA, RIKEN full-length enriched library, clone:2310076G13 product:unclassifiable, full insert sequence	---	Mm.38133	-3.19
1424260_at	solute carrier family 12, member 1	Slc12a1	Mm.3914	-3.19
1438030_at	Mus musculus similar to RAS guanyl releasing protein 3 (calcium and DAG-regulated); guanine nucleotide exchange factor for Rap1 (LOC240168), mRNA	---	Mm.291253	-3.19
1433801_at	RIKEN cDNA 9930012K11 gene	9930012K11	Mm.12148	-3.19
1454736_at	RIKEN cDNA 4921515A04 gene	Rik 4921515A04	Mm.3036	-3.19
1439794_at	netrin 4	Rik Ntn4	Mm.59574	-3.18
1452163_at	E26 avian leukemia oncogene 1, 5' domain	Ets1	Mm.292415	-3.18
1436570_at	Mus musculus transcribed sequence with strong similarity to protein sp:P00722 (E. coli) BGAL_ECOLI Beta-galactosidase (Lactase)	---	Mm.23897	-3.18
1438418_at	RIKEN cDNA 4932432K03 gene	4932432K03	Mm.252040	-3.18
1425525_a_at	purinergic receptor P2X, ligand-gated ion channel 4	Rik P2rx4	Mm.290884	-3.17
1422456_at	N-ethylmaleimide sensitive fusion protein	Nsf	Mm.69960	-3.17
1418774_a_at	ATPase, Cu <sup>++</sup> transporting, alpha polypeptide	Atp7a	Mm.254297	-3.17
1420425_at	PR domain containing 1, with ZNF domain	Prdm1	Mm.4800	-3.17
1434418_at	longevity assurance homolog 6 (S. cerevisiae)	Lass6	Mm.265620	-3.17
1449731_s_at	nuclear factor of kappa light chain gene enhancer in B-cells inhibitor, alpha	Nfkbia	Mm.170515	-3.16
1434776_at	sema domain, seven thrombospondin repeats (type 1 and type 1-like), transmembrane domain (TM) and short cytoplasmic domain, (semaphorin) 5A	Sema5a	Mm.260374	-3.16

1419088_at	tissue inhibitor of metalloproteinase 3	Timp3	Mm.132958	-3.16
1436178_at	Mus musculus adult male corpora quadrigemina cDNA, RIKEN full-length enriched library, clone:B230207G04 product:unknown EST, full insert sequence	---	Mm.324193	-3.15
1435463_s_at	RIKEN cDNA 9930104H07 gene	9930104H07 Rik	Mm.104617	-3.15
1437479_x_at	T-box 3	Tbx3	Mm.261742	-3.15
1456195_x_at	integrin beta 5	Itgb5	Mm.6424	-3.15
1456130_at	Mus musculus 15 days embryo head cDNA, RIKEN full-length enriched library, clone:D930002I12 product:unclassifiable, full insert sequence	---	Mm.11989	-3.15
1447551_x_at	latrophilin 3	Lphn3	Mm.89629	-3.14
1459894_at	hypothetical protein A630053O10	A630053O10	Mm.38878	-3.13
1437885_at	Mus musculus 9 days embryo whole body cDNA, RIKEN full-length enriched library, clone:D030029J20 product:unknown EST, full insert sequence	---	Mm.168541	-3.12
1423319_at	hematopoietically expressed homeobox	Hhex	Mm.33896	-3.12
1451716_at	v-maf musculoaponeurotic fibrosarcoma oncogene family, protein B (avian)	Mafb	Mm.298157	-3.11
1441065_at	Mus musculus adult male corpora quadrigemina cDNA, RIKEN full-length enriched library, clone:B230204J04 product:unknown EST, full insert sequence	---	Mm.131870	-3.11
1425977_a_at	serine/threonine kinase 2	Stk2	Mm.281011	-3.11
1425837_a_at	CCR4 carbon catabolite repression 4-like ( <i>S. cerevisiae</i> )	Ccrn4l	Mm.86541	-3.10
1425678_a_at	SNF related kinase	Snrk	Mm.257989	-3.09
1460302_at	thrombospondin 1	Thbs1	Mm.4159	-3.08
1456498_at	integrin alpha 4	Itga4	Mm.33596	-3.08
1455269_a_at	coronin, actin binding protein 1A	Coro1a	Mm.290432	-3.07
1438540_at	Mus musculus transcribed sequences	---	Mm.91728	-3.07
1436714_at	LIM domain containing preferred translocation partner in lipoma	Lpp	Mm.209385	-3.07
1436425_at	hypothetical protein C130031J23	C130031J23	Mm.26246	-3.07
1439665_at	G protein-coupled receptor 23	Gpr23	Mm.90147	-3.07
1417281_a_at	matrix metalloproteinase 23	Mmp23	Mm.29373	-3.06
1435588_at	WD40 and FYVE domain containing 1	Wdfy1	Mm.293273	-3.05
1434662_at	Mus musculus transcribed sequences	---	Mm.286178	-3.05
1428321_at	echinoderm microtubule associated protein like 1	Eml1	Mm.236645	-3.05
1433626_at	phospholipid scramblase 4	Plscr4	Mm.55289	-3.03
1436043_at	sodium channel, voltage-gated, type VI, alpha polypeptide	Scn7a	Mm.38127	-3.03

1438423_at	single-stranded DNA binding protein 2	Ssbp2	Mm.208399	-3.03
1416041_at	serum/glucocorticoid regulated kinase	Sgk	Mm.28405	-3.03
1415855_at	kit ligand	Kitl	Mm.45124	-3.02
1417389_at	glypican 1	Gpc1	Mm.24193	-3.02
1449146_at	Notch gene homolog 4 (Drosophila)	Notch4	Mm.173813	-3.02
1417534_at	integrin beta 5	Itgb5	Mm.6424	-3.02
1429514_at	phosphatidic acid phosphatase type 2B	Ppap2b	Mm.27363	-3.02
1434089_at	synaptopodin	Synpo	Mm.27313	-3.02
1459601_at	SNF1-like kinase	Snf1lk	Mm.290941	-3.02
1431179_at	lysosomal apyrase-like 2	Lysal2	Mm.296789	-3.01
1436778_at	cytochrome b-245, beta polypeptide	Cybb	Mm.200362	-3.01
1458879_at	Mus musculus transcribed sequences	---	Mm.172603	-3.01
1437165_a_at	procollagen C-proteinase enhancer protein	Pcolce	Mm.262345	-3.01
1437987_at	Mus musculus transcribed sequences	---	Mm.285569	-3.00
1449033_at	tumor necrosis factor receptor superfamily, member 11b (osteoprotegerin)	Tnfrsf11b	Mm.15383	-3.00
1433868_at	BTB (POZ) domain containing 3	Btbd3	Mm.153405	-3.00
1455833_at	expressed sequence AU041783	AU041783	Mm.226284	-3.00
1447830_s_at	regulator of G-protein signaling 2	Rgs2	Mm.28262	-2.99
1433909_at	brain and kidney protein	Bk	Mm.156558	-2.99
1452837_at	lipin 2	Lpin2	Mm.227924	-2.98
1425914_a_at	RIKEN cDNA 3010033I09 gene	3010033I09R ik	Mm.289674	-2.98
1429579_at	Mus musculus adult male medulla oblongata cDNA, RIKEN full-length enriched library, clone:6330407118 product:unknown EST, full insert sequence	---	Mm.91240	-2.98
1445377_at	Mus musculus transcribed sequences	---	Mm.209190	-2.98
1436367_at	Mus musculus transcribed sequences	---	Mm.33450	-2.98
1449988_at	immunity-associated protein	Imap38	Mm.197478	-2.97
1418379_s_at	G protein-coupled receptor 124	Gpr124	Mm.87046	-2.97
1420909_at	vascular endothelial growth factor A	Vegfa	Mm.31540	-2.97
1456126_at	mucosa associated lymphoid tissue lymphoma translocation gene 1	Malt1	Mm.132613	-2.97
1436294_at	hypothetical protein G630054C21	G630054C21	Mm.53865	-2.97
1427318_s_at	fer-1-like 3, myoferlin (C. elegans)	Fer1l3	Mm.34674	-2.97
1460285_at	integrin alpha 9	Itga9	Mm.10010	-2.97
1418059_at	EGF, latrophilin seven transmembrane domain containing 1	Eltl1	Mm.27242	-2.96
1439180_at	cDNA sequence BC010584	BC010584	Mm.33736	-2.96
1459888_at	Mus musculus LOC381171 (LOC381171), mRNA	---	Mm.29559	-2.96
1428357_at	RIKEN cDNA 2610019F03 gene	2610019F03 Rik	Mm.5727	-2.96
1423025_a_at	schwannomin interacting protein 1	Schip1	Mm.24059	-2.95
1449550_at	myosin IC	Myo1c	Mm.234502	-2.95
1440926_at	Mus musculus transcribed sequences	---	Mm.234150	-2.95

1420821_at	sphingosine-1-phosphate phosphatase 1	Sgpp1	Mm.280199	-2.95
1448944_at	neuropilin	Nrp	Mm.271745	-2.95
1419089_at	tissue inhibitor of metalloproteinase 3	Timp3	Mm.132958	-2.94
1420617_at	cytoplasmic polyadenylation element binding protein 4	Cpeb4	Mm.23178	-2.94
1426785_s_at	monoglyceride lipase	Mgl1	Mm.272197	-2.94
1437101_at	large tumor suppressor 2	Lats2	Mm.202747	-2.94
1415812_at	gelsolin	Gsn	Mm.21109	-2.94
1435984_at	Mus musculus 18-day embryo whole body cDNA, RIKEN full-length enriched library, clone:1110033F14 product:unknown EST, full insert sequence	---	Mm.32360	-2.94
1426894_s_at	RIKEN cDNA C230093N12 gene	C230093N12 Rik	Mm.4065	-2.93
1441729_at	Mus musculus transcribed sequences	---	Mm.39825	-2.92
1415996_at	thioredoxin interacting protein	Txnip	Mm.271877	-2.92
1451415_at	RIKEN cDNA 1810011O10 gene	1810011O10 Rik	Mm.25775	-2.92
1456830_at	protein phosphatase 1, regulatory (inhibitor) subunit 2	Ppp1r2	Mm.291593	-2.92
1425809_at	fatty acid binding protein 4, adipocyte	Fabp4	Mm.582	-2.91
1450505_a_at	RIKEN cDNA 1810015C04 gene	1810015C04 Rik	Mm.25311	-2.90
1437261_at	Mus musculus transcribed sequence with strong similarity to protein sp:P00722 (E. coli) BGAL_ECOLI Beta-galactosidase (Lactase)	---	Mm.322269	-2.90
1420159_at	RIKEN cDNA 9130023P14 gene	9130023P14 Rik	Mm.212705	-2.90
1450945_at	protein kinase C, alpha	Prkca	Mm.234258	-2.89
1434678_at	Mus musculus 0 day neonate lung cDNA, RIKEN full-length enriched library, clone:E030002K20 product:similar to MUSCLEBLIND-LIKE PROTEIN FLJ11316/DKFZP434G2222/DJ842K24.1 [Homo sapiens], full insert sequence	---	Mm.295324	-2.89
1429363_at	DNA segment, Chr 8, ERATO Doi 531, expressed	D8Erttd531e	Mm.294871	-2.88
1426063_a_at	GTP binding protein (gene overexpressed in skeletal muscle)	Gem	Mm.247486	-2.87
1455522_at	Mus musculus transcribed sequences	---	Mm.319061	-2.87
1425686_at	CASP8 and FADD-like apoptosis regulator	Cflar	Mm.268165	-2.87
1449118_at	dihydrolipoamide branched chain transacylase E2	Dbt	Mm.3636	-2.87
1430886_at	RIKEN cDNA 1700112E06 gene	1700112E06 Rik	Mm.274166	-2.87



1437774_at	RIKEN cDNA 1700020I14 gene	1700020I14R ik	Mm.246412	-2.87
1420512_at	dickkopf homolog 2 ( <i>Xenopus laevis</i> )	Dkk2	Mm.103593	-2.87
1428643_at	RIKEN cDNA 2610024A01 gene	2610024A01 Rik	Mm.281287	-2.87
1440153_at	amyloid beta (A4) precursor protein	App	Mm.277585	-2.86
1422510_at	CTD (carboxy-terminal domain, RNA polymerase II, polypeptide A) small phosphatase-like	Ctdspl	Mm.28747	-2.86
1438175_x_at	myomesin 2	Myom2	Mm.272115	-2.86
1456312_x_at	gelsolin	Gsn	Mm.21109	-2.85
1433582_at	RIKEN cDNA 1190002N15 gene	1190002N15 Rik	Mm.258746	-2.85
1418396_at	expressed sequence AA960287	AA960287	Mm.26584	-2.85
1448545_at	syndecan 2	Sdc2	Mm.234266	-2.84
1454884_at	RIKEN cDNA 2610019F01 gene	2610019F01 Rik	Mm.56581	-2.84
1416653_at	syntaxin binding protein 3	Stxbp3	Mm.12155	-2.84
1429590_at	RIKEN cDNA B230378H13 gene	B230378H13 Rik	Mm.234993	-2.84
1451355_at	cancer related gene-liver 1	CRG-L1	Mm.45019	-2.83
1427347_s_at	tubulin, beta 2	Tubb2	Mm.246377	-2.83
1420913_at	solute carrier organic anion transporter family, member 2a1	Slco2a1	Mm.207106	-2.83
1433856_at	expressed sequence AW555814	AW555814	Mm.220817	-2.83
1417162_at	RIKEN cDNA 2310061B02 gene	2310061B02 Rik	Mm.261182	-2.82
1422818_at	neural precursor cell expressed, developmentally down-regulated gene 9	Nedd9	Mm.8315	-2.82
1443340_at	calcium binding atopy-related autoantigen 1	Cbara1	Mm.27199	-2.82
1428644_at	mannoside acetylglucosaminyltransferase 5	Mgat5	Mm.38399	-2.82
1424755_at	huntingtin interacting protein 1	Hip1	Mm.280805	-2.82
1435694_at	RIKEN cDNA 4933432P15 gene	4933432P15 Rik	Mm.243750	-2.81
1455291_s_at	zinc finger/RING finger 2	Znrf2	Mm.286149	-2.81
1431050_at	RIKEN cDNA 3110005L17 gene	3110005L17 Rik	Mm.220417	-2.81
1425476_at	procollagen, type IV, alpha 5	Col4a5	Mm.286892	-2.80
1434461_at	RIKEN cDNA 2610041B18 gene	2610041B18 Rik	Mm.45367	-2.80
1451715_at	v-maf musculoaponeurotic fibrosarcoma oncogene family, protein B (avian)	Mafb	Mm.298157	-2.80
1453266_at	RIKEN cDNA 2310026P19 gene	2310026P19 Rik	Mm.33277	-2.80
1423174_a_at	par-6 (partitioning defective 6) homolog beta ( <i>C. elegans</i> )	Pard6b	Mm.292834	-2.80
1416201_at	v-crk sarcoma virus CT10 oncogene homolog (avian)	Crk	Mm.280125	-2.79
1435911_s_at	solute carrier family 2, member 12	Slc2a12	Mm.285921	-2.79

1454745_at	RIKEN cDNA B130017I01 gene	B130017I01 Rik	Mm.229287	-2.79
1429735_at	Mus musculus 15 days embryo male testis cDNA, RIKEN full-length enriched library, clone:8030484F22 product:unknown EST, full insert sequence	---	Mm.130694	-2.79
1437253_at	RIKEN cDNA A630054L15 gene	A630054L15 Rik	Mm.260512	-2.79
1433842_at	leucine rich repeat (in FLII) interacting protein 1	Lrrfip1	Mm.45039	-2.78
1436300_at	RIKEN cDNA A930019K20 gene	A930019K20 Rik	Mm.257120	-2.78
1449168_a_at	A kinase (PRKA) anchor protein 2	Akap2	Mm.200851	-2.78
1457666_s_at	interferon activated gene 202B	Ifi202b	Mm.218770	-2.78
1434548_at	tumor differentially expressed 1	Tde1	Mm.4962	-2.78
1456873_at	chloride intracellular channel 5	Clic5	Mm.37666	-2.78
1451506_at	myocyte enhancer factor 2C	Mef2c	Mm.24001	-2.77
1436365_at	RIKEN cDNA B230208J24 gene	B230208J24 Rik	Mm.275475	-2.77
1418703_at	RNA binding motif, single stranded interacting protein 1	Rbms1	Mm.259667	-2.77
1422620_s_at	phosphatidic acid phosphatase 2a	Ppap2a	Mm.276039	-2.77
1454984_at	Mus musculus 13 days embryo heart cDNA, RIKEN full-length enriched library, clone:D330042I16 product:unknown EST, full insert sequence	---	Mm.24003	-2.77
1426994_at	expressed sequence AI836256	AI836256	Mm.24115	-2.77
1418230_a_at	LIM and senescent cell antigen-like domains 1	Lims1	Mm.57734	-2.76
1418939_at	H2.0-like homeo box gene	Hlx	Mm.1347	-2.76
1423104_at	insulin receptor substrate 1	Irs1	Mm.4952	-2.76
1420903_at	sialyltransferase 7 ((alpha-N-acetylneuraminyl 2,3-betagalactosyl-1,3)-N-acetyl galactosaminide alpha-2,6-sialyltransferase) C	Siat7c	Mm.1563	-2.76
1437171_x_at	gelsolin	Gsn	Mm.21109	-2.75
1417444_at	E2F transcription factor 5	E2f5	Mm.153415	-2.75
1449079_s_at	sialyltransferase 10 (alpha-2,3-sialyltransferase VI)	Siat10	Mm.212742	-2.75
1424471_at	RIKEN cDNA 9330170P05 gene	9330170P05 Rik	Mm.24028	-2.75
1427937_at	RIKEN cDNA 2610030H06 gene	2610030H06 Rik	Mm.41102	-2.74
1440225_at	RIKEN cDNA 8430401C09 gene	8430401C09 Rik	Mm.23478	-2.74
1459973_x_at	dipeptidylpeptidase 4	Dpp4	Mm.1151	-2.74

1435050_at	Mus musculus 10 days neonate cerebellum cDNA, RIKEN full-length enriched library, clone:B930094H20 product:unknown EST, full insert sequence	---	Mm.40491	-2.74
1436991_x_at	gelsolin	Gsn	Mm.21109	-2.74
1453726_s_at	RIKEN cDNA 2810407C02 gene	2810407C02	Mm.270950	-2.74
1456389_at	Mus musculus 0 day neonate kidney cDNA, RIKEN full-length enriched library, clone:D630006I08 product:unknown EST, full insert sequence	---	Mm.33497	-2.74
1418285_at	ephrin B1	Efnb1	Mm.3374	-2.73
1442350_at	Mus musculus 0 day neonate skin cDNA, RIKEN full-length enriched library, clone:4632424N07 product:unknown EST, full insert sequence	---	Mm.71633	-2.73
1436842_at	RIKEN cDNA B230380D07 gene	B230380D07	Mm.170855	-2.73
1435251_at	sorting nexin 13	Rik		
1428535_at	hypothetical protein 9430020K01	Snx13	Mm.213991	-2.72
1459293_at	Mus musculus transcribed sequences	9430020K01	Mm.152929	-2.72
1458324_x_at	Mus musculus 16 days embryo head cDNA, RIKEN full-length enriched library, clone:C130051K14 product:unknown EST, full insert sequence	---	Mm.207974	-2.72
1433992_at	apical protein, Xenopus laevis-like	---	Mm.126896	-2.72
1435554_at	RIKEN cDNA C630016B22 gene	Apxl	Mm.40796	-2.72
1416778_at	serum deprivation response	C630016B22	Mm.23047	-2.72
1434229_a_at	polymerase (DNA directed), beta	Rik		
1435397_at	cDNA sequence BC038156	Sdpr	Mm.255909	-2.71
1433914_at	Mus musculus cDNA clone MGC:62985	Polb	Mm.228484	-2.71
1418195_at	IMAGE:1245563, complete cds UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 10	BC038156	Mm.86401	-2.71
1460578_at	FYVE, RhoGEF and PH domain containing 5	---	Mm.266348	-2.71
1436844_at	Mus musculus adult male aorta and vein cDNA, RIKEN full-length enriched library, clone:A530065B07 product:unknown EST, full insert sequence	---	Mm.44643	-2.71
1451154_a_at	CUG triplet repeat,RNA binding protein 2	Galnt10	Mm.271670	-2.71
		Fgd5	Mm.295740	-2.71
		---	Mm.44643	-2.71
		Cugbp2	Mm.147091	-2.71

1423345_at	degenerative spermatocyte homolog (Drosophila)	Degs	Mm.29648	-2.71
1434782_at	Mus musculus 13 days embryo head cDNA, RIKEN full-length enriched library, clone:3110031A07 product:DNA segment, Chr 5, ERATO Doi 591, expressed, full insert sequence	---	Mm.27371	-2.70
1456398_at	expressed sequence AI316828	AI316828	Mm.229654	-2.70
1437181_at	pellino 2	Peli2	Mm.37239	-2.70
1452836_at	lipin 2	Lpin2	Mm.227924	-2.70
1420628_at	purine rich element binding protein A	Pura	Mm.231802	-2.70
1451236_at	RAS-like, estrogen-regulated, growth-inhibitor	Rerg	Mm.46233	-2.70
1426416_a_at	RIKEN cDNA 2310034L04 gene	2310034L04 Rik	Mm.41891	-2.70
1431375_s_at	Mus musculus transcribed sequences	---	Mm.305134	-2.70
1455961_at	membrane metallo endopeptidase	Mme	Mm.296022	-2.69
1458220_at	deleted in liver cancer 1	Dlc1	Mm.210875	-2.69
1423089_at	tropomodulin 3	Tmod3	Mm.157642	-2.69
1437069_at	oxysterol binding protein-like 8	Osbpl8	Mm.220204	-2.69
1438884_at	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4932442L11 product:hypothetical protein, full insert sequence	---	Mm.31814	-2.69
1445268_at	Mus musculus similar to Copg2 protein (LOC382145), mRNA	---	Mm.102927	-2.69
1423613_at	sperm specific antigen 2	Ssfa2	Mm.272881	-2.69
1417011_at	syndecan 2	Sdc2	Mm.234266	-2.69
1452053_a_at	RIKEN cDNA 1600019D15 gene	1600019D15 Rik	Mm.23217	-2.69
1430522_a_at	vesicle-associated membrane protein 5	Vamp5	Mm.42184	-2.68
1419638_at	ephrin B2	Efnb2	Mm.209813	-2.68
1416564_at	SRY-box containing gene 7	Sox7	Mm.42162	-2.68
1426259_at	pantothenate kinase 3	Pank3	Mm.255044	-2.68
1450072_at	ash1 (absent, small, or homeotic)-like (Drosophila)	Ash1l	Mm.130752	-2.68
1442757_at	RIKEN cDNA 4832412D13 gene	4832412D13 Rik	Mm.288868	-2.68
1418816_at	RIKEN cDNA 2810405I11 gene	2810405I11R ik	Mm.73777	-2.68
1416985_at	protein tyrosine phosphatase, non-receptor type substrate 1	Ptpns1	Mm.1682	-2.67
1424124_at	RIKEN cDNA 2410013I23 gene	2410013I23R ik	Mm.291758	-2.67
1433925_at	hypothetical protein C920003I06	C920003I06	Mm.289583	-2.67
1436737_a_at	sorbin and SH3 domain containing 1	Sorbs1	Mm.80699	-2.67
1450744_at	elongation factor RNA polymerase II 2	EIf2	Mm.21288	-2.67
1449491_at	caspase recruitment domain family, member 10	Card10	Mm.17629	-2.66



1431110_at	Mus musculus 6 days neonate head cDNA, RIKEN full-length enriched library, clone:5430431D22 product:unknown EST, full insert sequence	---	Mm.66317	-2.66
1419247_at	regulator of G-protein signaling 2	Rgs2	Mm.28262	-2.66
1457063_at	phosphatase, orphan 1	Phospho1	Mm.133075	-2.66
1434954_at	membrane protein, palmitoylated 5 (MAGUK p55 subfamily member 5)	Mpp5	Mm.30561	-2.65
1434307_at	RIKEN cDNA 9630015D15 gene	9630015D15 Rik	Mm.38877	-2.65
1434618_at	HCF-binding transcription factor Zhangfei	Zf	Mm.29496	-2.65
1424826_s_at	metastasis suppressor 1	Mtss1	Mm.215481	-2.65
1435822_at	Mus musculus 16 days neonate heart cDNA, RIKEN full-length enriched library, clone:D830012I24 product:unknown EST, full insert sequence	---	Mm.40283	-2.65
1429116_at	RIKEN cDNA 4631416G20 gene	4631416G20 Rik	Mm.46932	-2.65
1456133_x_at	integrin beta 5	Itgb5	Mm.6424	-2.65
1428579_at	RIKEN cDNA 5430425K04 gene	5430425K04 Rik	Mm.31405	-2.65
1417110_at	mannosidase 1, alpha	Man1a	Mm.243941	-2.65
1439369_x_at	solute carrier family 9 (sodium/hydrogen exchanger), isoform 3 regulator 2	Slc9a3r2	Mm.21587	-2.65
1417602_at	period homolog 2 (Drosophila)	Per2	Mm.8471	-2.64
1434583_at	expressed sequence AI195372	AI195372	Mm.72096	-2.64
1441220_at	Mus musculus 12 days embryo spinal ganglion cDNA, RIKEN full-length enriched library, clone:D130049N13 product:unknown EST, full insert sequence	---	Mm.130026	-2.64
1434298_at	zinc finger homeobox 1b	Zfx1b	Mm.209368	-2.64
1424318_at	RIKEN cDNA 1110067D22 gene	1110067D22 Rik	Mm.76694	-2.64
1448415_a_at	sema domain, immunoglobulin domain (Ig), short basic domain, secreted, (semaphorin) 3B	Sema3b	Mm.4083	-2.64
1459354_at	Mus musculus transcribed sequences	---	Mm.326045	-2.63
1426918_at	integrin beta 1 (fibronectin receptor beta)	Itgb1	Mm.263396	-2.63
1455080_at	protein phosphatase 1, regulatory (inhibitor) subunit 16B	Ppp1r16b	Mm.150540	-2.63
1443729_at	Mus musculus transcribed sequences	---	Mm.202218	-2.62
1428078_at	RIKEN cDNA 0610013E23 gene	0610013E23 Rik	Mm.262707	-2.62
1454617_at	expressed sequence AI450344	AI450344	Mm.271765	-2.62
1419248_at	regulator of G-protein signaling 2	Rgs2	Mm.28262	-2.62

1438452_at	Mus musculus adult male thymus cDNA, RIKEN full-length enriched library, clone:5830456B20 product:unknown EST, full insert sequence	---	Mm.256298	-2.62
1417394_at	Kruppel-like factor 4 (gut)	Klf4	Mm.4325	-2.62
1437021_at	Mus musculus adult male aorta and vein cDNA, RIKEN full-length enriched library, clone:A530097K21 product:unknown EST, full insert sequence	---	Mm.324693	-2.61
1460401_at	RIKEN cDNA 2310050N11 gene	2310050N11 Rik	Mm.21954	-2.61
1452281_at	Son of sevenless homolog 2 (Drosophila)	Sos2	Mm.3770	-2.61
1425826_a_at	sorbin and SH3 domain containing 1	Sorbs1	Mm.80699	-2.61
1435465_at	RIKEN cDNA 2900016B01 gene	2900016B01 Rik	Mm.46675	-2.60
1440108_at	forkhead box P2	Foxp2	Mm.277428	-2.60
1449357_at	RIKEN cDNA 2310030G06 gene	2310030G06 Rik	Mm.273375	-2.60
1429722_at	RIKEN cDNA 2310026P19 gene	2310026P19 Rik	Mm.33277	-2.60
1435559_at	myosin VI	Myo6	Mm.4040	-2.60
1429177_x_at	SRY-box containing gene 17	Sox17	Mm.279103	-2.59
1434797_at	RIKEN cDNA 6720469N11 gene	6720469N11 Rik	Mm.89552	-2.59
1451902_at	similar to zinc finger protein 40	LOC224598	Mm.254976	-2.59
1435361_at	Mus musculus 0 day neonate lung cDNA, RIKEN full-length enriched library, clone:E030041H03 product:unknown EST, full insert sequence	---	Mm.295753	-2.59
1434141_at	guanylate cyclase 1, soluble, alpha 3	Gucy1a3	Mm.262316	-2.59
1450414_at	platelet derived growth factor, B polypeptide	Pdgfb	Mm.144089	-2.59
1423433_at	Sjogren syndrome antigen A2	Ssa2	Mm.40370	-2.58
1457273_at	odd Oz/ten-m homolog 2 (Drosophila)	Odz2	Mm.40599	-2.58
1452160_at	TCDD-inducible poly(ADP-ribose) polymerase	Tiparp	Mm.246398	-2.58
1450710_at	jumonji	Jmj	Mm.25059	-2.58
1452352_at	trophoblast specific protein beta	Tpbpb	Mm.297920	-2.58
1425650_at	transducin-like enhancer of split 4, E(spl) homolog (Drosophila)	Tle4	Mm.103638	-2.58
1418960_at	RIKEN cDNA E130113K22 gene	E130113K22 Rik	Mm.267473	-2.58
1435937_at	serine palmitoyltransferase, long chain base subunit 2	Sptlc2	Mm.565	-2.58
1420915_at	signal transducer and activator of transcription 1	Stat1	Mm.277406	-2.58

1434895_s_at	protein phosphatase 1, regulatory (inhibitor) subunit 13B	Ppp1r13b	Mm.231680	-2.57
1455188_at	Eph receptor B1	Ephb1	Mm.22897	-2.57
1456423_at	RIKEN cDNA 9430004D19 gene	9430004D19 Rik	Mm.261634	-2.57
1426725_s_at	E26 avian leukemia oncogene 1, 5' domain	Ets1	Mm.292415	-2.57
1434186_at	G protein-coupled receptor 23	Gpr23	Mm.90147	-2.57
1425475_at	procollagen, type IV, alpha 5	Col4a5	Mm.286892	-2.57
1436976_a_at	RIKEN cDNA 9930028C20 gene	9930028C20 Rik	Mm.106553	-2.57
1434809_at	hypothetical protein E130310N06	E130310N06	Mm.9935	-2.57
1455156_at	striatin, calmodulin binding protein	Strn	Mm.24516	-2.56
1437287_at	RIKEN cDNA 1110020G09 gene	1110020G09 Rik	Mm.244226	-2.56
1418012_at	SH3-domain GRB2-like B1 (endophilin)	Sh3glb1	Mm.182692	-2.56
1444232_at	Mus musculus 16 days neonate heart cDNA, RIKEN full-length enriched library, clone:D830017E01 product:protein kinase, cGMP-dependent, type I, full insert sequence	---	Mm.329011	-2.56
1426368_at	Ras and Rab interactor 2	Rin2	Mm.247324	-2.56
1439077_at	Mus musculus adult male eyeball cDNA, RIKEN full-length enriched library, clone:7530401M11 product:unclassifiable, full insert sequence	---	Mm.130733	-2.56
1456061_at	Mus musculus similar to hypothetical protein (LOC243374), mRNA	---	Mm.86514	-2.56
1418659_at	circadian locomoter output cycles kaput	Clock	Mm.3552	-2.56
1451756_at	FMS-like tyrosine kinase 1	Flt1	Mm.241483	-2.56
1452666_a_at	RIKEN cDNA 1110063G11 gene	1110063G11 Rik	Mm.273785	-2.56
1455137_at	Mras regulated guanine nucleotide exchange factor	Mrgef	Mm.227642	-2.56
1436501_at	expressed sequence AI481402	AI481402	Mm.149438	-2.56
1422748_at	zinc finger homeobox 1b	Zfx1b	Mm.209368	-2.56
1454731_at	myosin X	Myo10	Mm.60590	-2.56
1420618_at	cytoplasmic polyadenylation element binding protein 4	Cpeb4	Mm.23178	-2.55
1435184_at	Mus musculus 0 day neonate lung cDNA, RIKEN full-length enriched library, clone:E030020K21 product:weakly similar to HYPOTHETICAL 13.8 KDA PROTEIN [Homo sapiens], full insert sequence	---	Mm.25259	-2.55
1454136_a_at	RIKEN cDNA 4921524J17 gene	4921524J17 Rik	Mm.272748	-2.55

1424458_at	RIKEN cDNA 2410141F18 gene	2410141F18 Rik	Mm.209059	-2.55
1422669_at	estrogen receptor-binding fragment-associated gene 9	Ebag9	Mm.287896	-2.55
1427410_at	Mus musculus 12 days embryo eyeball cDNA, RIKEN full-length enriched library, clone:D230030K09 product:unknown EST, full insert sequence	---	Mm.32886	-2.54
1429468_at	Mus musculus 18-day embryo whole body cDNA, RIKEN full-length enriched library, clone:1110018F16 product:unknown EST, full insert sequence	---	Mm.255925	-2.54
1423321_at	myeloid-associated differentiation marker	Myadm	Mm.29874	-2.54
1416693_at	forkhead box C2	Foxc2	Mm.14092	-2.54
1454966_at	integrin alpha 8	Itga8	Mm.220860	-2.54
1443858_at	RIKEN cDNA 9230105E10 gene	9230105E10 Rik	Mm.259010	-2.54
1426542_at	RIKEN cDNA 2310067E08 gene	2310067E08 Rik	Mm.41423	-2.53
1436175_at	spinocerebellar ataxia 7 homolog (human)	Sca7	Mm.35118	-2.53
1428111_at	solute carrier family 38, member 4	Slc38a4	Mm.250980	-2.53
1433805_at	Janus kinase 1	Jak1	Mm.289657	-2.53
1435181_at	expressed sequence AI461788	AI461788	Mm.212568	-2.53
1434687_at	RIKEN cDNA A930014K01 gene	A930014K01 Rik	Mm.77656	-2.53
1435058_x_at	syntaxin binding protein 3	Stxbp3	Mm.12155	-2.53
1417793_at	expressed sequence AI481100	AI481100	Mm.33902	-2.53
1459661_at	Mus musculus transcribed sequences	---	Mm.40495	-2.52
1439817_at	RIKEN cDNA 2900064A13 gene	2900064A13 Rik	Mm.268027	-2.52
1455664_at	reticulon 4 receptor-like 1	Rtn4r1	Mm.82661	-2.52
1438048_at	myc target 1	Myct1	Mm.33762	-2.52
1437132_x_at	neural precursor cell expressed, developmentally down-regulated gene 9	Nedd9	Mm.8315	-2.52
1426647_at	RIKEN cDNA 9130011J15 gene	9130011J15 Rik	Mm.22565	-2.52
1452929_at	restin (Reed-Steinberg cell-expressed intermediate filament-associated protein)	Rsn	Mm.241109	-2.52
1416950_at	RIKEN cDNA E130304C20 gene	E130304C20 Rik	Mm.27740	-2.52
1442027_at	RIKEN cDNA A530083I02 gene	A530083I02 Rik	Mm.205224	-2.52
1450478_a_at	protein tyrosine phosphatase, non-receptor type 12	Ptpn12	Mm.228533	-2.52
1419639_at	ephrin B2	Efnb2	Mm.209813	-2.52
1443650_at	Mus musculus transcribed sequences	---	Mm.130991	-2.52

1429196_at	RIKEN cDNA 9630005B12 gene	9630005B12 Rik	Mm.100579	-2.51
1417426_at	proteoglycan, secretory granule	Prg	Mm.22194	-2.51
1426819_at	homeodomain interacting protein kinase 3	Hipk3	Mm.257925	-2.51
1423084_at	UDP-Gal:betaGlcNAc beta 1,3-galactosyltransferase, polypeptide 2	B3galt2	Mm.285580	-2.51
1427319_at	RIKEN cDNA A230046K03 gene	A230046K03 Rik	Mm.278577	-2.50
1449335_at	tissue inhibitor of metalloproteinase 3	Timp3	Mm.132958	-2.49
1449852_a_at	RIKEN cDNA 2210022F10 gene	2210022F10 Rik	Mm.132226	-2.49
1442549_at	muscleblind-like 3 (Drosophila)	Mbnl3	Mm.102756	-2.49
1448765_at	Fyn proto-oncogene	Fyn	Mm.4848	-2.49
1434423_at	RIKEN cDNA 3110030A04 gene	3110030A04 Rik	Mm.133132	-2.49
1460448_s_at	RIKEN cDNA 2700016E08 gene	2700016E08 Rik	Mm.203976	-2.49
1424139_at	RAS-related protein-1a	Rap1a	Mm.967	-2.49
1423445_at	Rho-associated coiled-coil forming kinase 1	Rock1	Mm.6710	-2.49
1433555_at	ELL associated factor 1	Eaf1	Mm.37770	-2.49
1436892_at	sprouty protein with EVH-1 domain 2, related sequence	Spred2	Mm.114382	-2.49
1416446_at	cytochrome c oxidase, subunit VIIa 2	Cox7a2	Mm.3819	-2.48
1423292_a_at	periaxin	Prx	Mm.10119	-2.48
1422781_at	toll-like receptor 3	Tlr3	Mm.33874	-2.48
1417622_at	solute carrier family 12, member 2	Slc12a2	Mm.228433	-2.48
1428217_at	RIKEN cDNA 1600012H06 gene	1600012H06 Rik	Mm.28544	-2.48
1418603_at	arginine vasopressin receptor 1A	Avpr1a	Mm.4351	-2.48
1428372_at	suppression of tumorigenicity 5	St5	Mm.252009	-2.48
1420160_s_at	RIKEN cDNA 9130023P14 gene	9130023P14 Rik	Mm.212705	-2.48
1416094_at	a disintegrin and metalloproteinase domain 9 (meltrin gamma)	Adam9	Mm.28908	-2.48
1437679_a_at	glutaredoxin 2 (thioltransferase)	Glx2	Mm.272727	-2.48
1425582_a_at	RIKEN cDNA 0610012K22 gene	0610012K22 Rik	Mm.27343	-2.47
1457824_at	Mus musculus transcribed sequence with weak similarity to protein sp:P00722 (E. coli) BGAL_ECOLI Beta-galactosidase (Lactase)	---	Mm.311686	-2.47
1422477_at	Cdk5 and Abl enzyme substrate 1	Cables1	Mm.40717	-2.47
1439441_x_at	large tumor suppressor 2	Lats2	Mm.202747	-2.47
1448689_at	related RAS viral (r-ras) oncogene homolog 2	Rras2	Mm.276572	-2.47
1427296_at	cDNA sequence BC010304	BC010304	Mm.298522	-2.47
1419447_s_at	TBC1 domain family, member 1	Tbc1d1	Mm.286353	-2.47
1456480_at	RIKEN cDNA 9330186A19 gene	9330186A19 Rik	Mm.216590	-2.47



1455712_at	histone 3, H2bb	Hist3h2bb	Mm.212549	-2.47
1435970_at	nemo like kinase	Nlk	Mm.9001	-2.47
1451860_a_at	tripartite motif protein 30	Trim30	Mm.295578	-2.46
1435634_at	RIKEN cDNA A030012M09 gene	A030012M09 Rik	Mm.209641	-2.46
1436616_at	Mus musculus transcribed sequences	---	Mm.5294	-2.46
1439975_at	hypothetical protein LOC231503	LOC231503	Mm.99790	-2.46
1416301_a_at	early B-cell factor 1	Ebf1	Mm.255321	-2.46
1460335_at	cDNA sequence BC003322	BC003322	Mm.259969	-2.45
1444214_at	Mus musculus 10, 11 days embryo whole body cDNA, RIKEN full-length enriched library, clone:2810484G07 product:unknown EST, full insert sequence	---	Mm.291839	-2.45
1436739_at	angiotensin receptor 1	Agtr1	Mm.35062	-2.45
1428761_a_at	RIKEN cDNA 1810020H02 gene	1810020H02 Rik	Mm.271985	-2.45
1433571_at	RIKEN cDNA A130038L21 gene	A130038L21 Rik	Mm.23939	-2.45
1433531_at	fatty acid-Coenzyme A ligase, long chain 4	Facl4	Mm.143689	-2.44
1459253_at	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:1700023H06 product:unknown EST, full insert sequence	---	Mm.69353	-2.44
1452327_at	DNA segment, Chr 6, ERATO Doi 349, expressed	D6Ertd349e	Mm.196943	-2.44
1457293_at	RIKEN cDNA 2310026P19 gene	2310026P19 Rik	Mm.33277	-2.44
1428796_at	bobby sox homolog (Drosophila)	Bbx	Mm.28940	-2.44
1452264_at	keratin complex 2, basic, gene 8	Krt2-8	Mm.289759	-2.43
1452833_at	PDZ domain containing guanine nucleotide exchange factor (GEF) 1	Pdzgef1	Mm.31220	-2.43
1435436_at	Mus musculus transcribed sequences	---	Mm.268043	-2.43
1426358_at	RIKEN cDNA 2810468K05 gene	2810468K05 Rik	Mm.274756	-2.43
1423175_s_at	par-6 (partitioning defective 6) homolog beta (C. elegans)	Pard6b	Mm.292834	-2.43
1423952_a_at	keratin complex 2, basic, gene 7	Krt2-7	Mm.30142	-2.43
1433632_at	RIKEN cDNA E130305N23 gene	E130305N23 Rik	Mm.116857	-2.43
1415789_a_at	cDNA sequence BC002236	BC002236	Mm.259200	-2.43
1439496_at	Mus musculus adult male eyeball cDNA, RIKEN full-length enriched library, clone:7530422H18 product:unclassifiable, full insert sequence	---	Mm.35296	-2.42
1448864_at	SNF related kinase	Snrk	Mm.257989	-2.42
1454631_at	general transcription factor II A, 1	Gtf2a1	Mm.275728	-2.42
1435518_at	RAS related protein 1b	Rap1b	Mm.298459	-2.42
1448853_at	synaptojanin 2 binding protein	Synj2bp	Mm.279603	-2.42

1452843_at	interleukin 6 signal transducer	Il6st	Mm.4364	-2.42
1424589_s_at	RIKEN cDNA 2810441O16 gene	2810441O16 Rik	Mm.288565	-2.42
1456786_at	LIM domain binding 2	Ldb2	Mm.25785	-2.42
1426774_at	zinc finger CCCH type domain containing 1	Zc3hdc1	Mm.268462	-2.42
1416881_at	myeloid cell leukemia sequence 1	Mcl1	Mm.1639	-2.41
1417533_a_at	integrin beta 5	Itgb5	Mm.6424	-2.41
1434248_at	protein kinase C, eta	Prkch	Mm.8040	-2.41
1435016_at	RIKEN cDNA 4733401O11 gene	4733401O11 Rik	Mm.226787	-2.41
1417211_a_at	RIKEN cDNA 1110032A03 gene	1110032A03 Rik	Mm.171374	-2.41
1425510_at	MAP/microtubule affinity-regulating kinase 1	Mark1	Mm.219860	-2.41
1417196_s_at	RIKEN cDNA 2210404A22 gene	2210404A22 Rik	Mm.276295	-2.40
1425115_at	RIKEN cDNA C030034J04 gene	C030034J04 Rik	Mm.127823	-2.40
1417649_at	cyclin-dependent kinase inhibitor 1C (P57)	Cdkn1c	Mm.71398	-2.40
1436633_at	Mus musculus LOC380741 (LOC380741), mRNA	---	Mm.277010	-2.40
1440365_at	Mus musculus transcribed sequences	---	Mm.163311	-2.40
1433956_at	cadherin 5	Cdh5	Mm.21767	-2.40
1452973_at	Mus musculus adult male diencephalon cDNA, RIKEN full-length enriched library, clone:9330162M21 product:unclassifiable, full insert sequence	---	Mm.46011	-2.40
1422782_s_at	toll-like receptor 3	Tlr3	Mm.33874	-2.39
1451196_at	RIKEN cDNA 2310076K21 gene	2310076K21 Rik	Mm.277533	-2.39
1452213_at	testis expressed gene 2	Tex2	Mm.102407	-2.39
1440041_at	Mus musculus transcribed sequences	---	Mm.37461	-2.39
1452473_at	RIKEN cDNA E130201N16 gene	E130201N16 Rik	Mm.41984	-2.39
1449090_a_at	Yamaguchi sarcoma viral (v-yes) oncogene homolog	Yes	Mm.281344	-2.39
1435435_at	expressed sequence AU040881	AU040881	Mm.224189	-2.39
1424171_a_at	hydroxyacyl glutathione hydrolase	Hagh	Mm.44240	-2.39
1434179_at	myeloid/lymphoid or mixed-lineage leukemia 3	Mll3	Mm.228225	-2.39
1435675_at	cDNA sequence BC033574	BC033574	Mm.250729	-2.39
1422167_at	sema domain, seven thrombospondin repeats (type 1 and type 1-like), transmembrane domain (TM) and short cytoplasmic domain, (semaphorin) 5A	Sema5a	Mm.260374	-2.38
1418512_at	serine/threonine kinase 3 (Ste20, yeast homolog)	Stk3	Mm.262330	-2.38
1454783_at	interleukin 13 receptor, alpha 1	Il13ra1	Mm.24208	-2.38

1436268_at	Mus musculus similar to mKIAA0749 protein (LOC328602), mRNA	---	Mm.102203	-2.38
1433747_at	Mus musculus 16 days neonate thymus cDNA, RIKEN full-length enriched library, clone:A130086J10 product:unknown EST, full insert sequence	---	Mm.133523	-2.38
1422836_at	muscleblind-like 3 (Drosophila)	Mbnl3	Mm.102756	-2.38
1417195_at	RIKEN cDNA 2210404A22 gene	2210404A22 Rik	Mm.276295	-2.38
1451090_a_at	Mus musculus hypothetical gene supported by NM_133988 (LOC380628), mRNA	---	Mm.297462	-2.38
1436656_at	hypothetical protein LOC231503	LOC231503	Mm.99790	-2.38
1436044_at	sodium channel, voltage-gated, type VI, alpha polypeptide	Scn7a	Mm.38127	-2.38
1435272_at	RIKEN cDNA E130307H12 gene	E130307H12 Rik	Mm.28604	-2.38
1448557_at	RIKEN cDNA 1200015N20 gene	1200015N20 Rik	Mm.19825	-2.38
1423488_at	monocyte to macrophage differentiation-associated	Mmd	Mm.277518	-2.38
1455886_at	Casitas B-lineage lymphoma	Cbl	Mm.266871	-2.38
1438310_at	Mus musculus 10 days neonate cerebellum cDNA, RIKEN full-length enriched library, clone:B930095L19 product:unknown EST, full insert sequence	---	Mm.89591	-2.38
1435325_at	RIKEN cDNA 2410018I08 gene	2410018I08R ik	Mm.48795	-2.37
1433977_at	heparan sulfate (glucosamine) 3-O-sulfotransferase 3B	Hs3st3b	Mm.274426	-2.37
1435291_at	Mus musculus transcribed sequence with strong similarity to protein pir:T46377 (H.sapiens) T46377 hypothetical protein DKFZp434G1919.1 - human (fragment)	---	Mm.258383	-2.37
1426460_a_at	UDP-glucose pyrophosphorylase 2	Ugp2	Mm.28877	-2.37
1445421_at	Mus musculus transcribed sequences	---	Mm.150139	-2.37
1428083_at	Mus musculus adult male cecum cDNA, RIKEN full-length enriched library, clone:9130009H04 product:unknown EST, full insert sequence	---	Mm.281895	-2.37
1419186_a_at	sialyltransferase 8 (alpha-2, 8-sialyltransferase) D	Siat8d	Mm.10701	-2.36
1428471_at	sorbin and SH3 domain containing 1	Sorbs1	Mm.80699	-2.36
1426397_at	transforming growth factor, beta receptor II	Tgfr2	Mm.172346	-2.36
1426969_at	tripartite motif protein 23	Trim23	Mm.244190	-2.36

1454831_at	Mus musculus 0 day neonate lung cDNA, RIKEN full-length enriched library, clone:E030006G18 product:unknown EST, full insert sequence	---	Mm.5697	-2.35
1437614_x_at	zinc finger, DHHC domain containing 14	Zdhhc14	Mm.258676	-2.35
1434174_at	cDNA sequence BC003322	BC003322	Mm.259969	-2.35
1455388_at	RIKEN cDNA A030012M09 gene	A030012M09	Mm.209641	-2.35
1454997_at	RIKEN cDNA D430026P16 gene	Rik D430026P16	Mm.244394	-2.35
1417847_at	Unc-51 like kinase 2 (C. elegans)	Rik Ulk2	Mm.162025	-2.35
1418428_at	kinesin family member 5B	Kif5b	Mm.223744	-2.35
1433994_at	RIKEN cDNA 4931406P16 gene	4931406P16	Mm.132709	-2.35
1419074_at	RIKEN cDNA 2510006C20 gene	Rik 2510006C20	Mm.32656	-2.35
1424025_at	cDNA sequence BC013529	Rik BC013529	Mm.33716	-2.34
1416067_at	interferon-related developmental regulator 1	lfrd1	Mm.168	-2.34
1435698_at	RIKEN cDNA 4921505C17 gene	4921505C17	Mm.275811	-2.34
1425186_at	RIKEN cDNA 0910001K20 gene	Rik 0910001K20	Mm.88763	-2.34
1449630_s_at	MAP/microtubule affinity-regulating kinase 1	Rik Mark1	Mm.219860	-2.34
1430291_at	Mus musculus adult male corpora quadrigemina cDNA, RIKEN full-length enriched library, clone:B230210C03 product:unknown EST, full insert sequence	---	Mm.323551	-2.34
1429940_at	Mus musculus 16 days embryo lung cDNA, RIKEN full-length enriched library, clone:8430414L16 product:unknown EST, full insert sequence	---	Mm.96366	-2.34
1460698_a_at	RIKEN cDNA 1810029G24 gene	1810029G24	Mm.27800	-2.34
1450449_a_at	RIKEN cDNA 2900002H16 gene	Rik 2900002H16	Mm.41180	-2.34
1434474_at	ATP-binding cassette, sub-family A (ABC1), member 5	Rik Abca5	Mm.41942	-2.34
1416926_at	transformation related protein 53 inducible nuclear protein 1	Trp53inp1	Mm.28708	-2.33
1422124_a_at	protein tyrosine phosphatase, receptor type, C	Ptprc	Mm.262057	-2.33
1428846_at	RIKEN cDNA 2700016E08 gene	2700016E08	Mm.203976	-2.33
1435437_at	RIKEN cDNA 1600028F23 gene	Rik 1600028F23	Mm.192111	-2.33
		Rik		

1435241_at	RIKEN cDNA D930036F22 gene	D930036F22 Rik	Mm.218507	-2.33
1427226_at	epsin 2	Epn2	Mm.139695	-2.33
1423744_x_at	Mus musculus hypothetical gene supported by NM_133988 (LOC380628), mRNA	---	Mm.297462	-2.33
1455481_at	iduronate 2-sulfatase	Ids	Mm.233083	-2.33
1453070_at	Mus musculus adult male spinal cord cDNA, RIKEN full-length enriched library, clone:A330082J21 product:unknown EST, full insert sequence	---	Mm.255429	-2.33
1455638_at	Mus musculus transcribed sequences	---	Mm.22792	-2.32
1451177_at	RIKEN cDNA 2010306G19 gene	2010306G19 Rik	Mm.237048	-2.32
1419829_a_at	Mus musculus transcribed sequence with weak similarity to protein prf:2018199A (E. coli) 2018199A beta lactamase IRT-4 [Escherichia coli]	---	Mm.45086	-2.32
1460359_at	RIKEN cDNA 1200004E24 gene	1200004E24 Rik	Mm.67949	-2.32
1419112_at	nemo like kinase	Nlk	Mm.9001	-2.32
1439626_at	Mus musculus transcribed sequence with strong similarity to protein sp:P00722 (E. coli) BGAL_ECOLI Beta-galactosidase (Lactase)	---	Mm.140058	-2.32
1437304_at	Casitas B-lineage lymphoma b	Cblb	Mm.73055	-2.32
1435514_at	Mus musculus 14 days embryo thymus cDNA, RIKEN full-length enriched library, clone:6130400H19 product:unknown EST, full insert sequence	---	Mm.269710	-2.32
1429131_at	ubiquitin-conjugating enzyme E2 variant 2	Ube2v2	Mm.235407	-2.32
1426570_a_at	fyn-related kinase	Frk	Mm.35407	-2.31
1435248_a_at	RIKEN cDNA E430027O22 gene	E430027O22 Rik	Mm.295062	-2.31
1433770_at	dihydropyrimidinase-like 2	Dpysl2	Mm.235283	-2.31
1428236_at	RIKEN cDNA 1300014E15 gene	1300014E15 Rik	Mm.181973	-2.31
1428279_a_at	RIKEN cDNA 2810423G08 gene	2810423G08 Rik	Mm.265007	-2.31
1420808_at	Mus musculus transcribed sequence with moderate similarity to protein pir:S61532 (H.sapiens) S61532 RET oncogene fusion partner RFG - human	---	Mm.321344	-2.30
1435870_at	synaptonemal complex protein 3	Sycp3	Mm.297977	-2.30
1438705_at	Mus musculus transcribed sequence with weak similarity to protein pir:S52796 (H.sapiens) S52796 prpL2 protein - human (fragment)	---	Mm.2429	-2.30



1456070_at	Mus musculus transcribed sequences	---	Mm.275754	-2.30
1418658_at	RIKEN cDNA 2410005O16 gene	2410005O16 Rik	Mm.257603	-2.30
1447947_at	RIKEN cDNA 4930405M20 gene	4930405M20 Rik	Mm.259585	-2.30
1449078_at	sialyltransferase 10 (alpha-2,3-sialyltransferase VI)	Siat10	Mm.212742	-2.30
1423049_a_at	tropomyosin 1, alpha	Tpm1	Mm.121878	-2.30
1453221_at	golgi associated PDZ and coiled-coil motif containing	Gopc	Mm.155704	-2.30
1439450_x_at	RIKEN cDNA A230046K03 gene	A230046K03 Rik	Mm.278577	-2.30
1448107_x_at	kallikrein 6	Klk6	Mm.4486	-2.30
1424573_at	RIKEN cDNA 3110020O18 gene	3110020O18 Rik	Mm.117055	-2.29
1448664_a_at	aortic preferentially expressed gene 1	Apeg1	Mm.275397	-2.29
1423141_at	lysosomal acid lipase 1	Lip1	Mm.157545	-2.29
1418394_a_at	CD97 antigen	Cd97	Mm.182255	-2.29
1423994_at	kinesin family member 1B	Kif1b	Mm.83684	-2.29
1435862_at	Son cell proliferation protein	Son	Mm.46401	-2.29
1429943_at	RIKEN cDNA 2210401K11 gene	2210401K11 Rik	Mm.45396	-2.29
1442003_at	Mus musculus 16 days neonate heart cDNA, RIKEN full-length enriched library, clone:D830015C09 product:unknown EST, full insert sequence	---	Mm.138453	-2.29
1450029_s_at	integrin alpha 9	Itga9	Mm.10010	-2.29
1424649_a_at	transmembrane 4 superfamily member 3	Tm4sf3	Mm.22270	-2.28
1437123_at	elastin microfibril interfacier 3	Emilin3	Mm.272673	-2.28
1429504_at	RIKEN cDNA 2810441O16 gene	2810441O16 Rik	Mm.288565	-2.28
1434914_at	DNA segment, Chr 9, Brigham & Women's Genetics 0185 expressed	D9Bwg0185e	Mm.193647	-2.28
1427486_at	protein tyrosine phosphatase, receptor type, B	Ptprb	Mm.37213	-2.28
1422184_a_at	adenylate kinase 1	Ak1	Mm.29189	-2.28
1434360_s_at	protein tyrosine phosphatase, receptor type, G	Ptprg	Mm.228269	-2.28
1452366_at	RIKEN cDNA 4732435N03 gene	4732435N03 Rik	Mm.116889	-2.28
1452207_at	Cbp/p300-interacting transactivator, with	Cited2	Mm.272321	-2.28
1418070_at	Glu/Asp-rich carboxy-terminal domain, 2 chromodomain protein, Y chromosome-like	Cdyl	Mm.29002	-2.27
1439368_a_at	solute carrier family 9 (sodium/hydrogen exchanger), isoform 3 regulator 2	Slc9a3r2	Mm.21587	-2.27

1452202_at	phosphodiesterase 2A, cGMP-stimulated	Pde2a	Mm.247564	-2.27
1434768_at	ceroid-lipofuscinosis, neuronal 2	Cln2	Mm.20837	-2.27
1425460_at	myotubularin related protein 2	Mtmr2	Mm.210405	-2.27
1456763_at	expressed sequence AA536749	AA536749	Mm.224452	-2.27
1456199_x_at	RAN binding protein 9	Ranbp9	Mm.148781	-2.26
1458233_at	Mus musculus transcribed sequence with weak similarity to protein pir:T00415 (H.sapiens) T00415 hypothetical protein H_248O15.1 - human (fragment)	---	Mm.299556	-2.26
1448939_at	ubiquitin specific protease 25	Usp25	Mm.40986	-2.26
1457034_at	DNA segment, Chr 14, Abbott 1 expressed	D14Abb1e	Mm.247767	-2.26
1436233_at	Mus musculus transcribed sequences	---	Mm.268294	-2.26
1429359_s_at	RNA binding protein gene with multiple splicing	Rbpms	Mm.12436	-2.26
1455181_at	RAS p21 protein activator 2	Rasa2	Mm.124502	-2.26
1427081_at	hypothetical protein 8430412F05	8430412F05	Mm.254286	-2.26
1422018_at	human immunodeficiency virus type I enhancer binding protein 2	Hivep2	Mm.42157	-2.26
1439518_at	elastin microfibril interfacier 3	Emilin3	Mm.272673	-2.26
1451200_at	kinesin family member 1B	Kif1b	Mm.83684	-2.26
1456292_a_at	vimentin	Vim	Mm.268000	-2.26
1418932_at	nuclear factor, interleukin 3, regulated	Nfil3	Mm.136604	-2.26
1433561_at	RIKEN cDNA 9530039J15 gene	9530039J15 Rik	Mm.286384	-2.26
1419081_at	autophagy 10-like ( <i>S. cerevisiae</i> )	Apg10l	Mm.111702	-2.25
1448244_at	lysophospholipase 1	Lypla1	Mm.207263	-2.25
1416156_at	vinculin	Vcl	Mm.279361	-2.25
1448591_at	cathepsin S	Ctss	Mm.3619	-2.25
1429776_a_at	DnaJ (Hsp40) homolog, subfamily B, member 6	Dnajb6	Mm.290110	-2.25
1434051_s_at	heat shock 70kDa protein 12A	Hspa12a	Mm.39739	-2.24
1440261_at	adaptor-related protein complex AP-4, epsilon 1	Ap4e1	Mm.134045	-2.24
1435261_at	Mus musculus adult male epididymis cDNA, RIKEN full-length enriched library, clone:9230114I18 product:unknown EST, full insert sequence	---	Mm.308191	-2.24
1419759_at	ATP-binding cassette, sub-family B (MDR/TAP), member 1A	Abcb1a	Mm.16086	-2.24
1418010_a_at	SH3-domain GRB2-like B1 (endophilin)	Sh3glb1	Mm.182692	-2.24
1450026_a_at	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 1	B3gnt1	Mm.258094	-2.23
1422998_a_at	glutaredoxin 2 (thioltransferase)	Glrx2	Mm.272727	-2.23
1427450_x_at	myosin IB	Myo1b	Mm.3390	-2.23
1418819_at	RIKEN cDNA 2610313E07 gene	2610313E07 Rik	Mm.271178	-2.23

1421383_at	RIKEN cDNA 2310043N13 gene	2310043N13 Rik	Mm.295699	-2.23
1423088_at	tropomodulin 3	Tmod3	Mm.157642	-2.23
1428193_at	ubiquitin specific protease 9, X chromosome	Usp9x	Mm.242646	-2.23
1449514_at	G protein-coupled receptor kinase 5	Gprk5	Mm.279400	-2.23
1421657_a_at	SRY-box containing gene 17	Sox17	Mm.279103	-2.23
1444318_at	RIKEN cDNA 1810049H20 gene	1810049H20 Rik	Mm.27406	-2.23
1420919_at	serum/glucocorticoid regulated kinase 3	Sgk3	Mm.207784	-2.23
1455121_at	Mus musculus 2 days pregnant adult female ovary cDNA, RIKEN full-length enriched library, clone:E330009D23 product:unknown EST, full insert sequence	---	Mm.173678	-2.23
1424996_at	Mus musculus cDNA clone MGC:28609	---	Mm.11778	-2.23
1431353_at	IMAGE:4218551, complete cds Mus musculus 13 days embryo heart cDNA, RIKEN full-length enriched library, clone:D330020J19 product:unknown EST, full insert sequence	---	Mm.119234	-2.23
1423490_at	F-box only protein 3	Fbxo3	Mm.143768	-2.23
1460173_at	LIM and SH3 protein 1	Lasp1	Mm.271967	-2.23
1452398_at	phospholipase C, epsilon 1	Pfce1	Mm.34031	-2.22
1436858_at	muscleblind-like 2	Mbnl2	Mm.238266	-2.22
1426237_at	Sp2 transcription factor	Sp2	Mm.244659	-2.22
1451425_a_at	makorin, ring finger protein, 1	Mkrn1	Mm.83241	-2.22
1425485_at	myotubularin related protein 6	Mtmr6	Mm.247007	-2.22
1428509_at	RIKEN cDNA 9130023P14 gene	9130023P14 Rik	Mm.212705	-2.22
1429185_at	Mus musculus 0 day neonate lung cDNA, RIKEN full-length enriched library, clone:E030024E19 product:weakly similar to PUTATIVE SH3 DOMAIN-CONTAINING GUANINE EXCHANGE FACTOR SGEF [Homo sapiens], full insert sequence	---	Mm.296624	-2.22
1421129_a_at	ATPase, Ca <sup>++</sup> transporting, ubiquitous	Atp2a3	Mm.6306	-2.22
1450286_at	natriuretic peptide receptor 3	Npr3	Mm.57219	-2.22
1448340_at	cytochrome c oxidase, subunit VIIa 2	Cox7a2	Mm.3819	-2.22
1449095_at	vacuolar protein sorting 54 (yeast)	Vps54	Mm.170103	-2.22
1435517_x_at	v-ral simian leukemia viral oncogene homolog B (ras related)	Ralb	Mm.27832	-2.22
1425486_s_at	myotubularin related protein 6	Mtmr6	Mm.247007	-2.22
1419971_s_at	solute carrier family 35, member A5	Slc35a5	Mm.264984	-2.22
1440830_at	RIKEN cDNA 8430401C09 gene	8430401C09 Rik	Mm.23478	-2.22
1452290_at	RIKEN cDNA 2310036D22 gene	2310036D22 Rik	Mm.27742	-2.22

1436591_at	cDNA sequence BC023744	BC023744	Mm.295884	-2.22
1435972_at	type 1 tumor necrosis factor receptor shedding aminopeptidase regulator	Arts1	Mm.83526	-2.22
1454701_at	RIKEN cDNA 4930503L19 gene	4930503L19 Rik	Mm.87470	-2.21
1441986_at	RIKEN cDNA 6030448M23 gene	6030448M23 Rik	Mm.257543	-2.21
1439501_at	calcium binding atopy-related autoantigen 1	Cbara1	Mm.27199	-2.21
1419170_at	RIKEN cDNA 2310044D20 gene	2310044D20 Rik	Mm.272705	-2.21
1428785_at	angiomin-like 1	Amotl1	Mm.159552	-2.21
1450897_at	Rho GTPase activating protein 5	Arhgap5	Mm.35059	-2.21
1425328_at	Mus musculus transcribed sequence with strong similarity to protein pir:S12207 (M.musculus) S12207 hypothetical protein (B2 element) - mouse	---	Mm.303356	-2.21
1423489_at	monocyte to macrophage differentiation-associated	Mmd	Mm.277518	-2.21
1451287_s_at	RIKEN cDNA 2810003C17 gene	2810003C17 Rik	Mm.24838	-2.21
1435029_at	Mus musculus 12 days embryo spinal ganglion cDNA, RIKEN full-length enriched library, clone:D130035I02 product:unknown EST, full insert sequence	---	Mm.330452	-2.21
1419650_at	zinc finger RNA binding protein	Zfr	Mm.213474	-2.21
1419648_at	myosin IC	Myo1c	Mm.234502	-2.21
1427942_at	peptidylglycine alpha-amidating	Pamci	Mm.282672	-2.21
1434017_at	monooxygenase COOH-terminal interactor zinc finger/RING finger 2	Znrf2	Mm.286149	-2.21
1437404_at	RIKEN cDNA 4930420O11 gene	4930420O11 Rik	Mm.275884	-2.20
1438432_at	Mus musculus 16 days neonate thymus cDNA, RIKEN full-length enriched library, clone:A130086J10 product:unknown EST, full insert sequence	---	Mm.133523	-2.20
1426459_s_at	expressed sequence AW549877	AW549877	Mm.21299	-2.20
1426404_a_at	ring finger protein 11	Rnf11	Mm.25228	-2.20
1449928_at	t-complex-associated-testis-expressed 1-like	Tcte1l	Mm.29150	-2.20
1437539_at	RIKEN cDNA C130083N04 gene	C130083N04 Rik	Mm.207004	-2.20
1451313_a_at	RIKEN cDNA 1110067D22 gene	1110067D22 Rik	Mm.76694	-2.20
1452179_at	Jade1 PHD finger protein	Jade1	Mm.286285	-2.20
1419455_at	interleukin 10 receptor, beta	Il10rb	Mm.4154	-2.19
1455354_at	WD repeat domain 22	Wdr22	Mm.294562	-2.19

1445897_s_at	RIKEN cDNA 2010008K16 gene	2010008K16 Rik	Mm.45558	-2.19
1427087_at	LUC7-like 2 ( <i>S. cerevisiae</i> )	Luc7l2	Mm.170182	-2.19
1449556_at	histocompatibility 2, T region locus 23	H2-T23	Mm.35016	-2.19
1427898_at	RIKEN cDNA 1200013I08 gene	1200013I08R ik	Mm.26696	-2.19
1436478_at	RIKEN cDNA 1810013L24 gene	1810013L24 Rik	Mm.135991	-2.19
1425114_at	RIKEN cDNA C030034J04 gene	C030034J04 Rik	Mm.127823	-2.19
1433754_at	muscleblind-like 2	Mbnl2	Mm.238266	-2.19
1449056_at	RIKEN cDNA E330009J07 gene	E330009J07 Rik	Mm.194709	-2.19
1448862_at	intercellular adhesion molecule 2	Icam2	Mm.394	-2.19
1428187_at	RIKEN cDNA 9130415E20 gene	9130415E20 Rik	Mm.40620	-2.19
1429019_s_at	paraoxonase 2	Pon2	Mm.126984	-2.19
1442700_at	phosphodiesterase 4B, cAMP specific	Pde4b	Mm.124710	-2.18
1433858_at	RIKEN cDNA 1300004K21 gene	1300004K21 Rik	Mm.31247	-2.18
1417432_a_at	guanine nucleotide binding protein, beta 1	Gnb1	Mm.2344	-2.18
1417818_at	RIKEN cDNA 2310058J06 gene	2310058J06 Rik	Mm.227202	-2.18
1438230_at	protein geranylgeranyltransferase type I, beta subunit	Pggtb1	Mm.262096	-2.18
1448875_at	zinc fingers and homeoboxes protein 1	Zhx1	Mm.37216	-2.18
1435526_at	RIKEN cDNA 1110020D10 gene	1110020D10 Rik	Mm.253335	-2.18
1418660_at	TPA regulated locus	Tparl	Mm.790	-2.18
1452007_at	synaptobrevin like 1	Sybl1	Mm.1517	-2.18
1433735_a_at	RIKEN cDNA 9630015D15 gene	9630015D15 Rik	Mm.38877	-2.18
1436272_at	similar to mitochondrial isoleucine tRNA synthetase	MGC63429	Mm.29999	-2.17
1456320_at	cDNA sequence BC049806	BC049806	Mm.41046	-2.17
1458205_at	Mus musculus 11 days embryo gonad cDNA, RIKEN full-length enriched library, clone:7030414N10 product:unknown EST, full insert sequence	---	Mm.218537	-2.17
1434313_at	RIKEN cDNA 6330407D12 gene	6330407D12 Rik	Mm.32416	-2.17
1437700_at	schwannomin interacting protein 1	Schip1	Mm.24059	-2.17
1450853_at	transducin-like enhancer of split 4, E(spl) homolog ( <i>Drosophila</i> )	Tle4	Mm.103638	-2.17
1452286_at	RIKEN cDNA 5033405K12 gene	5033405K12 Rik	Mm.121285	-2.17
1427891_at	immune associated nucleotide 6	Ian6	Mm.24781	-2.17
1430357_at	H3 histone, family 3B	H3f3b	Mm.18516	-2.17

1416229_at	RIKEN cDNA 0610038L10 gene	0610038L10 Rik	Mm.7013	-2.16
1455164_at	Cdc42 GTPase-activating protein	Cdgap	Mm.268397	-2.16
1452942_at	RIKEN cDNA 4930438D12 gene	4930438D12 Rik	Mm.293754	-2.16
1438592_at	NIMA (never in mitosis gene a)-related expressed kinase 1	Nek1	Mm.116649	-2.16
1419649_s_at	myosin IC	Myo1c	Mm.234502	-2.16
1436325_at	RAR-related orphan receptor alpha	Rora	Mm.271788	-2.15
1439604_at	a disintegrin-like and metalloprotease (reprolysin type) with thrombospondin type 1 motif, 16	Adamts16	Mm.115970	-2.15
1450900_at	expressed sequence AW011752	AW011752	Mm.276386	-2.15
1455377_at	hypothetical protein C630030B20	C630030B20	Mm.84065	-2.15
1456768_a_at	elastin microfibril interfacier 3	Emilin3	Mm.272673	-2.15
1437042_at	aryl hydrocarbon receptor nuclear translocator	Arnt	Mm.250265	-2.15
1428847_a_at	microtubule-actin crosslinking factor 1	Macf1	Mm.3350	-2.15
1433762_at	Mus musculus 12 days embryo spinal ganglion cDNA, RIKEN full-length enriched library, clone:D130070A15 product:unknown EST, full insert sequence	---	Mm.37541	-2.15
1429749_at	RIKEN cDNA 9330180L21 gene	9330180L21 Rik	Mm.10061	-2.15
1445605_s_at	RIKEN cDNA 4921533L14 gene	4921533L14 Rik	Mm.87130	-2.15
1416432_at	6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 3	Pfkfb3	Mm.19669	-2.15
1434036_at	metastasis suppressor 1	Mtss1	Mm.215481	-2.15
1455336_at	RIKEN cDNA 9030625G08 gene	9030625G08 Rik	Mm.32314	-2.15
1440125_at	hypothetical protein A530054K11	A530054K11	Mm.36065	-2.15
1426575_at	RIKEN cDNA 9530058O11 gene	9530058O11 Rik	Mm.171256	-2.15
1435023_at	Mus musculus transcribed sequences	---	Mm.320199	-2.14
1416686_at	procollagen lysine, 2-oxoglutarate 5-dioxygenase 2	Plod2	Mm.79983	-2.14
1442408_at	Mus musculus adult male small intestine cDNA, RIKEN full-length enriched library, clone:2010305B15 product:unknown EST, full insert sequence	---	Mm.23414	-2.14
1416412_at	neutral sphingomyelinase (N-SMase) activation associated factor	Nsmaf	Mm.3059	-2.14
1436519_a_at	RIKEN cDNA 1110057K04 gene	1110057K04 Rik	Mm.25608	-2.14
1449099_at	LPS-responsive beige-like anchor	Lrba	Mm.239927	-2.14

1434402_at	Mus musculus 18-day embryo whole body cDNA, RIKEN full-length enriched library, clone:1110053F04 product:unknown EST, full insert sequence	---	Mm.256404	-2.14
1433742_at	RIKEN cDNA D330024H06 gene	D330024H06 Rik	Mm.235642	-2.14
1448701_a_at	cerebral cavernous malformations 1	Ccm1	Mm.32368	-2.14
1422650_a_at	RIO kinase 3 (yeast)	Riok3	Mm.28551	-2.14
1451564_at	cDNA sequence BC021340	BC021340	Mm.262896	-2.13
1436522_at	RIKEN cDNA 0610025L06 gene	0610025L06 Rik	Mm.21687	-2.13
1428629_at	RIKEN cDNA 2810401C22 gene	2810401C22 Rik	Mm.247450	-2.13
1435695_a_at	RIKEN cDNA A030007L17 gene	A030007L17 Rik	Mm.294708	-2.13
1438725_at	hypothetical protein D030023K18	D030023K18	Mm.162928	-2.13
1453283_at	phosphoglucomutase 1	Pgm1	Mm.2325	-2.13
1421824_at	beta-site APP cleaving enzyme	Bace	Mm.24044	-2.13
1416911_a_at	RIKEN cDNA 6330407G11 gene	6330407G11 Rik	Mm.27903	-2.13
1454666_at	Kruppel-like factor 3 (basic)	Klf3	Mm.221757	-2.13
1438556_a_at	tropomodulin 3	Tmod3	Mm.157642	-2.13
1417398_at	related RAS viral (r-ras) oncogene homolog 2	Rras2	Mm.276572	-2.13
1440742_at	Mus musculus transcribed sequences	---	Mm.82435	-2.13
1460003_at	Mus musculus transcribed sequences	---	Mm.42155	-2.13
1450642_at	Mus musculus RIKEN cDNA 3110001I20 gene, mRNA (cDNA clone IMAGE:6439419), partial cds	---	Mm.138091	-2.13
1436413_at	Mus musculus transcribed sequence with weak similarity to protein pir:A48217 (D.melanogaster) A48217 single-strand DNA/RNA recognition protein - fruit fly (Drosophila melanogaster)	---	Mm.317091	-2.13
1434123_at	fucosyltransferase 11	Fut11	Mm.277552	-2.12
1426924_at	RIKEN cDNA D930043C02 gene	D930043C02 Rik	Mm.256991	-2.12
1459679_s_at	myosin IB	Myo1b	Mm.3390	-2.12
1431146_a_at	copine VIII	Cpne8	Mm.290991	-2.12
1426623_a_at	RIKEN cDNA 5730403H17 gene	5730403H17 Rik	Mm.219444	-2.12
1451174_at	RIKEN cDNA E430025L02 gene	E430025L02 Rik	Mm.33498	-2.12
1419642_at	purine rich element binding protein B	Purb	Mm.296150	-2.12
1456069_at	dystrobrevin alpha	Dtna	Mm.94371	-2.12
1435947_at	Mus musculus, clone IMAGE:3979169, mRNA	---	Mm.35478	-2.12
1421519_a_at	zinc finger protein 120	Zfp120	Mm.254018	-2.12



1455337_at	FYVE, RhoGEF and PH domain containing 4	Fgd4	Mm.256131	-2.11
1423946_at	PDZ and LIM domain 2	Pdlim2	Mm.283968	-2.11
1448733_at	B lymphoma Mo-MLV insertion region 1	Bmi1	Mm.272585	-2.11
1439815_at	RIKEN cDNA A230048G03 gene	A230048G03	Mm.210489	-2.11
1452639_at	ectonucleotide pyrophosphatase/phosphodiesterase 4	Rik Enpp4	Mm.290707	-2.11
1434411_at	cytochrome c oxidase, subunit VIIa 2	Cox7a2	Mm.3819	-2.11
1427075_s_at	RIKEN cDNA 5330414D10 gene	5330414D10	Mm.271986	-2.11
1426961_at	RIKEN cDNA 6820402O20 gene	Rik 6820402O20	Mm.171469	-2.11
1455249_at	solute carrier family 36 (proton/amino acid symporter), member 4	Rik Slc36a4	Mm.138815	-2.11
1428487_s_at	RIKEN cDNA 1500041J02 gene	1500041J02	Mm.162185	-2.11
1434180_at	pleckstrin homology domain containing, family C (with FERM domain) member 1	Rik Plekhc1	Mm.210018	-2.11
1416796_at	non-catalytic region of tyrosine kinase adaptor protein 2	Nck2	Mm.313872	-2.11
1452864_at	RIKEN cDNA 6530405F15 gene	6530405F15	Mm.29257	-2.11
1439557_s_at	LIM domain binding 2	Rik Ldb2	Mm.25785	-2.11
1439428_x_at	GDP-mannose 4, 6-dehydratase	Gmds	Mm.247143	-2.10
1429384_at	RIKEN cDNA 3300002K07 gene	3300002K07	Mm.136846	-2.10
1435931_at	Mus musculus transcribed sequences	---	Mm.102217	-2.10
1433999_at	serine/threonine kinase 2	Stk2	Mm.281011	-2.10
1423668_at	zinc finger, DHHC domain containing 14	Zdhhc14	Mm.268326	-2.10
1450994_at	Rho-associated coiled-coil forming kinase 1	Rock1	Mm.6710	-2.10
1456429_at	mucosa associated lymphoid tissue lymphoma translocation gene 1	Malt1	Mm.132613	-2.10
1435616_at	cytochrome P450, family 20, subfamily A, polypeptide 1	Cyp20a1	Mm.197640	-2.10
1436356_at	RIKEN cDNA 4933436G17 gene	4933436G17	Mm.273332	-2.10
1452145_at	hexose-6-phosphate dehydrogenase (glucose 1-dehydrogenase)	Rik H6pd	Mm.22183	-2.10
1423989_at	RIKEN cDNA 2210010N04 gene	2210010N04	Mm.290179	-2.10
1427235_at	ubiquitously transcribed tetratricopeptide repeat gene, X chromosome	Rik Utx	Mm.240378	-2.10
1441129_at	Mus musculus 16 days neonate thymus cDNA, RIKEN full-length enriched library, clone:A130027E11 product:unknown EST, full insert sequence	---	Mm.207515	-2.10

1416296_at	interleukin 2 receptor, gamma chain	Il2rg	Mm.2923	-2.10
1424026_s_at	cDNA sequence BC013529	BC013529	Mm.33716	-2.10
1416500_at	SAC1 (supressor of actin mutations 1, homolog)-like (S. cerevisiae)	Sacm1l	Mm.273671	-2.10
1424711_at	transmembrane protein 2	Tmem2	Mm.258163	-2.10
1453796_a_at	RIKEN cDNA 1200009B18 gene	1200009B18 Rik	Mm.59812	-2.09
1434569_at	GrpE-like 1, mitochondrial	Grpel1	Mm.21535	-2.09
1429810_at	RIKEN cDNA 4921505C17 gene	4921505C17 Rik	Mm.275811	-2.09
1429435_x_at	phosphatidylinositol 3-kinase, catalytic, alpha polypeptide	Pik3ca	Mm.260521	-2.09
1436989_s_at	Mus musculus transcribed sequences	---	Mm.325314	-2.09
1417447_at	transcription factor 21	Tcf21	Mm.16497	-2.09
1441097_at	Mus musculus transcribed sequences	---	Mm.118004	-2.09
1427564_at	diaphanous homolog 2 (Drosophila)	Diap2	Mm.10763	-2.09
1425391_a_at	oxysterol binding protein-like 5	Osbpl5	Mm.21199	-2.09
1437696_at	Mus musculus, Similar to hypothetical protein FLJ90036, clone IMAGE:6333379, mRNA	---	Mm.209990	-2.08
1456599_at	RIKEN cDNA 6330587F24 gene	6330587F24 Rik	Mm.41899	-2.08
1416408_at	acyl-Coenzyme A oxidase 1, palmitoyl	Acox1	Mm.259054	-2.08
1418232_s_at	LIM and senescent cell antigen-like domains 1	Lims1	Mm.57734	-2.08
1416267_at	short coiled-coil protein	Scoc	Mm.300476	-2.08
1437052_s_at	solute carrier family 2 (facilitated glucose transporter), member 3	Slc2a3	Mm.269857	-2.08
1452342_at	RIKEN cDNA 2310007D03 gene	2310007D03 Rik	Mm.256107	-2.08
1436191_at	retinoblastoma binding protein 1	Rbbp1	Mm.241601	-2.08
1450700_at	CDC42 effector protein (Rho GTPase binding) 3	Cdc42ep3	Mm.275926	-2.08
1416934_at	X-linked myotubular myopathy gene 1	Mtm1	Mm.274981	-2.08
1423499_at	synuclein, alpha interacting protein (synphilin)	Sncaip	Mm.90801	-2.08
1417874_at	RIKEN cDNA 2310004K06 gene	2310004K06 Rik	Mm.240668	-2.08
1459900_at	Mus musculus transcribed sequences	---	Mm.25035	-2.08
1418017_at	pumilio 2 (Drosophila)	Pum2	Mm.20543	-2.07
1429431_at	Mus musculus adult male tongue cDNA, RIKEN full-length enriched library, clone:2310032D21 product:ZINC FINGER TRANSCRIPTION FACTOR PEGASUS homolog [Homo sapiens], full insert sequence	---	Mm.311029	-2.07
1426903_at	RIKEN cDNA F730017H24 gene	F730017H24 Rik	Mm.205421	-2.07

1435998_at	Mus musculus similar to chromosome 14 open reading frame 18 isoform a; enhancer of invasion 10 (LOC239083), mRNA	---	Mm.295536	-2.07
1433592_at	calmodulin 1	Calm1	Mm.34246	-2.07
1421362_a_at	fyn-related kinase	Frk	Mm.35407	-2.07
1422806_x_at	inhibitor of growth family, member 3	Ing3	Mm.39999	-2.07
1428657_at	RIKEN cDNA 1110037N09 gene	1110037N09 Rik	Mm.37369	-2.07
1429830_a_at	CD59a antigen	Cd59a	Mm.247265	-2.06
1426734_at	cDNA sequence BC022623	BC022623	Mm.28244	-2.06
1417477_at	gene trap locus F3b	Gtlf3b	Mm.22780	-2.06
1448429_at	glycogenin 1	Gyg1	Mm.6375	-2.06
1423829_at	RIKEN cDNA 0910001A06 gene	0910001A06 Rik	Mm.246108	-2.06
1452237_at	HIV-1 Rev binding protein	Hrb	Mm.6461	-2.06
1455840_at	Mras regulated guanine nucleotide exchange factor	Mrgef	Mm.227642	-2.06
1437605_at	nephrosis 2 homolog, podocin (human)	Nphs2	Mm.289099	-2.06
1454889_x_at	RIKEN cDNA C630016B22 gene	C630016B22 Rik	Mm.23047	-2.06
1434272_at	cytoplasmic polyadenylation element binding protein 2	Cpeb2	Mm.7233	-2.06
1441242_at	Mus musculus 3 days neonate thymus cDNA, RIKEN full-length enriched library, clone:A630022A19 product:unknown EST, full insert sequence	---	Mm.133119	-2.06
1448684_at	protein phosphatase 1, regulatory (inhibitor) subunit 2	Ppp1r2	Mm.291593	-2.06
1423626_at	dystonin	Dst	Mm.25326	-2.06
1448434_at	ring finger protein 103	Rnf103	Mm.310	-2.05
1455812_x_at	DnaJ (Hsp40) homolog, subfamily A, member 3	Dnaja3	Mm.248337	-2.05
1417625_s_at	chemokine orphan receptor 1	Cmkor1	Mm.6522	-2.05
1454646_at	RIKEN cDNA E430026E19 gene	E430026E19 Rik	Mm.296142	-2.05
1423202_a_at	nuclear receptor co-repressor 1	Ncor1	Mm.271814	-2.05
1451422_at	myosin XVIIIa	Myo18a	Mm.250799	-2.05
1434674_at	lysosomal trafficking regulator	Lyst	Mm.124392	-2.05
1428046_a_at	zinc finger protein X-linked	Zfx	Mm.919	-2.05
1417765_a_at	amylase 1, salivary	Amy1	Mm.33941	-2.05
1434951_at	RIKEN cDNA 1200015K23 gene	1200015K23 Rik	Mm.234823	-2.05
1456913_at	tropomodulin 3	Tmod3	Mm.157642	-2.05
1456467_s_at	nemo like kinase	Nlk	Mm.9001	-2.05
1429527_a_at	phospholipid scramblase 1	Plscr1	Mm.14627	-2.04
1426857_a_at	RIKEN cDNA 2610207I16 gene	2610207I16R ik	Mm.272905	-2.04
1416600_a_at	Down syndrome critical region homolog 1 (human)	Dscr1	Mm.265744	-2.04

1451264_at	RIKEN cDNA 4930488L10 gene	4930488L10 Rik	Mm.2962	-2.04
1424683_at	RIKEN cDNA 1810015C04 gene	1810015C04 Rik	Mm.25311	-2.04
1460455_at	Mus musculus 0 day neonate head cDNA, RIKEN full-length enriched library, clone:4833438M21 product:hypothetical Cysteine-rich region containing protein, full insert sequence	---	Mm.121931	-2.04
1423621_a_at	solute carrier family 33 (acetyl-CoA transporter), member 1	Slc33a1	Mm.135619	-2.04
1439127_at	expressed sequence AI314180	AI314180	Mm.234801	-2.04
1433511_at	general transcription factor II A, 1	Gtf2a1	Mm.275728	-2.04
1426645_at	Mus musculus transcribed sequence with strong similarity to protein sp:P07900 (H.sapiens) HS9A_HUMAN Heat shock protein HSP 90-alpha (HSP 86)	---	Mm.331992	-2.04
1452714_at	RIKEN cDNA 1200003E16 gene	1200003E16 Rik	Mm.27917	-2.04
1450883_a_at	CD36 antigen	Cd36	Mm.18628	-2.03
1434557_at	huntingtin interacting protein 1	Hip1	Mm.280805	-2.03
1421847_at	expressed sequence AA673511	AA673511	Mm.28489	-2.03
1421849_at	stromal antigen 2	Stag2	Mm.290422	-2.03
1437875_at	bicaudal D homolog 2 (Drosophila)	Bicd2	Mm.197387	-2.03
1437891_at	fibroblast growth factor receptor substrate 2	Frs2	Mm.135965	-2.03
1455314_at	LIM domain containing preferred translocation partner in lipoma	Lpp	Mm.209385	-2.03
1451074_at	ring finger protein 13	Rnf13	Mm.274360	-2.03
1426530_a_at	RIKEN cDNA 1300013C10 gene	1300013C10 Rik	Mm.10281	-2.03
1415837_at	kallikrein 6	Klk6	Mm.4486	-2.03
1449616_s_at	golgi autoantigen, golgin subfamily a, 3	Golga3	Mm.9392	-2.03
1448710_at	chemokine (C-X-C motif) receptor 4	Cxcr4	Mm.1401	-2.02
1450760_a_at	inhibitor of growth family, member 3	Ing3	Mm.39999	-2.02
1435224_at	CREB binding protein	Crebbp	Mm.272878	-2.02
1436223_at	Mus musculus 0 day neonate kidney cDNA, RIKEN full-length enriched library, clone:D630049N15 product:unknown EST, full insert sequence	---	Mm.258803	-2.02
1424672_at	RIKEN cDNA C630007L23 gene	C630007L23 Rik	Mm.258776	-2.02
1452064_at	cofactor required for Sp1 transcriptional activation, subunit 3	Crsp3	Mm.28020	-2.02
1436456_at	RIKEN cDNA 9130023D20 gene	9130023D20 Rik	Mm.259799	-2.02
1416525_at	speckle-type POZ protein	Spop	Mm.285454	-2.02
1455349_at	RAS related protein 1b	Rap1b	Mm.298459	-2.02

1436920_at	Mus musculus adult male spinal cord cDNA, RIKEN full-length enriched library, clone:A330082J21 product:unknown EST, full insert sequence	---	Mm.255429	-2.02
1454899_at	LIM domain containing preferred translocation partner in lipoma	Lpp	Mm.209385	-2.02
1423895_a_at	CUG triplet repeat,RNA binding protein 2	Cugbp2	Mm.147091	-2.02
1448839_at	RIKEN cDNA 0610013D04 gene	0610013D04 Rik	Mm.196330	-2.02
1452338_s_at	intersectin (SH3 domain protein 1A)	Itsn	Mm.40546	-2.02
1454962_at	RIKEN cDNA 6030430B19 gene	6030430B19 Rik	Mm.208723	-2.02
1428323_at	glycerol phosphate dehydrogenase 2, mitochondrial	Gpd2	Mm.3711	-2.02
1454811_a_at	tumor differentially expressed 2	Tde2	Mm.29344	-2.02
1421223_a_at	annexin A4	Anxa4	Mm.259702	-2.02
1427406_at	RIKEN cDNA 6030460N08 gene	6030460N08 Rik	Mm.133234	-2.01
1437393_at	protein kinase C, alpha	Prkca	Mm.234258	-2.01
1460444_at	arrestin, beta 1	Arrb1	Mm.260193	-2.01
1436994_a_at	histone 1, H1c	Hist1h1c	Mm.193539	-2.01
1460555_at	RIKEN cDNA 6330500D04 gene	6330500D04 Rik	Mm.217261	-2.01
1426709_a_at	ubiquitin specific protease 33	Usp33	Mm.258320	-2.01
1437204_a_at	DNA segment, Chr 8, ERATO Doi 325, expressed	D8Ertd325e	Mm.178818	-2.01
1455597_at	Mus musculus adult male epididymis cDNA, RIKEN full-length enriched library, clone:9230108P05 product:unknown EST, full insert sequence	---	Mm.31198	-2.01
1434765_at	Mus musculus 0 day neonate thymus cDNA, RIKEN full-length enriched library, clone:A430090G16 product:inferred: p300 protein {Homo sapiens}, full insert sequence	---	Mm.259944	-2.01
1435494_s_at	RIKEN cDNA 5730453H04 gene	5730453H04 Rik	Mm.203911	-2.01
1436048_at	expressed sequence AI414418	AI414418	Mm.21655	-2.00
1455050_at	RIKEN cDNA E130203B14 gene	E130203B14 Rik	Mm.187910	-2.00
1455204_at	RIKEN cDNA 1110020B03 gene	1110020B03 Rik	Mm.253151	-2.00
1452783_at	RIKEN cDNA 1600019O04 gene	1600019O04 Rik	Mm.38832	-2.00
1430820_a_at	bobby sox homolog (Drosophila)	Bbx	Mm.28940	-2.00
1434283_at	developmentally and sexually retarded with transient immune abnormalities	Desrt	Mm.270346	-2.00

1416655_at	RIKEN cDNA 1500002I11 gene	1500002I11R ik	Mm.257615	-2.00
1435342_at	DNA segment, Chr 7, ERATO Doi 764, expressed	D7Ert764e	Mm.24877	-2.00
1420127_s_at	phosphatidylinositol glycan, class B	Pigb	Mm.139905	-2.00
1417179_at	transmembrane 4 superfamily member 9	Tm4sf9	Mm.31927	-2.00
1425494_s_at	bone morphogenetic protein receptor, type 1A	Bmpr1a	Mm.237825	-2.00
1418894_s_at	pre B-cell leukemia transcription factor 2	Pbx2	Mm.7103	-2.00
1433910_at	hypothetical protein MGC38585	MGC38585	Mm.207841	-2.00
1422742_at	human immunodeficiency virus type I enhancer binding protein 1	Hivep1	Mm.4808	-2.00
1434483_at	Mus musculus transcribed sequences	---	Mm.333112	-2.00

## Appendix I - B

### Genes up-regulated in glomeruli isolated from Pod1 KO compared to WT mice

Affy Probe ID	Gene Title	Gene Symbol	UniGene ID	Fold Different
1431225_at	SRY-box containing gene 11	Sox11	Mm.41702	18.17
1441687_at	wingless-related MMTV integration site 4	Wnt4	Mm.20355	12.79
1417552_at	fibroblast activation protein	Fap	Mm.41816	11.97
1454803_a_at	histone deacetylase 11	Hdac11	Mm.206218	11.36
1459702_at	Mus musculus 12 days embryo embryonic body between diaphragm region and neck cDNA, RIKEN full-length enriched library, clone:9430001M03 product:hypothetical protein, full insert sequence	---	Mm.211398	9.77
1442977_at	Mus musculus transcribed sequences	---	Mm.126680	9.52
1448590_at	procollagen, type VI, alpha 1	Col6a1	Mm.2509	8.80
1454159_a_at	insulin-like growth factor binding protein 2	Igfbp2	Mm.141936	7.54
1455160_at	Mus musculus adult male diencephalon cDNA, RIKEN full-length enriched library, clone:9330165B11 product:unknown EST, full insert sequence	---	Mm.38166	7.52
1458140_at	slit homolog 2 (Drosophila)	Slit2	Mm.289739	7.19
1443337_at	Mus musculus 0 day neonate lung cDNA, RIKEN full-length enriched library, clone:E030012P20 product:unknown EST, full insert sequence	---	Mm.136625	7.13
1423933_a_at	RIKEN cDNA 1600029D21 gene	1600029D21Rik	Mm.29959	7.09
1457317_at	Mus musculus adult male corpora quadrigemina cDNA, RIKEN full-length enriched library, clone:B230209D03 product:unknown EST, full insert sequence	---	Mm.131878	7.04
1442680_at	Mus musculus adult male olfactory brain cDNA, RIKEN full-length enriched library, clone:6430501M24 product:unclassifiable, full insert sequence	---	Mm.156925	7.01



1442322_at	Mus musculus transcribed sequences	---	Mm.217866	6.99
1449368_at	decorin	Dcn	Mm.56769	6.99
1451456_at	Unknown (protein for MGC:66590)	MGC66590	Mm.299908	6.91
1441698_at	Mus musculus transcribed sequences	---	Mm.210092	6.77
1423607_at	lumican	Lum	Mm.18888	6.76
1427038_at	preproenkephalin 1	Penk1	Mm.2899	6.60
1448229_s_at	cyclin D2	Ccnd2	Mm.294136	6.57
1421694_a_at	chondroitin sulfate proteoglycan 2	Cspg2	Mm.158700	6.57
1441995_at	Mus musculus transcribed sequence with weak similarity to protein ref:NP_008822.2 (H.sapiens) crystallin, gamma D; gamma crystallin 4 [Homo sapiens]	---	Mm.101024	6.20
1439427_at	claudin 9	Cldn9	Mm.103738	6.12
1419497_at	cyclin-dependent kinase inhibitor 1B (P27)	Cdkn1b	Mm.272101	5.98
1418450_at	immunoglobulin superfamily containing leucine-rich repeat	Islr	Mm.38426	5.94
1454847_at	expressed sequence AI447312	AI447312	Mm.205393	5.94
1424367_a_at	homer homolog 2 (Drosophila)	Homer2	Mm.228	5.92
1439757_s_at	Eph receptor A4	Epha4	Mm.3249	5.90
1416006_at	midkine	Mdk	Mm.57181	5.85
1444875_at	Mus musculus transcribed sequences	---	Mm.172677	5.84
1429871_at	hyaluronan mediated motility receptor (RHAMM)	Hmmr	Mm.116997	5.83
1452250_a_at	procollagen, type VI, alpha 2	Col6a2	Mm.1949	5.82
1439556_at	neural cell adhesion molecule 1	Ncam1	Mm.4974	5.77
1441333_at	Mus musculus 16 days neonate thymus cDNA, RIKEN full-length enriched library, clone:A130047F11 product:hypothetical protein, full insert sequence	---	Mm.294334	5.76
1448754_at	retinol binding protein 1, cellular	Rbp1	Mm.279741	5.71
1443394_at	Mus musculus transcribed sequences	---	Mm.217822	5.69
1426766_at	RIKEN cDNA 6330403K07 gene	6330403K07Rik	Mm.27768	5.68
1446088_at	Mus musculus 3 days neonate thymus cDNA, RIKEN full-length enriched library, clone:A630036K04 product:unknown EST, full insert sequence	---	Mm.215371	5.68
1416439_at	RIKEN cDNA 2410015N17 gene	2410015N17Rik	Mm.29898	5.67
1416200_at	RIKEN cDNA 9230117N10 gene	9230117N10Rik	Mm.182359	5.64
1434129_s_at	expressed sequence AI447312	AI447312	Mm.205393	5.55
1452905_at	GTL2, imprinted maternally expressed untranslated mRNA	Gtl2	Mm.200506	5.55
1443241_at	Mus musculus 13 days embryo stomach cDNA, RIKEN full-length enriched library, clone:D530023N15 product:unclassifiable, full insert sequence	---	Mm.138189	5.43

1439380_x_at	GTL2, imprinted maternally expressed untranslated mRNA	Gtl2	Mm.200506	5.40
1429051_s_at	SRY-box containing gene 11	Sox11	Mm.41702	5.39
1416211_a_at	pleiotrophin	Ptn	Mm.3063	5.29
1452081_a_at	RIKEN cDNA 9130017N09 gene	9130017N09Rik	Mm.33087	5.29
1426658_x_at	3-phosphoglycerate dehydrogenase	Phgdh	Mm.298899	5.28
1455647_at	Mus musculus 2 days pregnant adult female oviduct cDNA, RIKEN full-length enriched library, clone:E230021K14 product:unclassifiable, full insert sequence	---	Mm.39005	5.28
1439520_at	Mus musculus transcribed sequences	---	Mm.138156	5.24
1417378_at	immunoglobulin superfamily, member 4	Igsf4	Mm.275051	5.24
1443117_at	Mus musculus transcribed sequences	---	Mm.214693	5.19
1421074_at	cytochrome P450, family 7, subfamily b, polypeptide 1	Cyp7b1	Mm.278588	5.09
1448956_at	START domain containing 10	Stard10	Mm.28896	5.08
1443018_at	Mus musculus 12 days embryo male wolffian duct includes surrounding region cDNA, RIKEN full-length enriched library, clone:6720436M04 product:unknown EST, full insert sequence	---	Mm.213227	5.03
1442144_at	Emu1 gene	Emu1	Mm.153507	5.03
1427256_at	chondroitin sulfate proteoglycan 2	Cspg2	Mm.158700	5.02
1445561_at	Mus musculus transcribed sequences	---	Mm.202573	5.02
1434667_at	procollagen, type VIII, alpha 2	Col8a2	Mm.296327	5.01
1453753_at	RIKEN cDNA 2810047L02 gene	2810047L02Rik	Mm.189102	5.01
1450288_at	cadherin 6	Cdh6	Mm.57048	4.98
1429273_at	RIKEN cDNA 3110056H04 gene	3110056H04Rik	Mm.127046	4.97
1452030_a_at	heterogeneous nuclear ribonucleoprotein R	Hnrpr	Mm.31051	4.95
1427883_a_at	procollagen, type III, alpha 1	Col3a1	Mm.249555	4.93
1452183_a_at	GTL2, imprinted maternally expressed untranslated mRNA	Gtl2	Mm.200506	4.93
1416168_at	serine (or cysteine) proteinase inhibitor, clade F), member 1	Serpinf1	Mm.2044	4.93
1438861_at	RIKEN cDNA 5031434M05 gene	5031434M05Rik	Mm.190774	4.91
1446392_at	Mus musculus 15 days embryo head cDNA, RIKEN full-length enriched library, clone:D930039G05 product:unclassifiable, full insert sequence	---	Mm.235183	4.89
1421075_s_at	cytochrome P450, family 7, subfamily b, polypeptide 1	Cyp7b1	Mm.278588	4.87
1417845_at	claudin 6	Cldn6	Mm.86421	4.82
1416473_a_at	neighbor of Punc E11	Nope	Mm.209041	4.81
1448550_at	lipopolysaccharide binding protein	Lbp	Mm.218846	4.80
1423153_x_at	complement component factor h	Cfh	Mm.8655	4.80

1457852_at	Mus musculus 9.5 days embryo parthenogenote cDNA, RIKEN full-length enriched library, clone:B130011L09 product:unknown EST, full insert sequence	---	Mm.172748	4.70
1441484_at	Mus musculus transcribed sequences	---	Mm.319405	4.70
1446440_at	Mus musculus 0 day neonate lung cDNA, RIKEN full-length enriched library, clone:E030006O04 product:unknown EST, full insert sequence	---	Mm.254473	4.68
1444302_at	Unknown (protein for MGC:59592)	MGC59592	Mm.252812	4.65
1450849_at	heterogeneous nuclear ribonucleoprotein U	Hnrpu	Mm.2115	4.63
1416612_at	cytochrome P450, family 1, subfamily b, polypeptide 1	Cyp1b1	Mm.214016	4.57
1439232_at	Mus musculus adult male cerebellum cDNA, RIKEN full-length enriched library, clone:1500016L03 product:unknown EST, full insert sequence	---	Mm.260345	4.55
1455851_at	bone morphogenetic protein 5	Bmp5	Mm.118034	4.54
1421933_at	chromobox homolog 5 (Drosophila HP1a)	Cbx5	Mm.262059	4.53
1417822_at	DNA segment, Chr 17, human D6S56E 5	D17H6S56E-5	Mm.22506	4.51
1429703_at	Mus musculus adult male hippocampus cDNA, RIKEN full-length enriched library, clone:2900072G11 product:unknown EST, full insert sequence	---	Mm.138210	4.50
1417928_at	reversion induced LIM gene	Ril	Mm.21830	4.49
1445938_at	Mus musculus 13 days embryo forelimb cDNA, RIKEN full-length enriched library, clone:5930427L02 product:unknown EST, full insert sequence	---	Mm.207154	4.48
1439568_at	RIKEN cDNA 5730583K22 gene	5730583K22Rik	Mm.218957	4.45
1443026_at	Mus musculus 10 days neonate cerebellum cDNA, RIKEN full-length enriched library, clone:B930006H01 product:unclassifiable, full insert sequence	---	Mm.216249	4.44
1423859_a_at	prostaglandin D2 synthase (brain)	Ptgds	Mm.1008	4.43
1421929_at	Eph receptor A4	Epha4	Mm.3249	4.43
1450047_at	heparan sulfate 6-O-sulfotransferase 2	Hs6st2	Mm.252561	4.41
1454268_a_at	cytochrome b-245, alpha polypeptide	Cyba	Mm.271671	4.39
1423691_x_at	keratin complex 2, basic, gene 8	Krt2-8	Mm.289759	4.38
1415871_at	transforming growth factor, beta induced	Tgfb1	Mm.14455	4.38

1437558_at	Mus musculus 13 days embryo stomach cDNA, RIKEN full-length enriched library, clone:D530034D18 product:unknown EST, full insert sequence	---	Mm.204306	4.35
1439852_at	Mus musculus transcribed sequences	---	Mm.86920	4.35
1457589_at	RIKEN cDNA D430038H04 gene	D430038H04Rik	Mm.195010	4.35
1441165_s_at	calsyntenin 2	Clstn2	Mm.32095	4.34
1422851_at	high mobility group AT-hook 2	Hmga2	Mm.157190	4.30
1425293_a_at	RIKEN cDNA 1500031H04 gene	1500031H04Rik	Mm.23671	4.28
1427884_at	procollagen, type III, alpha 1	Col3a1	Mm.249555	4.28
1434365_a_at	RIKEN cDNA 1200016D23 gene	1200016D23Rik	Mm.288759	4.27
1439535_at	Mus musculus 0 day neonate thymus cDNA, RIKEN full-length enriched library, clone:A430056K20 product:unknown EST, full insert sequence	---	Mm.31803	4.26
1442257_at	Mus musculus transcribed sequences	---	Mm.23330	4.25
1456471_x_at	Mus musculus transcribed sequence with strong similarity to protein sp:Q61753 (M.musculus) SERA_MOUSE D-3- phosphoglycerate dehydrogenase (3- PGDH) (A10)	---	Mm.314167	4.23
1440030_at	Mus musculus transcribed sequences	---	Mm.209994	4.20
1455978_a_at	Mus musculus transcribed sequence with moderate similarity to protein sp:O00339 (H.sapiens) MTN2_HUMAN Matrilin-2 precursor	---	Mm.3511	4.20
1443823_s_at	ATPase, Na+/K+ transporting, alpha 2 polypeptide	Atp1a2	Mm.207432	4.19
1427961_s_at	expressed sequence AI788959	AI788959	Mm.281844	4.19
1448162_at	vascular cell adhesion molecule 1	Vcam1	Mm.76649	4.19
1435628_x_at	---	---	---	4.16
1416613_at	cytochrome P450, family 1, subfamily b, polypeptide 1	Cyp1b1	Mm.214016	4.12
1418094_s_at	carbonic anhydrase 4	Car4	Mm.1641	4.11
1450876_at	complement component factor h	Cfh	Mm.8655	4.10
1446048_at	Mus musculus transcribed sequences	---	Mm.182604	4.09
1428866_at	Mus musculus 10, 11 days embryo whole body cDNA, RIKEN full-length enriched library, clone:2810037O22 product:unknown EST, full insert sequence	---	Mm.38582	4.09
1430127_a_at	cyclin D2	Ccnd2	Mm.294136	4.07
1443335_at	Mus musculus transcribed sequences	---	Mm.134891	4.06
1449054_a_at	poly(rC) binding protein 4	Pcbp4	Mm.45424	4.06
1426652_at	minichromosome maintenance deficient 3 (S. cerevisiae)	Mcm3	Mm.4502	4.06
1441213_at	cDNA sequence BC021891	BC021891	Mm.216458	4.06
1452267_at	RIKEN cDNA E030034P13 gene	E030034P13Rik	Mm.298603	4.05
1426864_a_at	neural cell adhesion molecule 1	Ncam1	Mm.4974	4.05

1443201_at	Mus musculus transcribed sequences	---	Mm.205978	4.05
1449314_at	zinc finger protein, multitype 2	Zfpm2	Mm.39496	4.04
1456901_at	Mus musculus transcribed sequences	---	Mm.130313	4.03
1438650_x_at	gap junction membrane channel protein alpha 1	Gja1	Mm.4504	4.03
1428850_x_at	RIKEN cDNA 2410026K10 gene	2410026K10Rik	Mm.260878	4.02
1415832_at	angiotensin II receptor, type 2	Agtr2	Mm.2679	4.02
1420647_a_at	keratin complex 2, basic, gene 8	Krt2-8	Mm.289759	4.02
1439252_at	inner centromere protein	Incenp	Mm.29755	4.00
1417388_at	brain expressed X-linked 2	Bex2	Mm.94160	3.99
1448613_at	extracellular matrix protein 1	Ecm1	Mm.3433	3.99
1434510_at	3'-phosphoadenosine 5'-phosphosulfate synthase 2	Papss2	Mm.203916	3.99
1456584_x_at	Mus musculus transcribed sequence with strong similarity to protein sp:Q61753 (M.musculus) SERA_MOUSE D-3-phosphoglycerate dehydrogenase (3-PGDH) (A10)	---	Mm.314167	3.98
1440634_at	Mus musculus 0 day neonate eyeball cDNA, RIKEN full-length enriched library, clone:E130019M09 product:unclassifiable, full insert sequence	---	Mm.157623	3.97
1459512_at	Mus musculus transcribed sequences	---	Mm.217236	3.96
1427063_at	RIKEN cDNA 5330417C22 gene	5330417C22Rik	Mm.259442	3.95
1425815_a_at	hyaluronan mediated motility receptor (RHAMM)	Hmmr	Mm.116997	3.94
1453290_at	high mobility group box 2-like 1	Hmgb2l1	Mm.261739	3.94
1441629_at	Mus musculus transcribed sequences	---	Mm.209227	3.94
1424187_at	RIKEN cDNA 2610001E17 gene	2610001E17Rik	Mm.181074	3.93
1442659_at	protocadherin 9	Pcdh9	Mm.44532	3.91
1456787_at	Mus musculus 13 days embryo stomach cDNA, RIKEN full-length enriched library, clone:D530009B01 product:unknown EST, full insert sequence	---	Mm.169436	3.89
1440147_at	leucine-rich repeat LGI family, member 2	Lgi2	Mm.44721	3.89
1460474_at	Mus musculus 10 days embryo whole body cDNA, RIKEN full-length enriched library, clone:2610028L16 product:unknown EST, full insert sequence	---	Mm.321377	3.88
1437458_x_at	clusterin	Clu	Mm.200608	3.88
1455834_x_at	transforming, acidic coiled-coil containing protein 3	Tacc3	Mm.27836	3.88
1417427_at	RIKEN cDNA 1500026D16 gene	1500026D16Rik	Mm.246200	3.87
1447521_x_at	hypothetical protein 9530053N22	9530053N22	Mm.259087	3.86
1416521_at	selenoprotein W, muscle 1	Sepw1	Mm.42829	3.85
1435989_x_at	keratin complex 2, basic, gene 8	Krt2-8	Mm.289759	3.84
1427025_at	DNA segment, Chr 8, ERATO Doi 531, expressed	D8Ert531e	Mm.294871	3.83

1447683_x_at	methyltransferase-like 1	Mettl1	Mm.251593	3.83
1444345_at	Mus musculus transcribed sequences	---	Mm.59170	3.82
1452118_at	RIKEN cDNA 2600005C20 gene	2600005C20Rik	Mm.102761	3.82
1455116_at	tumor necrosis factor receptor superfamily, member 19-like	Tnfrsf19l	Mm.40336	3.81
1447345_at	Mus musculus transcribed sequences	---	Mm.305627	3.80
1442471_at	Mus musculus transcribed sequences	---	Mm.303292	3.80
1443260_at	Mus musculus transcribed sequences	---	Mm.315335	3.80
1425464_at	GATA binding protein 6	Gata6	Mm.264912	3.79
1417147_at	RIKEN cDNA B230317C12 gene	B230317C12Rik	Mm.279863	3.78
1424882_a_at	RIKEN cDNA 2510015F01 gene	2510015F01Rik	Mm.261681	3.78
1417821_at	DNA segment, Chr 17, human D6S56E 5	D17H6S56E-5	Mm.22506	3.77
1429702_at	Mus musculus adult male hippocampus cDNA, RIKEN full-length enriched library, clone:2900072G11 product:unknown EST, full insert sequence	---	Mm.138210	3.77
1455956_x_at	cyclin D2	Ccnd2	Mm.294136	3.77
1449055_x_at	poly(rC) binding protein 4	Pcbp4	Mm.45424	3.77
1418123_at	unc-119 homolog (C. elegans)	Unc119	Mm.284811	3.76
1438833_at	RIKEN cDNA 2310043D08 gene	2310043D08Rik	Mm.202518	3.76
1432464_a_at	RIKEN cDNA 2310057J16 gene	2310057J16Rik	Mm.271187	3.76
1452968_at	collagen triple helix repeat containing 1	Cthrc1	Mm.41556	3.76
1429882_at	RIKEN cDNA 2610005L07 gene	2610005L07Rik	Mm.299630	3.76
1418208_at	paired box gene 8	Pax8	Mm.2533	3.74
1435655_at	ribosomal protein L12	Rpl12	Mm.296756	3.74
1446849_at	Mus musculus transcribed sequences	---	Mm.182763	3.74
1448907_at	thimet oligopeptidase 1	Thop1	Mm.26995	3.72
1454639_x_at	ribosomal protein L41	Rpl41	Mm.290786	3.72
1416833_at	kidney expressed gene 1	Keg1	Mm.218561	3.70
1448878_at	RIKEN cDNA 2610524G07 gene	2610524G07Rik	Mm.222823	3.69
1451699_at	Mus musculus similar to development- and differentiation-enhancing factor 2; PYK2 C terminus-associated protein (LOC382683), mRNA	---	Mm.289629	3.69
1423877_at	chromatin assembly factor 1, subunit B (p60)	Chaf1b	Mm.274222	3.69
1426657_s_at	3-phosphoglycerate dehydrogenase	Phgdh	Mm.298899	3.66
1418080_at	UDP-Gal:betaGlcNAc beta 1,4-galactosyltransferase, polypeptide 2	B4galt2	Mm.26693	3.65
1448123_s_at	transforming growth factor, beta induced	Tgfb1	Mm.14455	3.65
1457671_at	RIKEN cDNA 9330120H11 gene	9330120H11Rik	Mm.135072	3.65
1424351_at	RIKEN cDNA 1600023A02 gene	1600023A02Rik	Mm.27289	3.64
1417359_at	microfibrillar-associated protein 2	Mfap2	Mm.7386	3.64
1441546_at	Mus musculus transcribed sequences	---	Mm.212279	3.62
1423967_at	paralemmin	Palm	Mm.34650	3.60

1442298_at	Mus musculus 16 days neonate heart cDNA, RIKEN full-length enriched library, clone:D830048C03 product:unclassifiable, full insert sequence	---	Mm.31071	3.60
1428069_at	RIKEN cDNA 2310021G01 gene	2310021G01Rik	Mm.29164	3.59
1443269_at	Mus musculus 12 days embryo spinal ganglion cDNA, RIKEN full-length enriched library, clone:D130009B15 product:unknown EST, full insert sequence	---	Mm.168666	3.59
1429348_at	sema domain, immunoglobulin domain (Ig), short basic domain, secreted, (semaphorin) 3C	Sema3c	Mm.5071	3.59
1449027_at	ras homolog gene family, member U	Arhu	Mm.168257	3.58
1416335_at	macrophage migration inhibitory factor	Mif	Mm.2326	3.56
1452040_a_at	cell division cycle associated 3	Cdca3	Mm.285723	3.56
1447812_x_at	RIKEN cDNA 1110055E19 gene	1110055E19Rik	Mm.39046	3.55
1439227_at	Mus musculus transcribed sequences	---	Mm.133510	3.55
1452014_a_at	insulin-like growth factor 1	Igf1	Mm.268521	3.52
1451739_at	Kruppel-like factor 5	Klf5	Mm.30262	3.52
1425788_a_at	DNA segment, Chr 4, ERATO Doi 765, expressed	D4Ert765e	Mm.270783	3.52
1423703_at	peter pan homolog (Drosophila)	Ppan	Mm.2930	3.52
1420028_s_at	minichromosome maintenance deficient 3 (S. cerevisiae)	Mcm3	Mm.4502	3.51
1445048_at	RIKEN cDNA 5830435C13 gene	5830435C13Rik	Mm.228071	3.51
1447886_at	Mus musculus adult male kidney cDNA, RIKEN full-length enriched library, clone:0610040B09 product:unknown EST, full insert sequence	---	Mm.62891	3.50
1424556_at	pyrroline-5-carboxylate reductase 1	Pycr1	Mm.127731	3.50
1448622_at	LSM4 homolog, U6 small nuclear RNA associated (S. cerevisiae)	Lsm4	Mm.248188	3.49
1441680_at	Mus musculus transcribed sequences	---	Mm.218169	3.49
1449028_at	ras homolog gene family, member U	Arhu	Mm.168257	3.48
1451418_a_at	SPRY domain-containing SOCS box 4	Ssb4	Mm.33268	3.47
1418424_at	tumor necrosis factor alpha induced protein 6	Tnfaip6	Mm.3509	3.47
1449109_at	suppressor of cytokine signaling 2	Socs2	Mm.4132	3.46
1436018_at	Mus musculus 11 days embryo whole body cDNA, RIKEN full-length enriched library, clone:2700083E18 product:unknown EST, full insert sequence	---	Mm.275154	3.45
1456077_x_at	cell division cycle 25 homolog C (S. cerevisiae)	Cdc25c	Mm.286602	3.44
1450693_at	regulator of G-protein signaling 17	Rgs17	Mm.44606	3.44
1448466_at	RIKEN cDNA 2610036L13 gene	2610036L13Rik	Mm.23526	3.44
1430979_a_at	peroxiredoxin 2	Prdx2	Mm.270130	3.43
1436364_x_at	nuclear factor I/X	Nfix	Mm.9394	3.43

1425072_at	S-phase kinase-associated protein 2 (p45)	Skp2	Mm.35584	3.42
1437463_x_at	transforming growth factor, beta induced	Tgfb1	Mm.14455	3.41
1454714_x_at	Mus musculus transcribed sequence with strong similarity to protein sp:Q61753 (M.musculus) SERA_MOUSE D-3-phosphoglycerate dehydrogenase (3-PGDH) (A10)	---	Mm.314167	3.41
1440093_at	Mus musculus transcribed sequences	---	Mm.208203	3.41
1448952_at	RIKEN cDNA A030009H04 gene	A030009H04Rik	Mm.5324	3.40
1429009_at	U1 small nuclear ribonucleoprotein polypeptide A	Snrp70	Mm.216386	3.40
1433530_at	ribosomal protein L41	Rpl41	Mm.290786	3.39
1423801_a_at	adenine phosphoribosyl transferase	Aprt	Mm.1786	3.39
1416160_at	nuclear receptor subfamily 2, group F, member 2	Nr2f2	Mm.270109	3.39
1437244_at	Mus musculus hypothetical LOC237436 (LOC237436), mRNA	---	Mm.11982	3.38
1417399_at	growth arrest specific 6	Gas6	Mm.36204	3.38
1423072_at	RIKEN cDNA 6720475J19 gene	6720475J19Rik	Mm.275739	3.38
1450842_a_at	centromere autoantigen A	Cenpa	Mm.290563	3.37
1442166_at	copine V	Cpne5	Mm.39905	3.37
1436363_a_at	nuclear factor I/X	Nfix	Mm.9394	3.36
1428706_at	RIKEN cDNA 3110013H01 gene	3110013H01Rik	Mm.136291	3.36
1433658_x_at	poly(rC) binding protein 4	Pcbp4	Mm.45424	3.36
1425103_at	angiotensin I converting enzyme (peptidyl-dipeptidase A) 2	Ace2	Mm.13451	3.32
1453541_at	phosphofructokinase, liver, B-type	Pfkl	Mm.269649	3.32
1445307_at	Mus musculus 12 days embryo male wolffian duct includes surrounding region cDNA, RIKEN full-length enriched library, clone:6720430F13 product:unclassifiable, full insert sequence	---	Mm.114187	3.32
1448677_at	neighbor of Cox4	Noc4	Mm.195392	3.32
1448687_at	RIKEN cDNA 1110035L05 gene	1110035L05Rik	Mm.29140	3.31
1416553_at	stimulated by retinoic acid 13	Stra13	Mm.259716	3.29
1416688_at	synaptosomal-associated protein 91	Snap91	Mm.281651	3.29
1441945_s_at	RIKEN cDNA 1110013B16 gene	1110013B16Rik	Mm.268925	3.28
1434728_at	glutamate receptor, ionotropic, AMPA3 (alpha 3)	Gria3	Mm.234688	3.28
1452226_at	RIKEN cDNA 2610510H01 gene	2610510H01Rik	Mm.253	3.26
1438945_x_at	gap junction membrane channel protein alpha 1	Gja1	Mm.4504	3.26
1441816_at	Mus musculus adult male hippocampus cDNA, RIKEN full-length enriched library, clone:2900056M20 product:unknown EST, full insert sequence	---	Mm.254833	3.26



1455852_at	Mus musculus mRNA similar to DKFZP566O1646 protein (cDNA clone MGC:27788 IMAGE:3156934), complete cds	---	Mm.32504	3.26
1441438_at	glypican 6	Gpc6	Mm.258259	3.25
1457760_at	Mus musculus adult retina cDNA, RIKEN full-length enriched library, clone:A930004J17 product:unknown EST, full insert sequence	---	Mm.26531	3.24
1443008_at	Musashi homolog 2 (Drosophila)	Msi2h	Mm.167586	3.24
1429021_at	Eph receptor A4	Epha4	Mm.3249	3.24
1446928_at	RIKEN cDNA 1700025B16 gene	1700025B16Rik	Mm.26898	3.24
1417040_a_at	Bcl-2-related ovarian killer protein	Bok	Mm.3295	3.23
1450429_at	calpain 6	Capn6	Mm.30290	3.23
1426285_at	laminin, alpha 2	Lama2	Mm.256087	3.23
1437186_at	Mus musculus 3 days neonate thymus cDNA, RIKEN full-length enriched library, clone:A630057F16 product:unclassifiable, full insert sequence	---	Mm.275723	3.22
1424659_at	slit homolog 2 (Drosophila)	Slit2	Mm.289739	3.22
1458345_s_at	---	---	---	3.21
1448416_at	matrix gamma-carboxyglutamate (gla) protein	Mglap	Mm.243085	3.20
1437621_x_at	Mus musculus transcribed sequence with strong similarity to protein sp:Q61753 (M.musculus) SERA_MOUSE D-3-phosphoglycerate dehydrogenase (3-PGDH) (A10)	---	Mm.314167	3.19
1429506_at	naked cuticle 1 homolog (Drosophila)	Nkd1	Mm.30219	3.19
1454849_x_at	clusterin	Clu	Mm.200608	3.18
1430143_at	Mus musculus transcribed sequences	---	Mm.37653	3.18
1417051_at	protocadherin 8	Pcdh8	Mm.103811	3.18
1429372_at	SRY-box containing gene 11	Sox11	Mm.41702	3.18
1460412_at	RIKEN cDNA 1600015H20 gene	1600015H20Rik	Mm.5107	3.17
1453238_s_at	---	---	---	3.17
1454877_at	Mus musculus 16 days embryo head cDNA, RIKEN full-length enriched library, clone:C130018M11 product:unclassifiable, full insert sequence	---	Mm.22806	3.16
1446075_at	Mus musculus adult male cecum cDNA, RIKEN full-length enriched library, clone:9130206C08 product:unknown EST, full insert sequence	---	Mm.272059	3.15
1448441_at	CDC28 protein kinase 1	Cks1	Mm.3049	3.15
1438585_at	RIKEN cDNA 6820443O06 gene	6820443O06Rik	Mm.83634	3.14
1448593_at	WNT1 inducible signaling pathway protein 1	Wisp1	Mm.10222	3.14
1447034_at	Mus musculus transcribed sequences	---	Mm.217701	3.14

1443509_at	Mus musculus transcribed sequence with moderate similarity to protein ref:NP_081764.1 (M.musculus) RIKEN cDNA 5730493B19 [Mus musculus]	---	Mm.214915	3.13
1440765_at	Mus musculus transcribed sequences	---	Mm.304498	3.12
1439269_x_at	Mus musculus adult male thymus cDNA, RIKEN full-length enriched library, clone:5830410A10 product:mini chromosome maintenance deficient 7 (S. cerevisiae), full insert sequence	---	Mm.241714	3.11
1437351_at	Mus musculus adult male corpus striatum cDNA, RIKEN full-length enriched library, clone:C030003J12 product:unknown EST, full insert sequence	---	Mm.39384	3.10
1417450_a_at	transforming, acidic coiled-coil containing protein 3	Tacc3	Mm.27836	3.10
1428694_at	Mus musculus 0 day neonate eyeball cDNA, RIKEN full-length enriched library, clone:E130011D04 product:unknown EST, full insert sequence	---	Mm.34859	3.10
1416159_at	nuclear receptor subfamily 2, group F, member 2	Nr2f2	Mm.270109	3.10
1424382_at	DNA segment, Chr 7, ERATO Doi 671, expressed	D7Ert671e	Mm.29997	3.09
1435137_s_at	Mus musculus transcribed sequences	---	Mm.291551	3.09
1448901_at	carboxypeptidase X 1 (M14 family)	Cpxm1	Mm.149442	3.09
1422462_at	RIKEN cDNA 2700084L22 gene	2700084L22Rik	Mm.284587	3.09
1460177_at	RIKEN cDNA 0610010E05 gene	0610010E05Rik	Mm.29646	3.08
1448594_at	WNT1 inducible signaling pathway protein 1	Wisp1	Mm.10222	3.07
1415903_at	solute carrier family 38, member 1	Slc38a1	Mm.103568	3.07
1436707_x_at	RIKEN cDNA A730011O11 gene	A730011O11Rik	Mm.29786	3.07
1448169_at	keratin complex 1, acidic, gene 18	Krt1-18	Mm.22479	3.07
1455618_x_at	RIKEN cDNA 1300010A20 gene	1300010A20Rik	Mm.225289	3.07
1453361_at	helicase, lymphoid specific	Hells	Mm.57223	3.06
1416716_at	embryonal Fyn-associated substrate	Efs	Mm.236438	3.06
1455494_at	procollagen, type I, alpha 1	Col1a1	Mm.277735	3.05
1417756_a_at	lymphocyte specific 1	Lsp1	Mm.234003	3.05
1440012_at	Mus musculus transcribed sequences	---	Mm.329384	3.05
1420579_s_at	cystic fibrosis transmembrane conductance regulator homolog	Cftr	Mm.15621	3.04
1435282_at	Mus musculus transcribed sequence with moderate similarity to protein sp:Q15884 (H.sapiens) X123_HUMAN Putative protein X123	---	Mm.25363	3.04
1460561_x_at	selenoprotein W, muscle 1	Sepw1	Mm.42829	3.04
1416627_at	serine protease inhibitor, Kunitz type 1	Spint1	Mm.104955	3.03
1444306_at	Musashi homolog 1(Drosophila)	Msi1h	Mm.5077	3.03
1446880_at	Mus musculus transcribed sequences	---	Mm.171794	3.02

1440647_at	RIKEN cDNA 4931426N11 gene	4931426N11Rik	Mm.261333	3.02
1428891_at	RIKEN cDNA 9130213B05 gene	9130213B05Rik	Mm.5002	3.02
1443491_at	Mus musculus transcribed sequences	---	Mm.182721	3.02
1441381_at	Mus musculus adult male thymus cDNA, RIKEN full-length enriched library, clone:5832446B02 product:unclassifiable, full insert sequence	---	Mm.173774	3.02
1459243_at	Mus musculus transcribed sequences	---	Mm.209161	3.01
1450780_s_at	high mobility group AT-hook 2	Hmga2	Mm.157190	2.99
1460205_at	RIKEN cDNA 6720485C15 gene	6720485C15Rik	Mm.277449	2.99
1416802_a_at	RIKEN cDNA 2610036L13 gene	2610036L13Rik	Mm.23526	2.99
1451306_at	cDNA sequence BC006933	BC006933	Mm.281149	2.98
1416258_at	thymidine kinase 1	Tk1	Mm.2661	2.97
1423380_s_at	nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 4	Nfatc4	Mm.27908	2.96
1418264_at	SoxLZ/Sox6 leucine zipper binding protein in testis	Solt	Mm.281498	2.96
1440431_at	Mus musculus 2 days pregnant adult female oviduct cDNA, RIKEN full-length enriched library, clone:E230038117 product:unknown EST, full insert sequence	---	Mm.210003	2.96
1442285_at	RIKEN cDNA 6820443O06 gene	6820443O06Rik	Mm.83634	2.96
1438989_s_at	Mus musculus 13 days embryo stomach cDNA, RIKEN full-length enriched library, clone:D530034D18 product:unknown EST, full insert sequence	---	Mm.204306	2.96
1437689_x_at	clusterin	Clu	Mm.200608	2.96
1452073_at	RIKEN cDNA 6720460F02 gene	6720460F02Rik	Mm.22214	2.96
1435349_at	neuropilin 2	Nrp2	Mm.266341	2.96
1417393_a_at	RIKEN cDNA 1110035L05 gene	1110035L05Rik	Mm.29140	2.96
1455654_at	Mus musculus transcribed sequences	---	Mm.329501	2.95
1438301_at	Mus musculus transcribed sequences	---	Mm.102715	2.95
1443247_at	Mus musculus 12 days embryo spinal ganglion cDNA, RIKEN full-length enriched library, clone:D130017K22 product:unknown EST, full insert sequence	---	Mm.213339	2.94
1429270_a_at	RIKEN cDNA 1700013H19 gene	1700013H19Rik	Mm.229128	2.93
1427436_at	sine oculis-related homeobox 2 homolog (Drosophila)	Six2	Mm.5039	2.93
1428744_s_at	Bri3 binding protein	Bri3bp	Mm.45042	2.93
1434850_at	hypothetical protein D030034H08	D030034H08	Mm.228647	2.93
1448465_at	4-nitrophenylphosphatase domain and non- neuronal SNAP25-like protein homolog 1 (C. elegans)	Nipsnap1	Mm.293716	2.92
1440161_at	Mus musculus transcribed sequences	---	Mm.132463	2.91
1429257_at	GTL2, imprinted maternally expressed untranslated mRNA	Gtl2	Mm.200506	2.91

1434594_at	RIKEN cDNA B230373P09 gene	B230373P09Rik	Mm.101811	2.91
1422504_at	glycine receptor, beta subunit	Glrb	Mm.275639	2.91
1448519_at	TEA domain family member 2	Tead2	Mm.3019	2.91
1436808_x_at	minichromosome maintenance deficient 5, cell division cycle 46 ( <i>S. cerevisiae</i> )	Mcm5	Mm.5048	2.91
1416638_at	sal-like 2 ( <i>Drosophila</i> )	Sall2	Mm.39487	2.90
1451067_at	small glutamine-rich tetratricopeptide repeat (TPR)-containing, alpha	Sgta	Mm.30068	2.90
1460675_at	immunoglobulin superfamily, member 8	Igsf8	Mm.271717	2.90
1441823_at	Mus musculus transcribed sequences	---	Mm.323006	2.90
1443697_at	Mus musculus 21 days neonate cerebellum cDNA, RIKEN full-length enriched library, clone:G630009M09 product:unknown EST, full insert sequence	---	Mm.214313	2.90
1419687_at	RIKEN cDNA D930010J01 gene	D930010J01Rik	Mm.59139	2.90
1415945_at	minichromosome maintenance deficient 5, cell division cycle 46 ( <i>S. cerevisiae</i> )	Mcm5	Mm.5048	2.89
1416122_at	cyclin D2	Ccnd2	Mm.294136	2.89
1448795_a_at	transforming growth factor beta regulated gene 4	Tbrg4	Mm.247761	2.89
1417697_at	sterol O-acyltransferase 1	Soat1	Mm.28099	2.88
1440611_at	RIKEN cDNA 6230409E13 gene	6230409E13Rik	Mm.159689	2.88
1433862_at	Mus musculus 10 days neonate skin cDNA, RIKEN full-length enriched library, clone:4732457F20 product:unknown EST, full insert sequence	---	Mm.288324	2.88
1429447_at	Ellis van Creveld syndrome 2 homolog (human)	Evc2	Mm.25506	2.87
1424271_at	double cortin and calcium/calmodulin- dependent protein kinase-like 1	Dcamkl1	Mm.258673	2.87
1455462_at	adenylate cyclase 2	Adcy2	Mm.20371	2.87
1423826_at	expressed sequence AI326906	AI326906	Mm.29960	2.87
1457591_at	Mus musculus transcribed sequences	---	Mm.217673	2.86
1433646_at	RIKEN cDNA 2610028H14 gene	2610028H14Rik	Mm.30208	2.86
1458739_at	Mus musculus transcribed sequences	---	Mm.182569	2.86
1428506_at	5-aminoimidazole-4-carboxamide ribonucleotide formyltransferase/IMP cyclohydrolase	Atic	Mm.38010	2.85
1419734_at	actin, beta, cytoplasmic	Actb	Mm.133292	2.85
1434325_x_at	protein kinase, cAMP dependent regulatory, type I beta	Prkar1b	Mm.9334	2.85
1451190_a_at	SH3-binding kinase	Sbk	Mm.29660	2.85
1432538_a_at	replication factor C (activator 1) 3	Rfc3	Mm.12553	2.85
1416894_at	RIKEN cDNA 1500019G21 gene	1500019G21Rik	Mm.6803	2.85
1421081_a_at	barrier to autointegration factor 1	Banf1	Mm.7508	2.83
1448277_at	polymerase (DNA directed), delta 2, regulatory subunit	Pold2	Mm.278636	2.83
1420081_s_at	DNA segment, Chr 2, ERATO Doi 750, expressed	D2Ert750e	Mm.252695	2.82

1428105_at	RIKEN cDNA 2610005B21 gene	2610005B21Rik	Mm.11075	2.82
1447370_at	Mus musculus transcribed sequences	---	Mm.44139	2.82
1445363_at	RIKEN cDNA D730043B02 gene	D730043B02Rik	Mm.169686	2.81
1418925_at	cadherin EGF LAG seven-pass G-type receptor 1	Celsr1	Mm.22680	2.80
1417034_at	RIKEN cDNA 1810073E21 gene	1810073E21Rik	Mm.171483	2.80
1457040_at	leucine-rich repeat LGI family, member 2	Lgi2	Mm.44721	2.80
1443954_at	RAD18 homolog (S. cerevisiae)	Rad18	Mm.103812	2.79
1451064_a_at	phosphoserine aminotransferase 1	Psat1	Mm.289936	2.78
1445199_at	Mus musculus transcribed sequences	---	Mm.259540	2.77
1438320_s_at	Mus musculus adult male thymus cDNA, RIKEN full-length enriched library, clone:5830410A10 product:mini chromosome maintenance deficient 7 (S. cerevisiae), full insert sequence	---	Mm.241714	2.77
1423521_at	lamin B1	Lmnb1	Mm.4105	2.77
1417376_a_at	immunoglobulin superfamily, member 4	Igsf4	Mm.275051	2.77
1447615_at	Mus musculus transcribed sequences	---	Mm.218134	2.77
1417587_at	timeless homolog (Drosophila)	Timeless	Mm.6458	2.77
1455143_at	neuroligin 2	Nlgn2	Mm.296744	2.77
1452743_at	aminolevulinatase, delta-, dehydratase	Alad	Mm.90076	2.77
1449705_x_at	minichromosome maintenance deficient 3 (S. cerevisiae)	Mcm3	Mm.4502	2.77
1428480_at	DNA segment, Chr 4, ERATO Doi 421, expressed	D4Ert421e	Mm.28038	2.76
1443104_at	Mus musculus 0 day neonate eyeball cDNA, RIKEN full-length enriched library, clone:E130112O04 product:unknown EST, full insert sequence	---	Mm.289614	2.76
1442946_at	Mus musculus transcribed sequences	---	Mm.103157	2.75
1454822_x_at	cDNA sequence AB023957	AB023957	Mm.276268	2.75
1451255_at	liver-specific bHLH-Zip transcription factor	Lisch7	Mm.4067	2.75
1457042_at	Mus musculus transcribed sequences	---	Mm.258831	2.75
1429274_at	RIKEN cDNA 2310010M24 gene	2310010M24Rik	Mm.41381	2.75
1448953_at	Bloom syndrome homolog (human)	Blm	Mm.12932	2.75
1452912_at	RIKEN cDNA 2600005O03 gene	2600005O03Rik	Mm.277084	2.74
1423978_at	SH3-binding kinase	Sbk	Mm.29660	2.74
1449167_at	erythrocyte protein band 4.1-like 4a	Epb4.1l4a	Mm.3465	2.74
1452830_s_at	carbamoyl-phosphate synthetase 2, aspartate transcarbamylase, and dihydroorotase	Cad	Mm.29394	2.73
1447725_at	Mus musculus adult male corpus striatum cDNA, RIKEN full-length enriched library, clone:C030034E14 product:unclassifiable, full insert sequence	---	Mm.256423	2.73
1448263_a_at	RIKEN cDNA 0610010E05 gene	0610010E05Rik	Mm.29646	2.73

1436450_at	Mus musculus transcribed sequence with strong similarity to protein sp:P00722 (E. coli) BGAL_ECOLI Beta-galactosidase (Lactase)	---	Mm.268538	2.72
1417599_at	RIKEN cDNA 6030411F23 gene	6030411F23Rik	Mm.5356	2.71
1429174_at	RIKEN cDNA 3200002I06 gene	3200002I06Rik	Mm.88053	2.70
1438315_x_at	aldo-keto reductase family 7, member A5 (aflatoxin aldehyde reductase)	Akr7a5	Mm.287397	2.70
1416135_at	apurinic/apyrimidinic endonuclease 1	Apex1	Mm.203	2.70
1457736_at	Williams-Beuren syndrome chromosome region 24 homolog (human)	Wbscr24	Mm.44356	2.70
1456084_x_at	fibromodulin	Fmod	Mm.287146	2.70
1417831_at	SMC (structural maintenance of chromosomes 1)-like 1 (S. cerevisiae)	Smc1l1	Mm.26412	2.70
1459971_at	Mus musculus transcribed sequences	---	Mm.53643	2.70
1416939_at	RIKEN cDNA 2010317E03 gene	2010317E03Rik	Mm.250567	2.69
1451660_a_at	homeo box B6	Hoxb6	Mm.215	2.69
1456752_at	Mus musculus 13 days embryo heart cDNA, RIKEN full-length enriched library, clone:D330038P10 product:unknown EST, full insert sequence	---	Mm.101662	2.69
1425139_at	sestrin 2	Sesn2	Mm.23608	2.69
1434223_at	RIKEN cDNA 1810007P19 gene	1810007P19Rik	Mm.38907	2.69
1435372_a_at	proliferation-associated 2G4	Pa2g4	Mm.4742	2.67
1437992_x_at	gap junction membrane channel protein alpha 1	Gja1	Mm.4504	2.67
1446324_at	Mus musculus transcribed sequences	---	Mm.193117	2.67
1422547_at	RAN binding protein 1	Ranbp1	Mm.3752	2.67
1423606_at	expressed sequence AI747096	AI747096	Mm.236067	2.67
1422777_at	C1q related factor	C1qrf	Mm.57154	2.66
1422912_at	bone morphogenetic protein 4	Bmp4	Mm.6813	2.66
1456602_at	hypothetical protein 4932417116	4932417116	Mm.87513	2.65
1418626_a_at	clusterin	Clu	Mm.200608	2.65
1437325_x_at	pyrroline-5-carboxylate synthetase (glutamate gamma-semialdehyde synthetase)	Pycs	Mm.233117	2.65
1426930_at	bruno-like 4, RNA binding protein (Drosophila)	Bruno14	Mm.29205	2.65
1441177_at	Mus musculus 0 day neonate thymus cDNA, RIKEN full-length enriched library, clone:A430039M01 product:unknown EST, full insert sequence	---	Mm.182691	2.65
1416575_at	cell division cycle 45 homolog (S. cerevisiae)-like	Cdc45l	Mm.1248	2.65
1454700_at	cDNA sequence BC023156	BC023156	Mm.149068	2.65
1434199_at	t-complex-associated testis expressed 1	Tcte1	Mm.1290	2.65
1434073_at	RIKEN cDNA 3110031O14 gene	3110031O14Rik	Mm.271980	2.64

1438114_x_at	embryonal Fyn-associated substrate	Efs	Mm.236438	2.64
1460591_at	estrogen receptor 1 (alpha)	Esr1	Mm.9213	2.63
1418485_at	solute carrier family 4 (anion exchanger), member 3	Slc4a3	Mm.5053	2.63
1442271_at	RIKEN cDNA 4930432B04 gene	4930432B04Rik	Mm.168478	2.63
1418369_at	DNA primase, p49 subunit	Prim1	Mm.2903	2.62
1429261_at	RIKEN cDNA 2210411K11 gene	2210411K11Rik	Mm.292837	2.62
1426885_a_at	CDK2 (cyclin-dependent kinase 2)-associated protein 1	Cdkap1	Mm.298108	2.62
1421048_a_at	yippee-like 1 (Drosophila)	Ypel1	Mm.237941	2.62
1456606_a_at	RPEL repeat containing 1	Rpel1	Mm.160124	2.61
1440771_at	RIKEN cDNA 9130423L19 gene	9130423L19Rik	Mm.213114	2.61
1426642_at	fibronectin 1	Fn1	Mm.193099	2.60
1442878_at	peroxiredoxin 6	Prdx6	Mm.186185	2.60
1454800_at	protein containing single MORN motif in testis	Mopt	Mm.45208	2.60
1445422_at	Mus musculus 0 day neonate kidney cDNA, RIKEN full-length enriched library, clone:D630046A03 product:similar to ORF 2 PROTEIN (FRAGMENT) [Rattus norvegicus], full insert sequence	---	Mm.169657	2.59
1419527_at	cartilage oligomeric matrix protein	Comp	Mm.45071	2.59
1416919_a_at	nephronophthisis 1 (juvenile) homolog (human)	Nphp1	Mm.210766	2.59
1423493_a_at	nuclear factor I/X	Nfix	Mm.9394	2.58
1434815_a_at	expressed sequence AI874665	AI874665	Mm.222612	2.58
1455213_at	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4930488E11 product:THYMOSIN BETA-LIKE PROTEIN homolog [Rattus norvegicus], full insert sequence	---	Mm.20154	2.58
1452600_at	TAF6-like RNA polymerase II, p300/CBP-associated factor (PCAF)-associated factor	Taf6l	Mm.220886	2.57
1452043_at	RIKEN cDNA 2310011J03 gene	2310011J03Rik	Mm.265429	2.57
1430811_a_at	cell division cycle associated 1	Cdca1	Mm.151315	2.56
1450781_at	high mobility group AT-hook 2	Hmga2	Mm.31379	2.56
1426958_at	RIKEN cDNA 3010033P07 gene	3010033P07Rik	Mm.13944	2.56
1438783_at	Mus musculus transcribed sequences	---	Mm.139190	2.55
1418281_at	RAD51 homolog (S. cerevisiae)	Rad51	Mm.231	2.55
1424807_at	laminin, alpha 4	Lama4	Mm.258065	2.54
1416395_at	guanylate kinase 1	Guk1	Mm.3624	2.54
1449061_a_at	DNA primase, p49 subunit	Prim1	Mm.2903	2.54
1451407_at	junction adhesion molecule 4	Jam4	Mm.46368	2.54
1418796_at	stem cell growth factor	Scgf	Mm.20428	2.54
1456854_at	neutralized homolog (Drosophila)	Neurl	Mm.103587	2.54
1422178_a_at	RAB17, member RAS oncogene family	Rab17	Mm.279780	2.54
1418260_at	hormonally upregulated Neu-associated kinase	Hunk	Mm.125874	2.54

1450914_at	protein phosphatase 1, regulatory (inhibitor) subunit 14B	Ppp1r14b	Mm.296842	2.53
1417455_at	transforming growth factor, beta 3	Tgfb3	Mm.3992	2.52
1418004_a_at	RIKEN cDNA 1810009M01 gene	1810009M01Rik	Mm.28385	2.52
1438096_a_at	deoxythymidylate kinase	Dtymk	Mm.250332	2.52
1438236_at	nuclear factor I/A	Nfia	Mm.227856	2.52
1451446_at	anthrax toxin receptor 1	Antxr1	Mm.232525	2.51
1455841_s_at	Mus musculus transcribed sequence with moderate similarity to protein sp:Q9BQ67 (H.sapiens) GRWD_HUMAN Glutamate-rich WD repeat protein	---	Mm.291820	2.51
1447703_x_at	RIKEN cDNA 3110024A21 gene	3110024A21Rik	Mm.272536	2.51
1416155_at	high mobility group box 3	Hmgb3	Mm.340	2.50
1417377_at	immunoglobulin superfamily, member 4	Igsf4	Mm.275051	2.50
1421083_x_at	barrier to autointegration factor 1	Banf1	Mm.7508	2.49
1416130_at	prion protein	Prnp	Mm.648	2.49
1452459_at	calmodulin binding protein 1	Calmbp1	Mm.168523	2.49
1436555_at	solute carrier family 7 (cationic amino acid transporter, y+ system), member 2	Slc7a2	Mm.4676	2.48
1457152_at	Mus musculus 12 days embryo spinal ganglion cDNA, RIKEN full-length enriched library, clone:D130012F21	---	Mm.168676	2.47
1457157_at	product:unknown EST, full insert sequence hypothetical protein MGC57096	MGC57096	Mm.215653	2.47
1427138_at	hypothetical protein LOC217831	LOC217831	Mm.156217	2.47
1443263_at	Mus musculus transcribed sequences	---	Mm.218614	2.46
1436867_at	Mus musculus transcribed sequences	---	Mm.298039	2.46
1421260_a_at	spermidine synthase	Srm	Mm.10	2.46
1424609_a_at	xanthine dehydrogenase	Xdh	Mm.11223	2.46
1455154_at	GLI-Kruppel family member GLI3	Gli3	Mm.5098	2.46
1434125_at	expressed sequence AW544865	AW544865	Mm.28221	2.46
1432317_at	Mus musculus 12 days embryo embryonic body between diaphragm region and neck cDNA, RIKEN full-length enriched library, clone:9430078K24 product:unclassifiable, full insert sequence	---	Mm.159888	2.45
1452726_a_at	RIKEN cDNA 1110061L23 gene	1110061L23Rik	Mm.181689	2.45
1436349_at	Mus musculus 11 days embryo whole body cDNA, RIKEN full-length enriched library, clone:2700094K13 product:unknown EST, full insert sequence	---	Mm.259293	2.44
1441316_at	Mus musculus transcribed sequences	---	Mm.208150	2.44
1421852_at	potassium channel, subfamily K, member 5	Kcnk5	Mm.68998	2.44
1418284_at	transcription factor-like 1	Tcf1	Mm.133919	2.43
1422461_at	RIKEN cDNA 2400004H09 gene	2400004H09Rik	Mm.241152	2.42



1437864_at	RIKEN cDNA 1110001114 gene	1110001114Rik	Mm.24126	2.42
1451419_at	SPRY domain-containing SOCS box 4	Ssb4	Mm.33268	2.42
1452171_at	Mus musculus transcribed sequence with moderate similarity to protein sp:Q9BQ67 (H.sapiens) GRWD_HUMAN Glutamate-rich WD repeat protein	---	Mm.291820	2.42
1417640_at	CD79B antigen	Cd79b	Mm.2987	2.42
1429448_s_at	DNA segment, Chr 10, ERATO Doi 17, expressed	D10Erttd17e	Mm.277431	2.42
1431087_at	RIKEN cDNA 2410030K01 gene	2410030K01Rik	Mm.295642	2.41
1417883_at	glutathione S-transferase, theta 2	Gstt2	Mm.24118	2.41
1437343_x_at	RIKEN cDNA 2400004H09 gene	2400004H09Rik	Mm.241152	2.41
1451939_a_at	sushi-repeat-containing protein	Srpx	Mm.1927	2.40
1452400_a_at	homeo box A11, opposite strand transcript	Hoxa11s	Mm.196373	2.40
1424105_a_at	pituitary tumor-transforming 1	Pttg1	Mm.6856	2.40
1439155_at	methyltransferase-like 1	Mettl1	Mm.251593	2.40
1420998_at	ets variant gene 5	Etv5	Mm.155708	2.39
1435549_at	transient receptor potential cation channel, subfamily M, member 4	Trpm4	Mm.44614	2.39
1423224_at	RIKEN cDNA 4432405B04 gene	4432405B04Rik	Mm.93193	2.39
1459459_at	Mus musculus transcribed sequences	---	Mm.294164	2.38
1444136_at	Mus musculus transcribed sequences	---	Mm.138428	2.38
1434031_at	expressed sequence AI839920	AI839920	Mm.41440	2.38
1459625_at	Mus musculus transcribed sequences	---	Mm.178464	2.38
1416400_at	RIKEN cDNA 1110058B13 gene	1110058B13Rik	Mm.250599	2.38
1419402_at	meiosis-specific nuclear structural protein 1	Mns1	Mm.218	2.38
1442699_at	vacuolar protein sorting 54 (yeast)	Vps54	Mm.170103	2.37
1418507_s_at	suppressor of cytokine signaling 2	Socs2	Mm.206953	2.37
1455900_x_at	transglutaminase 2, C polypeptide	Tgm2	Mm.18843	2.37
1424110_a_at	expressed in non-metastatic cells 1, protein	Nme1	Mm.1260	2.37
1436887_x_at	Mus musculus transcribed sequence with moderate similarity to protein sp:Q9BQ67 (H.sapiens) GRWD_HUMAN Glutamate-rich WD repeat protein	---	Mm.291820	2.37
1448536_at	LSM3 homolog, U6 small nuclear RNA associated (S. cerevisiae)	Lsm3	Mm.246693	2.36
1440955_at	Unknown (protein for IMAGE:6825008)	LOC333088	Mm.289652	2.35
1444432_at	Mus musculus 0 day neonate lung cDNA, RIKEN full-length enriched library, clone:E030027E20 product:unknown EST, full insert sequence	---	Mm.208193	2.35
1423060_at	proliferation-associated 2G4	Pa2g4	Mm.4742	2.34
1448245_at	laminin receptor 1 (ribosomal protein SA)	Lamr1	Mm.4071	2.33
1454744_at	Sin3-associated polypeptide 18	Sap18	Mm.290178	2.33

1415951_at	FK506 binding protein 10	Fkbp10	Mm.3894	2.32
1415849_s_at	stathmin 1	Stmn1	Mm.271947	2.31
1424607_a_at	xanthine dehydrogenase	Xdh	Mm.11223	2.31
1428207_at	B-cell CLL/lymphoma 7A	Bcl7a	Mm.151960	2.31
1449070_x_at	cDNA sequence AB023957	AB023957	Mm.276268	2.30
1450920_at	cyclin B2	Ccnb2	Mm.22592	2.30
1442497_at	RIKEN cDNA 4931400A14 gene	4931400A14Rik	Mm.194450	2.30
1418711_at	platelet derived growth factor, alpha	Pdgfa	Mm.2675	2.29
1417726_at	Sjogren's syndrome/scleroderma autoantigen 1 homolog (human)	Sssca1	Mm.24281	2.29
1457058_at	a disintegrin-like and metalloprotease (reprolysin type) with thrombospondin type 1 motif, 2	Adamts2	Mm.31953	2.29
1449248_at	chloride channel 2	Clcn2	Mm.286482	2.29
1438699_at	Mus musculus transcribed sequences	---	Mm.22941	2.29
1437718_x_at	fibromodulin	Fmod	Mm.287146	2.29
1417234_at	matrix metalloproteinase 11	Mmp11	Mm.4561	2.29
1427282_a_at	Friedreich ataxia	Frda	Mm.7319	2.29
1449465_at	reelin	Reln	Mm.3057	2.28
1448740_at	RIKEN cDNA 2400006H24 gene	2400006H24Rik	Mm.143774	2.28
1455211_a_at	translocase of inner mitochondrial membrane 9 homolog (yeast)	Timm9	Mm.142132	2.28
1416845_at	RIKEN cDNA 6720481D13 gene	6720481D13Rik	Mm.27387	2.28
1416410_at	platelet-activating factor acetylhydrolase, isoform 1b, alpha1 subunit	Pafah1b3	Mm.597	2.27
1451499_at	Ca2+-dependent activator protein for secretion 2	Cadps2	Mm.259632	2.27
1423456_at	basic leucine zipper and W2 domains 2	Bzw2	Mm.288669	2.26
1440371_at	Mus musculus similar to hypothetical protein FLJ34960 (LOC245683), mRNA	---	Mm.295846	2.26
1452434_s_at	DiGeorge syndrome critical region gene 6	Dgcr6	Mm.27155	2.25
1448314_at	cell division cycle 2 homolog A (S. pombe)	Cdc2a	Mm.281367	2.25
1426473_at	RIKEN cDNA 5330419I01 gene	5330419I01Rik	Mm.2871	2.24
1417287_at	histocompatibility 13	H13	Mm.277327	2.24
1423358_at	RIKEN cDNA 1810009K13 gene	1810009K13Rik	Mm.263319	2.23
1424144_at	retroviral integration site 2	Ris2	Mm.21873	2.23
1451516_at	RIKEN cDNA 1810036J22 gene	1810036J22Rik	Mm.259708	2.22
1416587_a_at	X-ray repair complementing defective repair in Chinese hamster cells 1	Xrcc1	Mm.4347	2.22
1451128_s_at	kinesin family member 22	Kif22	Mm.286488	2.22
1421082_s_at	barrier to autointegration factor 1	Banf1	Mm.7508	2.22
1447372_at	RIKEN cDNA 2410004H02 gene	2410004H02Rik	Mm.82139	2.22
1417911_at	cyclin A2	Ccna2	Mm.4189	2.21
1431226_a_at	RIKEN cDNA 2810430J06 gene	2810430J06Rik	Mm.292544	2.21
1451182_s_at	RIKEN cDNA C730048E16 gene	C730048E16Rik	Mm.24262	2.21
1422527_at	histocompatibility 2, class II, locus DMA	H2-DMA	Mm.16373	2.20
1424991_s_at	thymidylate synthase	Tyms	Mm.5879	2.20

1453380_a_at	RIKEN cDNA 1110068E08 gene	1110068E08Rik	Mm.276769	2.20
1422457_s_at	SMT3 (supressor of mif two, 3) homolog 1 (S. cerevisiae)	Smt3h1	Mm.24433	2.20
1416164_at	fibulin 5	Fbln5	Mm.288381	2.19
1452681_at	deoxythymidylate kinase	Dtymk	Mm.250332	2.19
1427382_a_at	suppressor of variegation 3-9 homolog 1 (Drosophila)	Suv39h1	Mm.9244	2.19
1426865_a_at	neural cell adhesion molecule 1	Ncam1	Mm.4974	2.19
1448187_at	polymerase (DNA directed), delta 1, catalytic subunit	Pold1	Mm.16549	2.19
1429189_at	RIKEN cDNA 1110007C02 gene	1110007C02Rik	Mm.301361	2.18
1431997_at	RIKEN cDNA 3000002C10 gene	3000002C10Rik	Mm.288146	2.18
1435720_at	Mus musculus transcribed sequence with strong similarity to protein prf:2018199A (E. coli) 2018199A beta lactamase IRT-4 [Escherichia coli]	---	Mm.44530	2.18
1428481_s_at	DNA segment, Chr 4, ERATO Doi 421, expressed	D4Ert421e	Mm.28038	2.18
1417053_at	prohibitin	Phb	Mm.263862	2.18
1447750_x_at	RIKEN cDNA 1110061L23 gene	1110061L23Rik	Mm.181689	2.18
1419573_a_at	lectin, galactose binding, soluble 1	Lgals1	Mm.43831	2.18
1423823_at	RIKEN cDNA 2610012O22 gene	2610012O22Rik	Mm.27871	2.17
1451248_at	cDNA sequence BC006705	BC006705	Mm.269029	2.17
1424327_at	RIKEN cDNA 3200002M19 gene	3200002M19Rik	Mm.284491	2.17
1435733_x_at	RIKEN cDNA 1500026D16 gene	1500026D16Rik	Mm.246200	2.17
1423673_at	cDNA sequence BC058638	BC058638	Mm.6471	2.17
1439360_x_at	DNA segment, Chr 15, ERATO Doi 785, expressed	D15Ert4785e	Mm.143167	2.16
1444481_at	Mus musculus transcribed sequences	---	Mm.188032	2.16
1417167_at	DNA segment, Chr 7, Wayne State University 180, expressed	D7Wsu180e	Mm.27853	2.16
1441081_a_at	RIKEN cDNA 1110038B12 gene	1110038B12Rik	Mm.28895	2.15
1428291_at	RIKEN cDNA 2310032N20 gene	2310032N20Rik	Mm.29253	2.15
1452597_at	RIKEN cDNA 1110046L09 gene	1110046L09Rik	Mm.4011	2.15
1439453_x_at	RIKEN cDNA 1500026D16 gene	1500026D16Rik	Mm.246200	2.15
1428104_at	RIKEN cDNA 2610005B21 gene	2610005B21Rik	Mm.11075	2.15
1435509_x_at	CDK2 (cyclin-dependent kinase 2)-associated protein 1	Cdkap1	Mm.298108	2.15
1440120_at	guanine nucleotide binding protein, beta 2, related sequence 1	Gnb2-rs1	Mm.5305	2.15
1452954_at	ubiquitin-conjugating enzyme E2C	Ube2c	Mm.89830	2.13
1415732_at	HLA-B associated transcript 5	Bat5	Mm.43745	2.13
1419260_a_at	small nuclear ribonucleoprotein B	Snrpb	Mm.88216	2.12
1423893_x_at	amyloid beta (A4) precursor protein-binding, family B, member 1	Apbb1	Mm.38469	2.12
1417177_at	galactokinase 1	Galk1	Mm.2820	2.11
1427890_a_at	RIKEN cDNA 5730427C23 gene	5730427C23Rik	Mm.45104	2.11
1417155_at	neuroblastoma myc-related oncogene 1	Nmyc1	Mm.16469	2.10
1433464_at	importin 13	Ipo13	Mm.287810	2.10
1448331_at	calmegin	Clgn	Mm.27026	2.10
1451703_s_at	adenine phosphoribosyl transferase	Aprt	Mm.1786	2.10

1416978_at	Fc receptor, IgG, alpha chain transporter	Fcgrt	Mm.3303	2.09
1427297_at	mitochondrial ribosomal protein L9	Mrpl9	Mm.218515	2.09
1426869_at	biregional cell adhesion molecule-related/down-regulated by oncogenes (Cdon) binding protein	Boc	Mm.41561	2.09
1439422_a_at	RIKEN cDNA 1110035L05 gene	1110035L05Rik	Mm.29140	2.08
1424136_a_at	RIKEN cDNA 1100001J08 gene	1100001J08Rik	Mm.249806	2.06
1417963_at	phospholipid transfer protein	Pltp	Mm.6105	2.06
1424614_at	ras homolog gene family, member G	Arhg	Mm.259795	2.05
1442676_at	monoamine oxidase A	Maoa	Mm.21108	2.05
1416228_at	protein (peptidyl-prolyl cis/trans isomerase) NIMA-interacting 1	Pin1	Mm.7906	2.05
1451342_at	spondin 1, (f-spondin) extracellular matrix protein	Spon1	Mm.121116	2.04
1423698_at	DNA segment, Chr 15, ERATO Doi 785, expressed	D15Ert785e	Mm.143167	2.04
1451105_at	RIKEN cDNA B130052G07 gene	B130052G07Rik	Mm.22856	2.03
1451630_at	RIKEN cDNA 2410003M22 gene	2410003M22Rik	Mm.33909	2.03
1456162_x_at	adducin 3 (gamma)	Add3	Mm.44106	2.03
1416376_at	RIKEN cDNA 1810014L12 gene	1810014L12Rik	Mm.29431	2.03
1431506_s_at	Mus musculus transcribed sequence with strong similarity to protein ref:NP_006338.1 (H.sapiens) peptidyl prolyl isomerase H (cyclophilin H) [Homo sapiens]	---	Mm.319759	2.02
1428428_at	Williams Beuren syndrome chromosome region 21	Wbscr21	Mm.258945	2.02
1434266_at	expressed sequence AI847670	AI847670	Mm.40655	2.02
1416362_a_at	FK506 binding protein 4	Fkbp4	Mm.12758	2.01
1421350_a_at	glutamate receptor interacting protein 1	Grip1	Mm.196692	2.01
1416393_at	gene rich cluster, C2f gene	Grcc2f	Mm.263818	2.01
1435575_at	kinetochore associated 1	Kntc1	Mm.172340	2.00
1433529_at	RIKEN cDNA E430002G05 gene	E430002G05Rik	Mm.28649	2.00
1446397_at	Mus musculus adult male thymus cDNA, RIKEN full-length enriched library, clone:5830463N04 product:unknown EST, full insert sequence	---	Mm.215288	2.00