

# Connective Tissue Growth Factor Inhibition Enhances Cardiac Repair and Limits Fibrosis After Myocardial Infarction

Short title: Antagonizing the function of CTGF in ischemic heart

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## **Supplemental Material**

### **Supplemental Methods**

#### **Study protocol**

To investigate the function of CTGF mAb in cardiac repair, treatment was started 3 days after MI and continued for four days with mice receiving two treatment doses in total. To investigate the efficacy of CTGF mAb during post-MI remodelling, treatment with CTGF mAb or control IgG was started 7 days after MI and continued for 6 weeks with 2 doses per week. Echocardiography analysis at 3 or 7 days after MI, respectively, was used to determine LV ejection fraction and to assess for infarct size. Infarctions were scored from 1 (small) to 4 (expanded). The mice were then divided into treatment groups with equal degree of MI-induced injury in both groups. CTGF mAb (FG-3149, FibroGen, Inc.) and control mouse IgG (FibroGen, Inc.) solutions (1 mg/ml) were administered i.p. (10 mg/kg). In I/R studies, mice were randomized to receive CTGF mAb or IgG vehicle 24h and 1h before operation, and then subjected to I/R injury. An additional group of animals received CTGF mAb only at the time of reperfusion. The animals were observed for 3h or 24h after reperfusion and then subjected to echocardiography analysis and sacrificed.

#### **Mouse myocardial ischemia model**

8-10 week old male C57BL/6 mice were subjected to MI by permanent ligation of the LAD or subjected to I/R injury. C57BL/6NCrl mice were used for 3d + 4d study, and C57BL/6J0laHsd mice for other studies. MI was produced by ligating the LAD with a suture. In the I/R model, a slipknot was released after 30 minutes, allowing reperfusion of the ischemic myocardium as previously described in detail (1), and the mice were observed for up to 24h depending on experimental endpoint. Sham-operated mice were subjected to the same surgical procedure without ligation of the LAD. All operations were performed under isoflurane anaesthesia (Baxter, Vetequip evaporiser, 2% isoflurane with 1 l/min flow of oxygen). Carprofen (Pfizer) 5 mg/kg s.c. (injection volume 0.125-0.15 ml) was administered as pre-operation analgesia and buprenorphine (Orion Pharma) 0.05 mg/kg s.c. (injection volume 0.1-0.3 ml) was administered as operation analgesia. Post-operation dehydration was prevented with s.c. injection of 5% glucose (injection volume 0.5-1.0 ml). All animals were monitored after the surgery and received a dose of buprenorphine (0.05 mg/kg) in the evening of operation day. Another dose of buprenorphine and a dose of carprofen (5mg/kg) were administered the following morning. Afterwards, buprenorphine was administered in drinking water 0.01 mg/ml for two days.

#### **Echocardiography**

Mice were anaesthetized with isoflurane and transthoracic echocardiography was performed by trained sonographer with Vevo 2100 high frequency, high resolution linear array ultrasound system using a MS-

550S transducer (Visual Sonics Vevo 2100, 40 MHz, axial resolution 40  $\mu\text{m}$ , lateral resolution 90  $\mu\text{m}$ ). B-mode, M-mode, transmitral flow - Pulse wave and tissue Doppler images were recorded and carefully analyzed with Vevo Workstation software 1.7 by a blinded observer.

### **Processing of the samples**

In MI studies cardiac tissue was transversally cut into two pieces through the infarcted area with the basal part fixed in phosphate buffered 10% formalin solution and embedded in paraffin. 5  $\mu\text{m}$  thick sections were cut for histological studies (Masson's trichrome, Picrosorus red, CD45 and CD31 stainings). The apical half was stored in  $-80^{\circ}\text{C}$  for further biochemical studies. In I/R studies, the whole heart was sectioned for infarct size measurement with TTC - Evans blue method at 24h after reperfusion. For TUNEL analysis and western blotting analyses following I/R, a separate set of parallel experimental animals were operated and sacrificed at 3h after reperfusion. The apical half of the hearts (LV tissue) was stored in  $-80^{\circ}\text{C}$  to obtain samples for Western blot analyses and the basal half was stored in formalin to be used for TUNEL analysis.

### **Determination of area at risk and infarct sizes**

Infarct size and the size of the area at risk (AR) following I/R were determined as previously described (1). At the end of the 24-h reperfusion period, the mice were reanaesthetized and the ligature around the LAD was retied at the previous ligation site. Following this, 2% Evans blue dye was injected into the aorta and allowed to circulate uniformly in the areas of the heart perfused by the open coronary arteries. The heart was then quickly excised, snap frozen on dry ice and cut into five sections from the apex to the base. Sections were then incubated in 1% triphenyltetrazolium chloride (TTC) (Sigma) solution in PBS and photographed with a Canon EOS 450D digital camera with a 100-mm macro lens. The area not at risk (ANAR; Evans blue-stained area) and the AR (including both the TTC staining-positive [non-infarct, red] and TTC staining-negative [infarct, white] areas) were measured with the Nikon NIS-Elements BR 2.30 program.

### **Quantitative PCR analysis**

Total RNA was extracted from non-ischemic LV tissues with Trizol (Life technologies). cDNA was produced from 500 ng RNA with Transcriptor First-Strand cDNA Synthesis Kit (Roche). RNA levels were measured by real-time quantitative polymerase chain reaction (qPCR) analysis using TaqMan and SYBR Green chemistries on an ABI Prism 7700 Sequence Detection System (Thermo Fisher Scientific). The gene expression data were then normalized to 18S. Primers for qPCR are shown in Table S5.

### **Western blot analysis**

Frozen LV tissues were ground in liquid nitrogen and were dissolved and homogenized in ice-cold lysis buffer containing of 20 mM Tris, (pH 7.5), 10 mM NaCl, 1 mM EDTA, 1 mM EGTA, supplemented with 1 mM  $\beta$ -glycerophosphate, 2 mM dithiothreitol (DTT), 1 mM  $\text{Na}_3\text{VO}_4$ , 10  $\mu\text{g}/\text{mL}$  leupeptin, 10  $\mu\text{g}/\text{mL}$

aprotinin, 2 µg/mL pepstatin, 2 mM benzamidine, 1 mM PMSF and 20 mM NaF. Samples were then centrifuged at 10000x g for 5 min at 4 °C and the supernatant was collected. Protein concentrations were determined by the method of Bradford. Protein extracts were matched for protein concentration and stored denatured in SDS loading buffer at -70 °C. Equal volumes (30 µg) of protein samples were loaded onto 12-14 % SDS-PAGE and transferred to nitrocellulose membranes. Antibodies and their dilutions used were; anti-active JNK antibody (V7932, Promega, 1:3000), SAPK/JNK antibody (#9252, Cell Signaling, 1:1000), Anti-STAT3 (phospho Y705) antibody (ab30646, Abcam, 1:500), Stat3 (79D7) antibody (#4904, Cell Signaling, 1:1000), phospho-p38 MAPK (Thr180/Tyr182) antibody (#9211, Cell Signaling, 1:1000), phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) antibody (#9106, Cell Signaling, 1:1000), phospho-Akt (Ser473) antibody (#9271, Cell Signaling, 1:1000), phospho-PKCα (Ser657/Tyr658) antibody (07-790, Merck, 1:1000), phospho-SMAD2 (Ser465/467) antibody (#3108 Cell Signaling, 1:1000), phospho-SMAD1/5 (Ser463/465) antibody (#9516, Cell Signaling, 1:1000), Anti-FAK (phospho Y397) antibody (ab81298, Abcam, 1:1000), Anti-α-SMA antibody (ab5694, Abcam, 1:2000), Anti-Coll1 antibody (ab34710, Abcam 1:500). Glyceraldehyde-3-Phosphate Dehydrogenase Antibody (MAB374, Merck, 1:100000) or Vinculin antibody (ab18058, Abcam, 1:1000) was used as a loading control. Secondary antibodies were purchased from Life Technologies (Alexa Fluor A11371, A21058 and A21076) and used in the dilution of 1:5000. Antibodies were diluted in Odyssey Blocking Buffer from LI-COR. Protein levels were detected using fluorescence with Odyssey Fc imaging system (LI-COR Biosciences).

## **Histology**

For terminal deoxynucleotidyl transferase-mediated dUTP nick end labeling (TUNEL) assay, we used ApopTag peroxidase in situ apoptosis detection kit (Merck Millipore) according to the manufacturer's instructions. Images were captured with a bright-field Nikon Eclipse 50i microscope (40x objective) equipped with Nikon camera and apoptotic nuclei were quantified. For analysis of cardiomyocyte cross-sectional area cardiac sections were stained with Masson's trichrome, imaged with 20x objective, and size of 50 cardiomyocytes/section was determined. The length of the infarction was determined from Masson's trichrome stained sections with a 1x objective by measuring the length of the infarct in relation to the whole LV circumference. To analyze for the size and number of capillaries, cardiac sections were stained with CD31 (Santa Cruz Biotechnology). Five fields per section were captured with Nikon Eclipse 50i microscope (40x objective) and analyzed with NIS-elements software. To quantify myocardial collagen content, the sections were stained with Picrosirius Red (Direct Red 80, Sigma). The sections were analyzed under the microscope with linear polarized light (Olympus BX51) and images were obtained with a color digital camera (captured with 20x objective, Olympus, DP71). Red and green birefringence of collagen fibers were quantified with Image J software from the infarcted area, peri-infarct zone and remote areas. To assess for infiltration of inflammatory cells, cardiac sections were stained with CD45 antibody (Abcam) and images were captured with fluorescent Nikon Eclipse 80i microscope (40x objective) equipped with Hamamatsu ORCA-flash 4.0 LT camera. CD45 immunofluorescent area was then determined with NIS-elements software.

## **Determination of the expansion index**

The septal thickness, scar thickness and LV area were measured from images of Masson's trichrome stained sections captured with a 1x objective. Endocardial LV chamber area was determined by echocardiography. The expansion index was calculated as the septal thickness/scar thickness  $\times$  chamber area/LV area (2,3).

## **Human cardiac fibroblast culture**

Human cardiac fibroblasts were purchased from ScienCell (Cat. #6300). Cells were seeded on poly-L-Lysine ( $2 \mu\text{g}/\text{cm}^2$ ) coated plate (ScienCell, Cat.#0413), cultured in Dulbecco's Modified Eagle's Medium/Nutrient Mixture F-12 Ham (Sigma, #D8437) with 10% fetal bovine serum (FBS, ScienCell, Cat. No. 0025), 1% fibroblast growth supplement-2 (FGS-2, ScienCell, Cat. No. 2382) and penicillin/streptomycin solution (P/S, ScienCell, Cat. No. 0503). Next day, cells were treated with  $10 \mu\text{g}/\text{ml}$  CTGF mAb (Fibrogen, FG-3149) or control IgG in the presence or absence of  $2 \mu\text{M}$  JNK inhibitor I (Calbiochem/Merck, #420116). After 24h treatment, cells were treated with  $1 \text{ ng}/\text{ml}$  TGF- $\beta$ 1 (Peprotech, #100-21) were indicated and further incubated for 24h. For analysis of collagen production, cells were fixed with 4% PFA and stained using Sirius red/fast green collagen staining kit (Chondrex/Amsbio,#9046) according to manufacturer's instructions. For analysis of fibroblast proliferation, cells were incubated with  $5 \mu\text{M}$  EdU (Click-iT™ EdU Alexa Fluor™ 488 HCS Assay, Thermo Fisher Scientific, C10350). After 3 hours, cells were fixed with 4% PFA for 15 min and EdU incorporation was analyzed according to manufacturer's instructions.

## **References**

1. Gao E, Lei YH, Shang X et al. A Novel and Efficient Model of Coronary Artery Ligation and Myocardial Infarction in the Mouse. *Circ Res* 2010;107:1445-1453.
2. Virag JA, Rolle ML, Reece J, Hardouin S, Feigl EO, Murry CE. Fibroblast growth factor-2 regulates myocardial infarct repair: effects on cell proliferation, scar contraction, and ventricular function. *Am J Pathol* 2007;171:1431-40.
3. Hutchins GM, Bulkley BH. Infarct expansion versus extension: two different complications of acute myocardial infarction. *Am J Cardiol* 1978;41:1127-32.

## Supplemental Tables

**Table S1. Antagonizing the function of CTGF during early LV remodeling (Study II).**

	<b>Sham</b>	<b>MI + IgG</b>	<b>MI + CTGF mAb</b>
	(n=5)	(n=7)	(n=8)
<b>LVID;d (mm)</b>	4.01±0.26	5.34±0.56 **	5.35±0.53 **
<b>LVID;s (mm)</b>	3.04±0.37	4.89±0.50 ***	4.88±0.57 ***
<b>LVPW;d (mm)</b>	0.71±0.08	0.88±0.10 *	0.81±0.06
<b>LVPW;s (mm)</b>	0.95±0.09	1.03±0.15	0.95±0.10
<b>LVVol;d (μl)</b>	71.1±0.08	143±26.9 ***	140±29.3 ***
<b>LVVol;s (μl)</b>	36.9±10.3	115±24.6 ***	114±28.5 ***
<b>EF%</b>	48.8±8.20	19.8±3.62 ***	19.5±5.03 ***
<b>FS%</b>	24.5±5.02	9.07±1.73 **	8.95±2.38 **
<b>HR (BPM)</b>	393±30	468±35 *	443±30
<b>SV (μl)</b>	36.6±4.47	28.7±3.75 *	26.1±4.93 **
<b>CO (ml/min)</b>	14.5±2.69	13.4±1.73	11.5±2.39
<b>E/E'</b>	-33.4±10.8	-60.2±21.4 *	-31.3±9.29 ##
<b>IVRT (ms)</b>	15.8±2.05	20.0±4.11	23.2±4.30 **
<b>LV mass (mg)</b>	100±14.5	140±31.9 *	133±17.9

The mice were subjected to experimental myocardial infarction (MI), and one week after surgery mice were randomly divided to two groups receiving either immunoglobulin G (IgG) vehicle or connective tissue growth factor monoclonal antibody (CTGF mAb). Two weeks later mice were subjected to echocardiography analysis. Left ventricular end-diastolic dimension (LVID;d), LV end-systolic dimension (LVID;s), LV end-diastolic posterior wall thickness (LVPW;d), LV end-systolic posterior wall thickness (LVPW;s), LV end-diastolic volume (LVVol;d), LV end-systolic volume (LVVol;s), ejection fraction (EF%), fractional shortening (FS%), heart rate (HR), stroke volume (SV), cardiac output (CO), mitral E/E' ratio (E/E'), isovolumic relaxation time (IVRT) and LV mass were analyzed. Data are presented as mean±SD; \* $P$ <0.05, \*\* $P$ <0.01, \*\*\* $P$ <0.001 versus sham, ## $P$ <0.01 versus MI + IgG.

**Table S2. CTGF mAb protects from adverse post-MI LV remodelling (Study II).**

	<b>Sham</b>	<b>MI + IgG</b>	<b>MI + CTGF mAb</b>
	(n=5)	(n=7)	(n=8)
<b>LVID;d (mm)</b>	4.07±0.16	5.82±0.84 **	5.57±0.54 ***
<b>LVID;s (mm)</b>	3.00±0.23	5.22±0.73 ***	5.02±0.56 ***
<b>LVPW;d (mm)</b>	0.69±0.06	0.97±0.16 **	0.86±0.13
<b>LVPW;s (mm)</b>	1.00±0.06	1.08±0.16	0.98±0.21
<b>LVVol;d (µl)</b>	73.0±6.78	175±54.3 **	156±33.7 ***
<b>LVVol;s (µl)</b>	35.1±6.63	135±42.1 **	123±31.3 ***
<b>EF%</b>	52.1±6.00	22.2±2.82 ***	21.2±4.94 ***
<b>FS%</b>	26.4±3.79	10.4±1.46 ***	9.82±2.43 ***
<b>HR (BPM)</b>	392±24	487±40 *	449±48
<b>SV (µl)</b>	36.7±4.32	41.3±13.1	33.5±7.49
<b>CO (ml/min)</b>	14.4±2.37	20.0±6.18	15.1±3.94
<b>E/E'</b>	-34.7±10.2	-30.0±6.54	-31.6±16.0
<b>IVRT (ms)</b>	14.2±0.85	24.6±1.62 **	26.2±7.57 *
<b>LAA;d (mm<sup>2</sup>)</b>	4.14±0.67	5.82±1.31 *	4.63±0.53
<b>LV mass (mg)</b>	87.5±4.16	247±60.5 ***	162±32.2 * ##
<b>HW/BW (mg/g)</b>	4.94±0.27	7.61±0.85 ***	6.60±0.60 *** #

The mice were subjected to myocardial infarction (MI) and one week after surgery randomly divided to receive either IgG vehicle or CTGF mAb for 6 weeks, and subjected to echocardiography analysis. LV end-diastolic dimension (LVID;d), LV end-systolic dimension (LVID;s), LV end-diastolic posterior wall thickness (LVPW;d), LV end-systolic posterior wall thickness (LVPW;s), LV end-diastolic volume (LVVol;d), LV end-systolic volume (LVVol;s), ejection fraction (EF%), fractional shortening (FS%), heart rate (HR), stroke volume (SV), cardiac output (CO), mitral E/E' ratio (E/E'), isovolumic relaxation time (IVRT), left atrial end-diastolic area (LAA;d), LV mass and heart weight versus body weight (HW/BW) were analyzed. Data are presented as mean±SD; \**P*<0.05, \*\**P*<0.01, \*\*\**P*<0.001 versus sham, #*P*<0.05, ##*P*<0.01 versus MI + IgG.

**Table S3. RNAseq analysis of CTGF mAb responsive genes in the LV at 7 weeks after MI (Study II, n=72).**

Transcripts that were significantly altered by CTGF mAb compared to IgG treatment were identified as described in the supplemental materials. Fold-change (Fc) and parametric p-values are provided for the indicated comparisons. P-values were calculated without assuming equal variance or adjusting for multiple comparisons. Fc values meeting cut-offs for a >1.5-fold increase or decrease in relative expression are indicated in red or blue, respectively. P-values <0.05 are indicated in red.

Gene ID	Gene Symbol	Description	MI CTGF mAb vs MI IgG		MI IgG vs Sham		MI CTGF mAb vs Sham	
			Fc	p	Fc	p	Fc	p
77127	A930001A20Rik	RIKEN cDNA A930001A20 gene	7.44	1.54E-03	1.20	5.78E-01	8.93	3.53E-03
19799	Rn4.5s	4.5S RNA	6.92	4.28E-03	1.17	6.78E-01	8.11	3.69E-05
19018	Scand1	SCAN domain-containing 1	3.93	4.15E-04	1.38	2.90E-01	5.43	3.82E-03
319587	4930539J05Rik	RIKEN cDNA 4930539J05 gene	3.63	2.31E-04	-1.11	6.50E-01	3.27	3.40E-03
18188	Nrtn	neurturin	3.23	1.91E-03	2.66	7.67E-02	8.60	1.29E-02
170942.chrY	Erdrl	erythroid differentiation regulator 1	2.96	2.77E-03	-1.02	8.81E-01	2.91	2.00E-03
73990	4930455C13Rik	RIKEN cDNA 4930455C13 gene	2.81	4.22E-02	-2.71	4.68E-02	1.04	7.13E-01
14761	Gpr27	G protein-coupled receptor 27	2.52	1.28E-05	1.07	1.51E-01	2.71	6.32E-05
244216	Zfp771	zinc finger protein 771	2.35	6.21E-04	1.52	6.53E-02	3.58	1.11E-03
73951	4930413G21Rik	RIKEN cDNA 4930413G21 gene	2.27	4.00E-03	-1.01	9.31E-01	2.25	3.57E-03
231646	Myo1h	myosin 1H	2.26	2.74E-02	-2.28	2.73E-02	-1.01	9.33E-01
75135	4930526I15Rik	RIKEN cDNA 4930526I15 gene	2.02	1.96E-05	1.17	1.81E-01	2.38	1.01E-03
246735	AY074887	cDNA sequence AY074887	1.91	1.21E-02	1.06	3.74E-01	2.03	1.13E-02
664968	Tmem238	transmembrane protein 238	1.90	1.99E-02	-1.18	4.73E-01	1.61	1.19E-01
214616	Spata511	spermatogenesis associated 5-like 1	1.89	5.78E-03	1.10	6.57E-01	2.09	2.20E-02
209047	Gipc3	GIPC PDZ domain containing family, member 3	1.87	1.34E-02	-1.39	1.13E-01	1.34	8.53E-02
68195	Rnaset2b	ribonuclease T2B	1.80	3.64E-03	-1.26	1.71E-01	1.43	6.64E-02
72500	Ier5l	immediate early response 5-like	1.78	1.77E-03	2.01	1.50E-03	3.57	6.72E-05
68431	Fbxl15	F-box and leucine-rich repeat protein 15	1.77	6.32E-03	1.19	2.41E-01	2.10	4.46E-04
67445	C1qtnf4	C1q and tumor necrosis factor related protein 4	1.77	1.23E-02	-1.46	2.27E-01	1.21	5.15E-01
13804	Endog	endonuclease G	1.76	1.22E-03	1.00	9.65E-01	1.76	1.24E-03
16478	Jund	Jun proto-oncogene related gene d	1.74	5.65E-05	1.52	1.25E-03	2.65	1.49E-05
13864	Nr2f6	nuclear receptor subfamily 2, group F, member 6	1.73	5.69E-04	1.08	3.90E-01	1.86	1.96E-05
68458	Ppp1r14a	protein phosphatase 1, regulatory (inhibitor) subunit 14A	1.72	5.41E-03	-1.39	2.89E-01	1.24	4.52E-01
12608	Cebpb	CCAAT/enhancer binding protein (C/EBP), beta	1.70	1.33E-02	2.42	2.58E-02	4.12	1.42E-02
668158	Ccdc85c	coiled-coil domain containing 85C	1.70	4.02E-04	1.01	8.91E-01	1.72	1.50E-04
319192	Hist2h2aa2	histone cluster 2, H2aa2	1.70	2.06E-03	1.39	5.85E-02	2.36	7.42E-03
21407	Tcf15	transcription factor 15	1.68	1.35E-02	1.06	6.68E-01	1.78	1.64E-03
232440	H2afj	H2A histone family, member J	1.67	6.58E-03	1.37	4.82E-02	2.28	2.27E-04
16373	Irx3	Iroquois related homeobox 3 (Drosophila)	1.65	1.48E-02	1.25	3.27E-01	2.06	2.29E-02
20677	Sox4	SRY-box containing gene 4	1.63	3.10E-02	-1.04	8.68E-01	1.57	1.23E-01
77134	Hnrmpa0	heterogeneous nuclear ribonucleoprotein A0	1.62	2.97E-04	-1.05	7.03E-01	1.55	2.39E-02
54352	Irx5	Iroquois related homeobox 5 (Drosophila)	1.62	1.20E-02	1.18	4.62E-01	1.91	3.79E-02
18091	Nkx2-5	NK2 transcription factor related, locus 5 (Drosophila)	1.61	6.54E-04	1.03	7.38E-01	1.65	5.72E-05
66832	Rsph3a	radial spoke 3A homolog (Chlamydomonas)	1.61	3.49E-03	1.58	3.00E-03	2.55	1.36E-04
69372	Mocs3	molybdenum cofactor synthesis 3	1.60	6.71E-04	1.18	3.38E-01	1.89	2.22E-02



11606	Agt	angiotensinogen (serpin peptidase inhibitor, clade A, member 8)	1,60	4,43E-02	-1,24	3,46E-01	1,29	3,37E-01
319180	Hist1h2bf	histone cluster 1, H2bf	1,60	1,28E-02	1,25	2,57E-01	2,00	1,38E-02
14173	Fgf2	fibroblast growth factor 2	1,59	8,60E-03	-1,02	8,86E-01	1,56	3,98E-03
66391	2310061J03Rik	RIKEN cDNA 2310061J03 gene	1,58	3,81E-02	1,46	6,91E-02	2,30	4,11E-04
67078	Pgp	phosphoglycolate phosphatase	1,57	4,65E-04	1,22	1,45E-01	1,92	5,69E-03
232969	Zfp428	zinc finger protein 428	1,55	5,47E-03	1,12	4,76E-01	1,74	2,07E-02
70316	Ndubf1	NADH dehydrogenase (ubiquinone) 1, alpha/beta subcomplex, 1	1,54	1,77E-03	-1,15	1,27E-01	1,34	1,39E-03
68490	Zfp579	zinc finger protein 579	1,54	1,11E-02	-1,21	1,80E-01	1,27	3,59E-02
56222	Cited4	Cbp/p300-interacting transactivator, with Glu/Asp-rich carboxy-terminal domain, 4	1,54	4,26E-02	1,05	6,32E-01	1,61	3,10E-02
78108	4930414L22Rik	RIKEN cDNA 4930414L22 gene	1,53	1,74E-03	1,09	1,65E-01	1,66	1,24E-03
15166	Hcn2	hyperpolarization-activated, cyclic nucleotide-gated K+ 2	1,52	2,63E-03	1,07	1,95E-01	1,63	1,52E-03
68992	Zfp580	zinc finger protein 580	1,52	2,25E-02	-1,02	8,65E-01	1,48	2,11E-02
66929	Asf1b	ASF1 anti-silencing function 1 homolog B (S. cerevisiae)	-1,51	1,78E-02	1,25	1,73E-01	-1,21	2,23E-01
24047	Ccl19	chemokine (C-C motif) ligand 19	-1,53	3,77E-02	2,05	1,12E-03	1,34	1,01E-01
56312	Nupr1	nuclear protein 1	-1,53	2,42E-02	5,83	2,45E-05	3,81	1,13E-04
12442	Ccnb2	cyclin B2	-1,53	1,12E-02	1,71	7,04E-03	1,11	1,54E-01
14229	Fkbp5	FK506 binding protein 5	-1,53	8,66E-03	2,51	1,26E-04	1,63	3,17E-03
50530	Mfap5	microfibrillar associated protein 5	-1,55	6,79E-03	5,98	7,49E-06	3,85	5,76E-04
210622	Pamr1	peptidase domain containing associated with muscle regeneration 1	-1,56	1,04E-02	10,82	2,26E-05	6,92	1,51E-05
239559	A4galt	alpha 1,4-galactosyltransferase	-1,58	1,94E-04	2,04	4,00E-02	1,29	2,65E-01
140494	Atp6v0a4	ATPase, H+ transporting, lysosomal V0 subunit A4	-1,59	1,64E-02	1,63	1,43E-02	1,02	1,04E-01
18787	Serpine1	serine (or cysteine) peptidase inhibitor, clade E, member 1	-1,61	9,68E-03	5,43	1,39E-05	3,36	3,29E-05
11752	Anxa8	annexin A8	-1,63	1,28E-02	1,98	5,03E-03	1,22	7,09E-02
67606	Fibin	fin bud initiation factor homolog (zebrafish)	-1,66	1,86E-03	8,72	8,70E-07	5,26	4,13E-06
235416	Lman1l	lectin, mannose-binding 1 like	-1,66	1,81E-02	2,19	3,80E-03	1,32	6,42E-02
68713	Ifitm1	interferon induced transmembrane protein 1	-1,68	1,88E-02	1,25	4,01E-01	-1,35	2,91E-01
72293	Nkd2	naked cuticle 2 homolog (Drosophila)	-1,73	1,26E-02	3,47	5,56E-04	2,01	4,10E-03
21828	Thbs4	thrombospondin 4	-1,78	3,88E-02	34,16	7,63E-06	19,15	1,02E-04
20750	Spp1	secreted phosphoprotein 1	-1,79	4,10E-02	2,51	4,81E-03	1,40	1,23E-01
268709	Fam107a	family with sequence similarity 107, member A	-1,81	4,05E-03	2,00	4,19E-03	1,10	2,60E-01
13371	Dio2	deiodinase, iodothyronine, type II	-1,83	4,67E-03	6,15	1,08E-04	3,35	2,48E-04
50706	Postn	periostin, osteoblast specific factor	-1,85	5,80E-03	14,34	3,84E-06	7,76	1,16E-06
22152	Tubb3	tubulin, beta 3 class III	-1,90	1,98E-02	3,30	1,29E-03	1,73	2,86E-02
17750	Mt2	metallothionein 2	-1,92	4,05E-02	4,75	1,20E-03	2,47	5,55E-03
654812	Angptl7	angiopoietin-like 7	-1,96	4,39E-02	17,00	1,43E-04	8,65	4,20E-04
68588	Cthrc1	collagen triple helix repeat containing 1	-2,25	6,75E-03	3,36	1,75E-03	1,49	5,96E-02

**Table S4. CTGF mAb has no effect on ischemia-reperfusion injury (Study III).**

	<b>Sham</b>	<b>I/R + IgG</b>	<b>I/R + CTGF mAb</b>	<b>I/R + CTGF mAb at reperfusion</b>
	(n=5)	(n=15)	(n=16)	(n=12)
<b>LVID;d (mm)</b>	3.97±0.20	4.18±0.37	4.16±0.37	4.07±0.36
<b>LVID;s (mm)</b>	2.85±0.22	3.36±0.50	3.40±0.46	3.25±0.38
<b>LVPW;d (mm)</b>	0.76±0.06	0.75±0.11	0.72±0.13	0.73±0.09
<b>LVPW;s (mm)</b>	1.06±0.17	0.91±0.17	0.87±0.13	0.92±0.12
<b>LVVol;d (μl)</b>	69.1±8.01	78.7±17.2	77.5±15.6	73.7±15.1
<b>LVVol;s (μl)</b>	31.1±5.89	47.5±17.6	48.7±14.9	43.3±11.5
<b>EF%</b>	55.2±4.41	41.1±10.2 *	38.5±8.86 *	41.0±12.11 *
<b>FS%</b>	28.3±2.77	20.1±5.77 *	18.5±4.83 *	20.1±6.87 *
<b>HR (BPM)</b>	417±26	462±37	472±45	437±50
<b>SV (ml)</b>	39.1±4.66	32.5±5.47	29.2±4.62	30.8±11.3
<b>CO (ml/min)</b>	16.2±1.54	15.0±2.35	13.7±2.28	13.4±4.97
<b>LV mass (mg)</b>	107±8.07	117±29.4	110±27.8	121±26.6

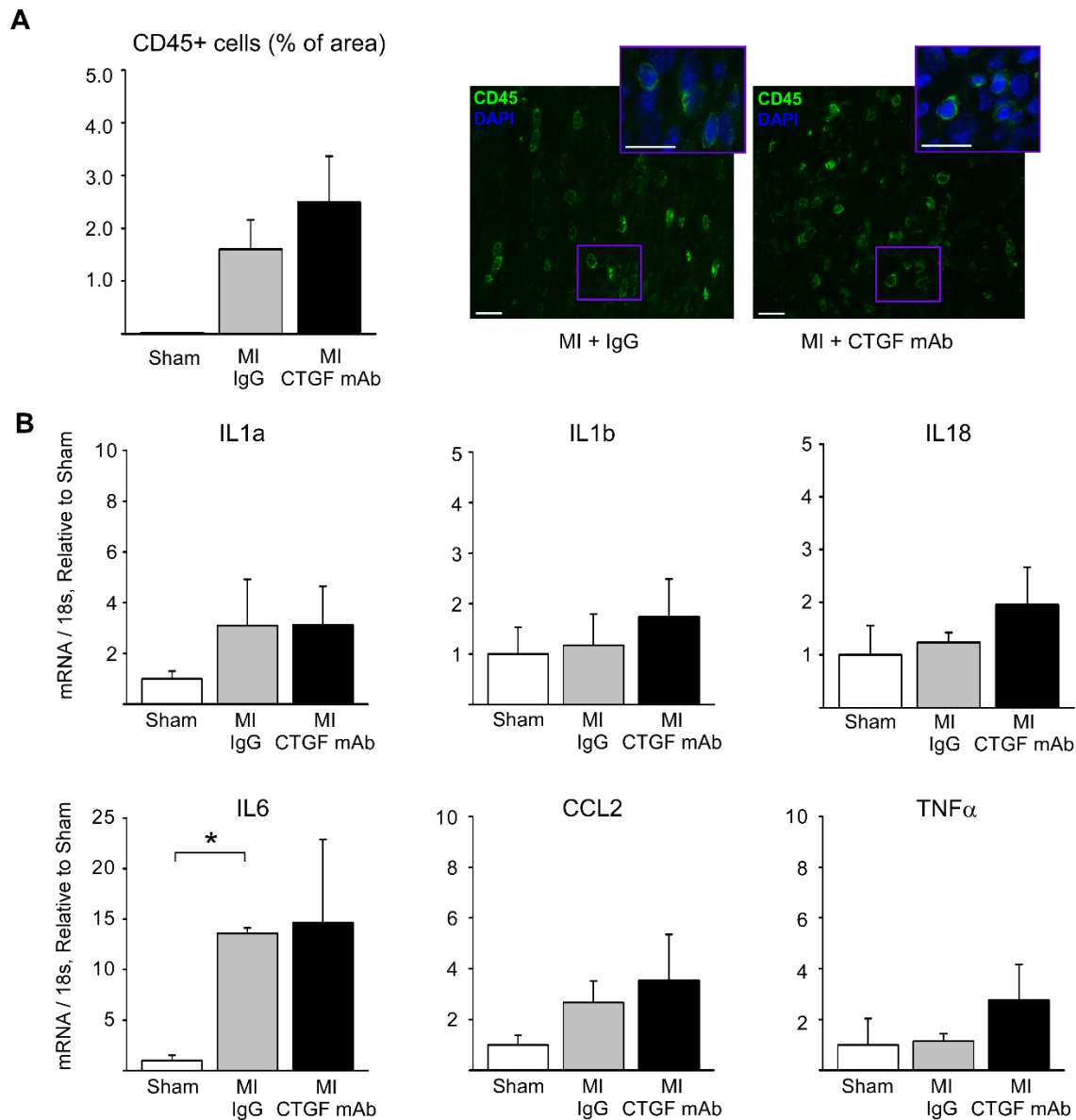
The mice were subjected to ischemia-reperfusion injury (I/R) and treated with immunoglobulin G (IgG) vehicle or connective tissue growth factor monoclonal antibody (CTGF mAb). After 24 hours mice were subjected to echocardiography analysis. Left ventricular end-diastolic dimension (LVID;d), LV end-systolic dimension (LVID;s), LV end-diastolic posterior wall thickness (LVPW;d), LV end-systolic posterior wall thickness (LVPW;s), LV end-diastolic volume (LVVol;d), LV end-systolic volume (LVVol;s), ejection fraction (EF%), fractional shortening (FS%), heart rate (HR), stroke volume (SV), cardiac output (CO) and LV mass were analyzed. Data are presented as mean±SD; \**P*<0.05 versus sham.

**Table S5. Oligonucleotide primer sequences used for mRNA quantitation by qPCR.**

Fluorogenic probe, sense and antisense nucleotide primer sequences for real-time quantitative polymerase chain reaction (qPCR) analysis used by TaqMan chemistry and sense and antisense primer sequences used by SYBR Green chemistry.

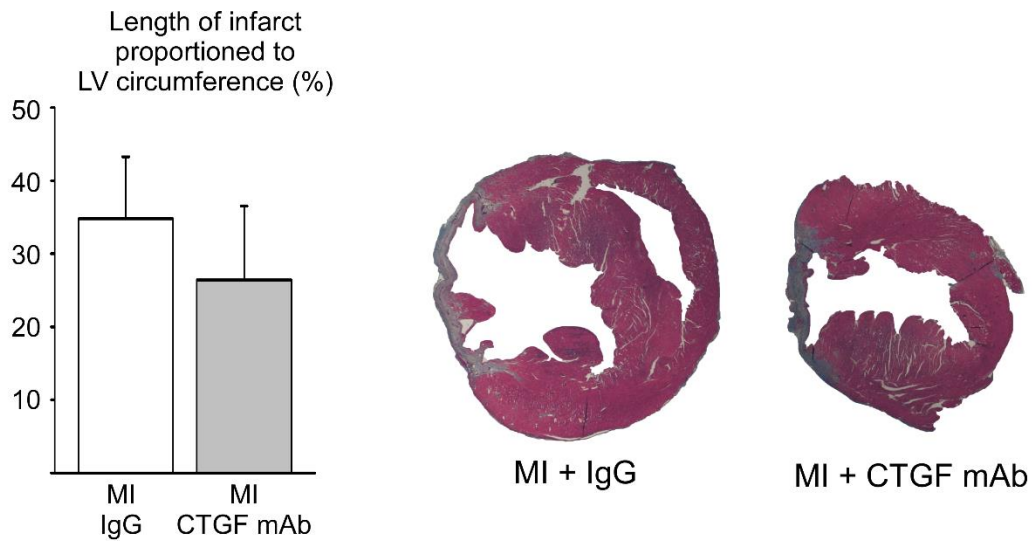
<b>Gene</b>	<b>Fluorogenic Probe (5'-[FAM...TAMRA])</b>	<b>Sequences</b>	
		<b>Sense (5'-...)</b>	<b>Antisense (5'-...)</b>
<b>CCL2</b>	CACTCACCTGCTGCTACTCATTCACTGGC	CTCAGCCAGATGCAGTTAATGC	AGCCGACTCATTGGGATCAT
<b>IL1a</b>		CGAAGACTACAGTTCTGCCATT	GACGTTTCAGAGTTCTCAGAG
<b>IL1b</b>		TCTTTGAAGTTGACGGACCC	TGAGTGATACTGCCTGCCTG
<b>IL6</b>	CAGAATTGCCATTGCACAACCTTTTTCTCA	ACATGTTCTCTGGGAAATCGTGGAA	TGCATCATCGTTGTTTCATACAA
<b>IL18</b>		GACTCTTGCGTCAACTTCAAGG	CAGGCTGTCTTTTGCAACGA
<b>TNF<math>\alpha</math></b>	TGCTCCTCACCCACACCGTCAGC	GACAAGGCTGCCCGACTA	CTCCTGGTATGAGATAGCAAATC
<b>18S TaqMan</b>	CCTGGTGGTGCCCTTCCGTCA	TGGTTGCAAAGCTGAAACTTAAAG	AGTCAAATTAAGCCGCAGGC
<b>18S SYBRGreen</b>		CGCCGCTAGAGGTGAAATTC	CCAGTCGGCATCGTTTATGG

## Figure S1



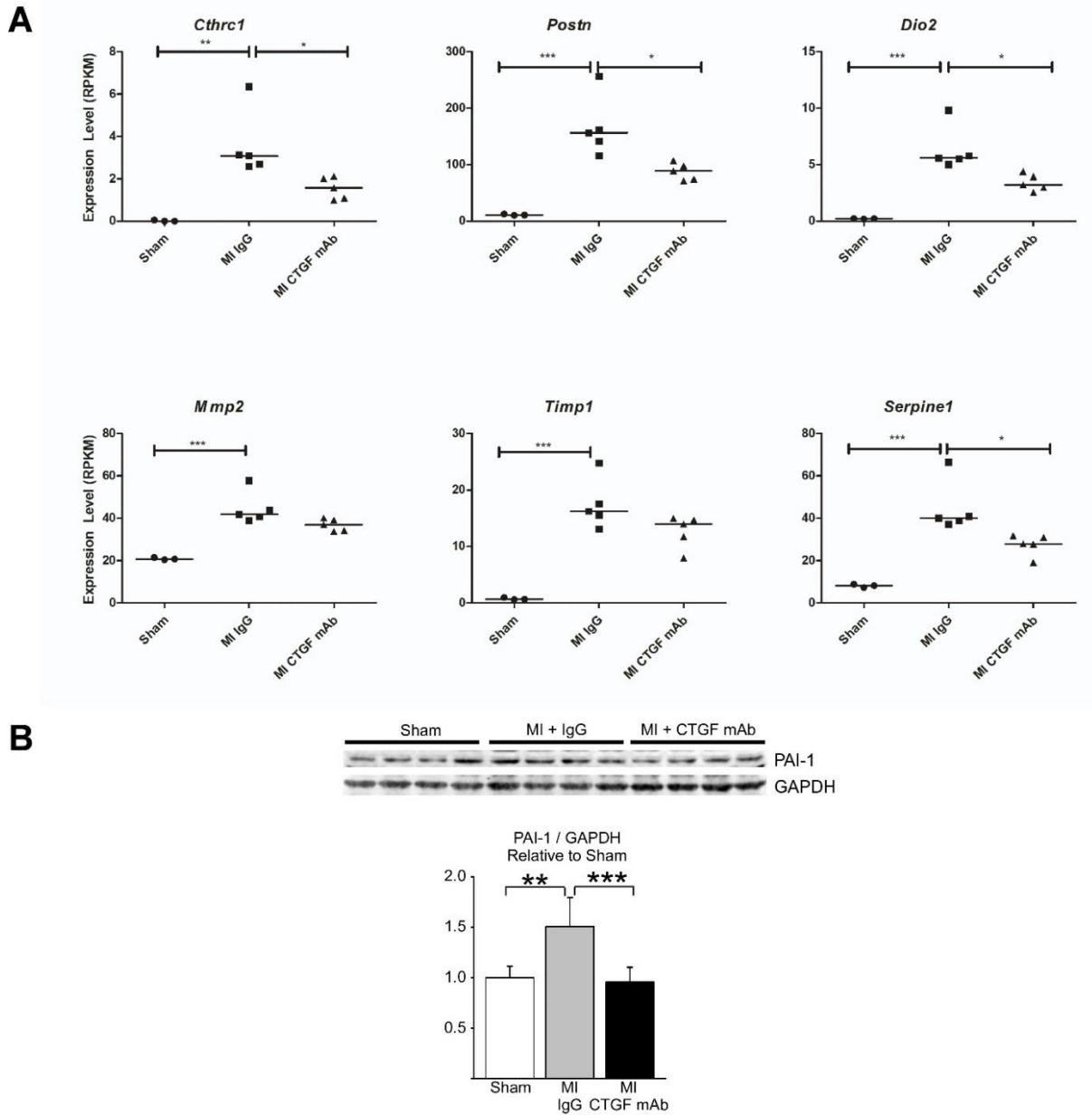
**Figure S1. Antagonizing the function of CTGF during infarct repair.** Mice were subjected to myocardial infarction (MI) and three days after surgery randomly divided to receive either immunoglobulin G (IgG) vehicle or CTGF monoclonal antibody (CTGF mAb) for four days. Four days later cardiac tissue was collected for histological analysis and RNA isolation. A, Analysis for percentage of area of CD45-positive cells in the infarct area and representative micrographs. There was no fluorescence in Sham sections, value <0.02% of area. Scale bar 20  $\mu$ m. B, Quantitative polymerase chain reaction analysis of inflammatory marker genes. Shown is analysis for mRNA levels of interleukins 1a, 1b, 18, 6 (IL-1a, IL-1b, IL-18, IL-6), chemokine (C-C motif) ligand 2 (CCL2) and tumor necrosis factor  $\alpha$  (TNF $\alpha$ ). Data are presented as mean $\pm$ SD; \* $P$ <0.05. Number of animals was Sham (n=4), IgG (n=5) and CTGF mAb (n=8).

**Figure S2**



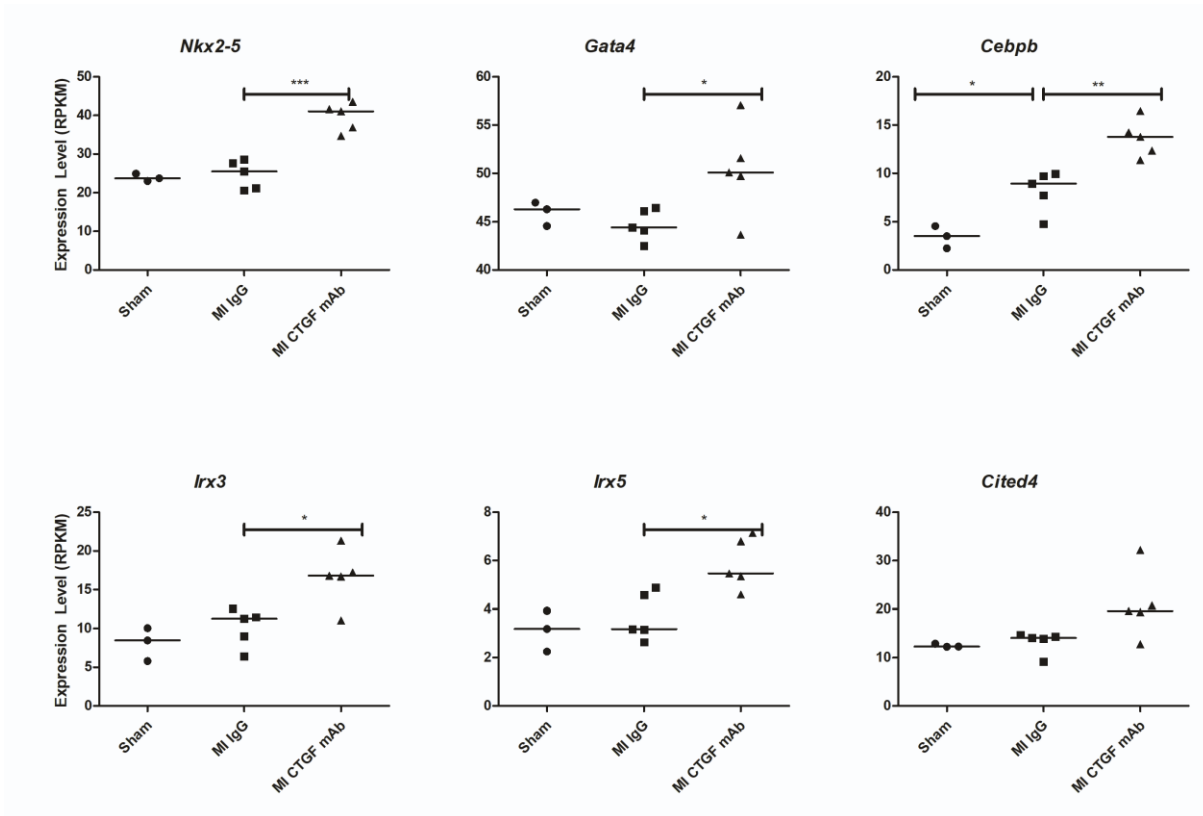
**Figure S2. Effect of CTGF mAb on post-infarction cardiac hypertrophy.** Mice were subjected to experimental myocardial infarction (MI), and one week after surgery mice were randomly divided to two groups receiving either immunoglobulin G (IgG) vehicle or connective tissue growth factor monoclonal antibody (CTGF mAb). Six weeks later cardiac tissue was collected for histological analysis. Shown is determination of length of infarction proportioned to LV circumference and representative figures of Masson stained transversal LV sections. Data are presented as mean±SD. Number of animals was MI+IgG (n=5) and MI+CTGF mAb (n=8).

**Figure S3**



**Figure S3. Effect of CTGF mAb on MI –induced expression of inflammatory/fibrotic genes.** Mice were subjected to myocardial infarction (MI), and one week after surgery mice were randomly divided to receive either immunoglobulin G (IgG) vehicle or connective tissue growth factor monoclonal antibody (CTGF mAb). Six weeks later mice cardiac tissue from remote left ventricle was collected for biochemical analyses. A, Shown is analysis for mRNA levels of *Cthrc1* (Collagen triple helix repeat containing 1), *Periostin*, *Dio2* (Iodothyronine deiodinase 2), *MMP2* (matrix metalloprotease 2), *TIMP1* (tissue inhibitor of metalloproteinase 1) and *Serpine1* (plasminogen activator inhibitor 1, PAI-1). mRNA expression data (RPKM) data presented as individual animal results, with a line indicating the median. B, Western blot analysis of expression of PAI-1. Data are presented as mean±SD. \* $P < 0.05$ , \*\* $P < 0.01$  \*\*\* $P < 0.001$ .

**Figure S4**



**Figure S4. Effect of CTGF mAb expression of cardiac developmental/repair genes in MI hearts.** Mice were subjected to experimental myocardial infarction (MI), and one week after surgery mice were randomly divided to two groups receiving either immunoglobulin G (IgG) vehicle or connective tissue growth factor monoclonal antibody (CTGF mAb). Six weeks later mice cardiac tissue was collected for RNAseq analysis. Shown is mRNA analysis for *Nkx2-5*, *Gata4*, *Cebpb* (CCAAT Enhancer Binding Protein Beta), *Irx3* (Iroquois homeobox 3), *Irx5* and *Cited4*. mRNA expression data (RPKM) data presented as individual animal results, with a line indicating the median. \* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.001$ .

## Data Set 1. RNAseq analysis of significantly altered genes in the LV at 7 weeks after MI (n=1196)

Transcripts that were significantly altered by MI were identified as described in the supplemental materials. Fold-change (Fc) and parametric p-values are provided for the indicated comparisons. P-values were calculated without assuming equal variance or adjusting for multiple comparisons. Fc values meeting cut-offs for a >2-fold increase or decrease in relative expression for MI vs Sham are indicated in red or blue, respectively. P-values <0.01 are indicated in red.

<i>Gene ID</i>	<i>Gene Symbol</i>	<i>Description</i>	<b>MI IgG vs Sham</b>		<b>MI CTGF mAb vs Sham</b>	
			<i>Fc</i>	<i>p</i>	<i>Fc</i>	<i>p</i>
12845	Comp	cartilage oligomeric matrix protein	41,15	3,45E-05	35,08	9,53E-05
21828	Thbs4	thrombospondin 4	34,16	7,63E-06	19,15	1,02E-04
214425	Cilp	cartilage intermediate layer protein, nucleotide pyrophosphohydrolase	28,33	3,40E-06	19,01	3,63E-06
230899	Nppa	natriuretic peptide type A	21,63	2,13E-06	15,80	4,41E-05
14264	Fmod	fibromodulin	21,33	5,54E-05	13,64	3,46E-04
21857	Timp1	tissue inhibitor of metalloproteinase 1	17,03	1,12E-05	12,34	2,86E-05
654812	Angptl7	angiopoietin-like 7	17,00	1,43E-04	8,65	4,20E-04
16997	Ltbp2	latent transforming growth factor beta binding protein 2	16,93	7,14E-05	10,67	1,14E-04
76293	Mfap4	microfibrillar-associated protein 4	15,21	2,00E-06	11,79	4,73E-06
20319	Sfrp2	secreted frizzled-related protein 2	14,78	6,98E-05	16,45	9,91E-05
50706	Postn	periostin, osteoblast specific factor	14,34	3,84E-06	7,76	1,16E-06
140781	Myh7	myosin, heavy polypeptide 7, cardiac muscle, beta	13,50	8,02E-07	9,35	6,21E-06
22403	Wisp2	WNT1 inducible signaling pathway protein 2	13,21	5,86E-05	11,62	3,39E-06
223272	Itgbl1	integrin, beta-like 1	10,89	1,90E-05	8,71	4,94E-07
210622	Pamr1	peptidase domain containing associated with muscle regeneration 1	10,82	2,26E-05	6,92	1,51E-05
50781	Dkk3	dickkopf homolog 3 ( <i>Xenopus laevis</i> )	9,81	7,98E-05	6,53	3,03E-04
78896	1500015O10Rik	RIKEN cDNA 1500015O10 gene	9,15	3,17E-04	5,47	8,36E-03
11459	Acta1	actin, alpha 1, skeletal muscle	8,82	1,40E-03	9,94	9,44E-04
67606	Fibin	fin bud initiation factor homolog (zebrafish)	8,72	8,70E-07	5,26	4,13E-06
20753	Sprr1a	small proline-rich protein 1A	8,28	5,83E-04	6,97	2,32E-03
107765	Ankrd1	ankyrin repeat domain 1 (cardiac muscle)	7,97	9,39E-07	6,06	3,23E-06
14219	Ctgf	connective tissue growth factor	7,60	2,83E-06	5,69	1,37E-05
77794	Adamtsl2	ADAMTS-like 2	7,42	3,23E-04	6,44	2,73E-03
23886	Gdf15	growth differentiation factor 15	7,08	8,06E-05	5,61	3,06E-03
20716	Serpina3n	serine (or cysteine) peptidase inhibitor, clade A, member 3N	6,64	2,82E-04	4,17	1,25E-05
12837	Col8a1	collagen, type VIII, alpha 1	6,28	2,48E-05	4,40	1,79E-07
20307	Ccl8	chemokine (C-C motif) ligand 8	6,20	9,39E-06	3,38	2,85E-02
16854	Lgals3	lectin, galactose binding, soluble 3	6,20	3,09E-04	4,58	7,56E-04
13371	Dio2	deiodinase, iodothyronine, type II	6,15	1,08E-04	3,35	2,48E-04
231633	Tmem119	transmembrane protein 119	6,03	5,90E-05	4,65	5,99E-05
13170	Dbp	D site albumin promoter binding protein	6,02	2,67E-04	7,27	1,14E-04
50530	Mfap5	microfibrillar associated protein 5	5,98	7,49E-06	3,85	5,76E-04
56312	Nupr1	nuclear protein 1	5,83	2,45E-05	3,81	1,13E-04
18627	Per2	period homolog 2 ( <i>Drosophila</i> )	5,64	6,51E-04	3,62	8,61E-03
21825	Thbs1	thrombospondin 1	5,56	1,43E-03	3,79	2,48E-03
18787	Serpine1	serine (or cysteine) peptidase inhibitor, clade E, member 1	5,43	1,39E-05	3,36	3,29E-05
55987	Cpxm2	carboxypeptidase X 2 (M14 family)	5,37	5,24E-04	5,64	1,09E-05
17313	Mgp	matrix Gla protein	5,30	7,05E-07	4,06	1,58E-06
12931	Crlf1	cytokine receptor-like factor 1	5,20	4,41E-04	3,67	1,24E-04
12268	C4b	complement component 4B (Chido blood group)	5,19	5,30E-04	4,62	7,56E-04
68797	Pdgfrr1	platelet-derived growth factor receptor-like	5,14	3,12E-04	3,56	3,44E-04
252837	Ccr11	chemokine (C-C motif) receptor-like 1	5,06	1,62E-04	3,50	6,88E-04
20378	Frzb	frizzled-related protein	4,96	5,21E-05	3,95	1,18E-04
17750	Mt2	metallothionein 2	4,75	1,20E-03	2,47	5,55E-03
16012	Igfbp6	insulin-like growth factor binding protein 6	4,64	3,74E-08	3,76	1,82E-06
329941	Col8a2	collagen, type VIII, alpha 2	4,63	1,92E-03	3,21	8,53E-03
11833	Aqp8	aquaporin 8	4,50	1,68E-03	5,36	5,41E-05
12111	Bgn	biglycan	4,41	2,20E-05	3,46	4,39E-05
17285	Meox1	mesenchyme homeobox 1	4,36	8,90E-05	3,39	3,01E-05
229599	Gm129	predicted gene 129	4,35	2,48E-03	3,70	1,07E-02
11898	Ass1	argininosuccinate synthetase 1	4,28	4,35E-05	3,45	4,36E-05
19223	Ptgis	prostaglandin I2 (prostacyclin) synthase	4,26	1,73E-05	3,45	7,09E-04



12818	Col14a1	collagen, type XIV, alpha 1	4,19	1,34E-04	3,47	1,42E-05
16948	Lox	lysyl oxidase	4,19	2,59E-03	3,45	1,15E-03
107581	Col16a1	collagen, type XVI, alpha 1	4,14	1,40E-04	2,91	6,06E-04
20317	Serpinf1	serine (or cysteine) peptidase inhibitor, clade F, member 1	4,09	1,12E-05	3,16	1,01E-05
20293	Ccl12	chemokine (C-C motif) ligand 12	4,01	3,79E-04	2,89	2,50E-04
26561	Mmp23	matrix metalloproteinase 23	3,83	1,93E-03	3,25	1,94E-03
19782	Rmrp	RNA component of mitochondrial RNAase P	3,79	5,92E-02	5,38	4,35E-02
13730	Emp1	epithelial membrane protein 1	3,73	1,24E-05	2,75	6,66E-04
11815	Apod	apolipoprotein D	3,72	1,65E-03	3,06	6,65E-03
59095	Fxyd6	FXDY domain-containing ion transport regulator 6	3,69	7,60E-05	3,10	2,07E-04
85029	Rpph1	ribonuclease P RNA component H1	3,65	6,35E-02	3,80	4,44E-02
74116	Pi16	peptidase inhibitor 16	3,60	1,27E-05	2,86	4,05E-04
50490	Nox4	NADPH oxidase 4	3,57	5,58E-04	2,31	3,80E-03
64817	Svep1	sushi, von Willebrand factor type A, EGF and pentraxin domain containing 1	3,56	9,05E-04	3,03	1,10E-06
14314	Fstl1	folliculin-like 1	3,54	1,31E-04	2,77	2,38E-03
19659	Rbp1	retinol binding protein 1, cellular	3,51	5,92E-05	2,91	1,28E-04
16803	Lbp	lipopolysaccharide binding protein	3,51	8,13E-05	2,91	1,07E-03
100861531	Rn45s	45S pre-ribosomal RNA	3,49	1,64E-03	4,00	4,66E-02
72293	Nkd2	naked cuticle 2 homolog (Drosophila)	3,47	5,56E-04	2,01	4,10E-03
18605	Enpp1	ectonucleotide pyrophosphatase/phosphodiesterase 1	3,44	1,32E-04	2,63	1,89E-07
18158	Nppb	natriuretic peptide type B	3,42	5,16E-03	2,73	7,81E-03
269855	Ssc5d	scavenger receptor cysteine rich domain containing (5 domains)	3,39	2,34E-05	2,42	2,95E-05
68588	Cthrc1	collagen triple helix repeat containing 1	3,36	1,75E-03	1,49	5,96E-02
18783	Pla2g4a	phospholipase A2, group IVA (cytosolic, calcium-dependent)	3,34	6,26E-05	2,37	3,28E-04
320712	Abi3bp	ABI gene family, member 3 (NESH) binding protein	3,32	4,35E-04	2,67	1,88E-03
22223	Uchl1	ubiquitin carboxy-terminal hydrolase L1	3,32	7,10E-05	2,57	3,56E-05
22152	Tubb3	tubulin, beta 3 class III	3,30	1,29E-03	1,73	2,86E-02
12879	Cys1	cystin 1	3,29	2,19E-03	2,56	1,97E-02
21809	Tgfb3	transforming growth factor, beta 3	3,27	1,02E-04	2,53	2,30E-04
13038	Ctsk	cathepsin K	3,26	1,55E-04	2,37	5,65E-04
12364	Casp12	caspase 12	3,24	2,10E-03	2,42	1,58E-02
83433	Trem2	triggering receptor expressed on myeloid cells 2	3,23	3,64E-03	2,79	1,98E-03
66197	Cks2	CDC28 protein kinase regulatory subunit 2	3,21	2,28E-03	2,68	4,39E-03
83554	Fstl3	folliculin-like 3	3,20	2,43E-04	3,14	3,11E-04
17133	Maff	v-maf musculoaponeurotic fibrosarcoma oncogene family, protein F (avian)	3,20	1,00E-03	2,58	2,06E-03
13616	Edn3	endothelin 3	3,20	1,01E-04	3,29	9,72E-04
17965	Nbl1	neuroblastoma, suppression of tumorigenicity 1	3,15	2,47E-04	2,39	3,16E-04
14190	Fgl2	fibrinogen-like protein 2	3,09	3,91E-04	2,69	2,24E-03
240725	Sulf1	sulfatase 1	3,06	3,92E-05	2,36	1,97E-03
329065	Scd4	stearoyl-coenzyme A desaturase 4	3,05	1,10E-02	4,60	5,44E-03
330723	Htra4	HtrA serine peptidase 4	3,05	8,90E-04	2,13	2,56E-04
20377	Sfrp1	secreted frizzled-related protein 1	3,04	3,52E-03	2,53	5,50E-03
209378	Itih5	inter-alpha (globulin) inhibitor H5	3,04	1,07E-04	2,33	1,79E-03
12832	Col5a2	collagen, type V, alpha 2	3,03	3,74E-04	2,24	2,88E-04
17242	Mdk	midkine	2,99	2,18E-03	2,59	1,84E-03
72269	Cda	cytidine deaminase	2,98	1,18E-03	1,99	3,50E-02
66695	Aspn	asporin	2,98	2,50E-04	2,11	3,41E-03
14726	Pdpm	podoplanin	2,96	1,16E-04	2,46	2,98E-04
217430	Pqlc3	PQ loop repeat containing	2,95	9,78E-03	2,01	4,05E-02
12816	Col12a1	collagen, type XII, alpha 1	2,94	2,24E-03	1,75	3,64E-02
11421	Ace	angiotensin I converting enzyme (peptidyl-dipeptidase A) 1	2,93	2,75E-04	2,34	6,38E-08
55991	Panx1	pannexin 1	2,92	1,73E-04	2,02	5,78E-04
194231	Cnksr1	connector enhancer of kinase suppressor of Ras 1	2,92	6,09E-03	2,41	5,17E-03
216725	Adamts2	a disintegrin-like and metalloproteinase (reprolysin type) with thrombospondin type 1 motif, 2	2,88	3,24E-04	2,46	8,03E-05
21808	Tgfb2	transforming growth factor, beta 2	2,86	1,14E-04	2,42	9,96E-04
381175	Ccdc68	coiled-coil domain containing 68	2,85	8,93E-04	2,59	9,58E-04
56320	Dbn1	drebrin 1	2,85	5,88E-05	2,31	1,20E-04
12332	Capg	capping protein (actin filament), gelsolin-like	2,83	1,95E-04	2,22	2,72E-03
13448	Dok1	docking protein 1	2,81	1,67E-03	2,46	2,72E-03
13008	Csrp2	cysteine and glycine-rich protein 2	2,77	2,37E-04	2,40	6,70E-04
12628	Cfh	complement component factor h	2,77	2,62E-05	2,28	7,02E-05
21827	Thbs3	thrombospondin 3	2,76	2,52E-04	2,27	9,11E-04
13190	Dct	dopachrome tautomerase	2,75	2,16E-04	2,32	1,63E-03
76933	Ifi2712a	interferon, alpha-inducible protein 27 like 2A	2,74	5,73E-05	1,98	1,06E-02
213019	Pdlim2	PDZ and LIM domain 2	2,74	7,75E-05	2,38	8,75E-05
12143	Blk	B lymphoid kinase	2,73	1,04E-05	2,65	9,32E-04
68792	Srpx2	sushi-repeat-containing protein, X-linked 2	2,73	3,01E-04	2,27	6,10E-05
17926	Myoc	myocilin	2,72	6,16E-04	2,26	2,27E-03

14747	Cmklr1	chemokine-like receptor 1	2,71	2,16E-04	2,20	7,89E-04
69217	Plekha4	pleckstrin homology domain containing, family A (phosphoinositide binding specific) member 4	2,70	1,54E-04	2,11	2,14E-04
13056	Cyb561	cytochrome b-561	2,69	1,93E-05	2,03	3,11E-04
19242	Ptn	pleiotrophin	2,69	5,91E-04	2,25	8,53E-03
16950	Lox13	lysyl oxidase-like 3	2,69	1,48E-03	2,06	5,59E-03
12609	Cebpd	CCAAT/enhancer binding protein (C/EBP), delta	2,68	3,14E-02	3,33	1,95E-02
29817	Igfbp7	insulin-like growth factor binding protein 7	2,67	1,02E-04	2,44	2,35E-03
16952	Anxa1	annexin A1	2,66	1,43E-04	2,02	5,44E-03
18188	Nrtn	neurturin	2,66	7,67E-02	8,60	1,29E-02
11513	Adcy7	adenylate cyclase 7	2,66	1,50E-04	2,15	5,69E-05
18829	Ccl21a	chemokine (C-C motif) ligand 21A (serine)	2,65	6,26E-03	2,66	6,32E-03
69288	Rhobtb1	Rho-related BTB domain containing 1	2,64	1,87E-03	1,92	2,15E-02
14205	Figf	c-fos induced growth factor	2,63	3,53E-03	2,36	1,78E-03
17174	Masp1	mannan-binding lectin serine peptidase 1	2,62	1,35E-05	2,29	4,70E-05
68852	Lrrn4cl	LRRN4 C-terminal like	2,62	4,45E-04	1,95	2,59E-03
96875	Prg4	proteoglycan 4 (megakaryocyte stimulating factor, articular superficial zone protein)	2,62	2,24E-04	1,85	2,23E-03
13180	Pcbd1	pterin 4 alpha carbinolamine dehydratase/dimerization cofactor of hepatocyte nuclear factor 1 alpha (TCF1) 1	2,61	2,96E-03	3,01	1,06E-03
77552	Shisa4	shisa homolog 4 (Xenopus laevis)	2,61	7,27E-03	2,58	7,68E-03
667370	I830012O16Rik	RIKEN cDNA I830012O16 gene	2,60	2,73E-03	1,84	9,41E-03
26968	Islr	immunoglobulin superfamily containing leucine-rich repeat	2,60	2,92E-04	2,23	4,75E-05
545366	Cfhr2	complement factor H-related 2	2,59	1,06E-04	2,49	2,12E-04
68774	Ms4a6d	membrane-spanning 4-domains, subfamily A, member 6D	2,59	1,45E-03	1,86	9,49E-03
99543	Olfml3	olfactomedin-like 3	2,59	1,75E-05	2,11	8,24E-05
116847	Prelp	proline arginine-rich end leucine-rich repeat	2,58	9,74E-04	2,28	3,69E-04
12843	Colla2	collagen, type I, alpha 2	2,58	6,09E-04	2,11	7,05E-05
330188	Ccdc63	coiled-coil domain containing 63	2,57	2,64E-03	2,53	1,03E-03
16949	Lox11	lysyl oxidase-like 1	2,56	3,87E-04	2,65	5,94E-05
18628	Per3	period homolog 3 (Drosophila)	2,56	2,99E-03	2,18	2,37E-02
67896	Ccdc80	coiled-coil domain containing 80	2,56	1,55E-05	2,06	2,98E-07
22352	Vim	vimentin	2,56	1,51E-03	2,02	1,44E-02
100504346	Gm13304	predicted gene 13304	2,55	1,11E-02	2,45	1,26E-02
18113	Nnmt	nicotinamide N-methyltransferase	2,54	1,44E-05	2,25	4,09E-04
14268	Fn1	fibronectin 1	2,54	9,23E-04	2,00	2,81E-04
18301	Fxyd5	FXYP domain-containing ion transport regulator 5	2,53	1,52E-03	1,83	1,87E-02
50784	Ppap2c	phosphatidic acid phosphatase type 2C	2,52	1,50E-04	2,83	1,45E-05
77125	Il33	interleukin 33	2,52	2,02E-03	1,87	7,89E-03
20750	Spp1	secreted phosphoprotein 1	2,51	4,81E-03	1,40	1,23E-01
109828	C7	complement component 7	2,51	1,78E-03	2,09	7,93E-03
12159	Bmp4	bone morphogenetic protein 4	2,51	9,70E-04	2,12	2,83E-03
14229	Fkbp5	FK506 binding protein 5	2,51	1,26E-04	1,63	3,17E-03
19275	Ptpn	protein tyrosine phosphatase, receptor type, N	2,50	1,56E-04	2,31	1,78E-04
11668	Aldh1a1	aldehyde dehydrogenase family 1, subfamily A1	2,50	5,90E-03	1,91	1,09E-04
27984	Efh2	EF hand domain containing 2	2,49	1,08E-04	2,31	2,54E-04
104156	Etv5	ets variant gene 5	2,46	1,65E-04	2,19	2,80E-03
100034251	Wfdc17	WAP four-disulfide core domain 17	2,46	8,04E-03	2,01	2,08E-02
60363	Cldn15	claudin 15	2,44	2,18E-04	2,18	1,38E-02
13003	Vcan	versican	2,44	4,41E-04	1,84	7,48E-03
52331	Stbd1	starch binding domain 1	2,44	6,37E-03	1,77	3,39E-02
214403	Gm4788	predicted gene 4788	2,43	2,28E-04	2,06	4,63E-04
109225	Ms4a7	membrane-spanning 4-domains, subfamily A, member 7	2,43	1,75E-04	2,07	2,57E-04
14187	Akr1b8	aldo-keto reductase family 1, member B8	2,43	3,17E-04	1,84	2,32E-03
233199	Mybpc2	myosin binding protein C, fast-type	2,43	1,47E-02	1,99	1,08E-02
12608	Cebpb	CCAAT/enhancer binding protein (C/EBP), beta	2,42	2,58E-02	4,12	1,42E-02
20135	Rrm2	ribonucleotide reductase M2	2,42	7,78E-03	2,34	7,92E-03
14962	Cfb	complement factor B	2,41	2,86E-03	1,98	1,34E-02
232313	Gxyt2	glucoside xylosyltransferase 2	2,40	5,21E-03	2,04	5,60E-03
64540	Tspan4	tetraspanin 4	2,38	5,86E-04	1,93	1,64E-03
74257	Tspan17	tetraspanin 17	2,38	1,79E-03	2,24	2,55E-03
114886	Cygb	cytoglobin	2,37	6,94E-05	2,06	1,46E-04
629059	Fam124a	family with sequence similarity 124, member A	2,37	9,56E-05	2,01	2,59E-04
241431	Xirp2	xin actin-binding repeat containing 2	2,37	6,40E-06	1,86	5,38E-03
15937	Ier3	immediate early response 3	2,37	1,30E-03	2,04	3,25E-03
11522	Adh1	alcohol dehydrogenase 1 (class I)	2,34	1,40E-03	1,54	4,67E-02
74761	Mxra8	matrix-remodelling associated 8	2,33	1,75E-04	1,96	2,96E-04
27280	Phlda3	pleckstrin homology-like domain, family A, member 3	2,33	2,35E-04	2,39	3,90E-04
12842	Col1a1	collagen, type I, alpha 1	2,32	9,55E-04	2,03	2,64E-04
54519	Apbb1ip	amyloid beta (A4) precursor protein-binding, family B, member 1 interacting protein	2,32	1,38E-02	2,20	2,03E-02

170761	Pdzd3	PDZ domain containing 3	2,32	3,53E-02	2,19	3,37E-02
226421	5430435G22Rik	RIKEN cDNA 5430435G22 gene	2,31	1,87E-03	1,71	1,65E-05
21664	Phlda1	pleckstrin homology-like domain, family A, member 1	2,30	1,93E-03	2,77	1,99E-04
103511	Fam26e	family with sequence similarity 26, member E	2,30	1,52E-03	1,76	2,39E-03
80891	Fcrls	Fc receptor-like S, scavenger receptor	2,30	3,15E-04	1,79	1,52E-03
140497	AF251705	cDNA sequence AF251705	2,29	2,79E-02	1,84	3,67E-02
76477	Pcolce2	procollagen C-endopeptidase enhancer 2	2,29	6,67E-05	2,12	1,67E-04
102436	Lars2	leucyl-tRNA synthetase, mitochondrial	2,28	1,87E-02	2,75	8,86E-02
27279	Tnfrsf12a	tumor necrosis factor receptor superfamily, member 12a	2,28	5,08E-03	2,08	8,18E-03
11568	Aebp1	AE binding protein 1	2,27	1,58E-03	2,18	6,88E-05
14115	Fbln2	fibulin 2	2,26	5,93E-04	1,98	5,81E-05
20256	Clec11a	C-type lectin domain family 11, member a	2,26	5,75E-03	1,78	4,83E-02
56277	Tmem45a	transmembrane protein 45a	2,26	7,55E-03	1,82	2,41E-02
109323	C1qtnf7	C1q and tumor necrosis factor related protein 7	2,26	5,36E-04	1,92	6,49E-04
14794	Spnb2	splA/ryanodine receptor domain and SOCS box containing 2	2,25	2,07E-04	1,85	7,82E-03
69480	Ttc9	tetratricopeptide repeat domain 9	2,25	1,48E-03	1,72	3,58E-02
103988	Gck	glucokinase	2,25	4,82E-02	2,07	5,48E-02
21859	Timp3	tissue inhibitor of metalloproteinase 3	2,23	5,82E-05	1,72	4,16E-03
15368	Hmox1	heme oxygenase (decycling) 1	2,23	3,13E-04	1,88	2,57E-03
21685	Tef	thyrotroph embryonic factor	2,22	9,74E-04	1,92	8,30E-03
268860	Abat	4-aminobutyrate aminotransferase	2,21	1,18E-05	2,24	6,07E-05
66058	Tmem176a	transmembrane protein 176A	2,20	7,86E-05	1,86	1,60E-03
68760	Synpo2l	synaptopodin 2-like	2,20	1,51E-04	1,88	2,06E-03
235416	Lman1l	lectin, mannose-binding 1 like	2,19	3,80E-03	1,32	6,42E-02
69784	1500009L16Rik	RIKEN cDNA 1500009L16 gene	2,19	3,33E-04	2,00	1,58E-04
53608	Map3k6	mitogen-activated protein kinase kinase 6	2,19	3,34E-06	1,69	2,40E-03
12527	Cd9	CD9 antigen	2,18	5,30E-05	1,75	2,01E-03
17869	Myc	myelocytomatosis oncogene	2,18	1,02E-04	1,87	3,71E-03
494504	Apcdd1	adenomatosis polyposis coli down-regulated 1	2,18	7,24E-03	1,63	3,84E-02
68655	Fndc1	fibronectin type III domain containing 1	2,17	1,67E-03	1,73	1,29E-02
69219	Ddah1	dimethylarginine dimethylaminohydrolase 1	2,17	2,07E-03	1,55	5,48E-03
268857	Nlrc3	NLR family, CARD domain containing 3	2,17	1,01E-03	2,19	1,18E-03
319480	Itga11	integrin alpha 11	2,16	2,15E-03	1,95	5,37E-04
56620	Clec4n	C-type lectin domain family 4, member n	2,16	3,13E-03	1,94	4,56E-03
65963	Tmem176b	transmembrane protein 176B	2,16	2,32E-05	1,92	8,22E-05
68585	Rtn4	reticulon 4	2,15	8,85E-05	1,86	8,26E-02
319660	Agmo	alkylglycerol monooxygenase	2,14	1,60E-02	1,56	4,92E-02
74241	Chpf	chondroitin polymerizing factor	2,14	3,91E-05	2,14	5,46E-06
15959	Ifit3	interferon-induced protein with tetratricopeptide repeats 3	2,14	5,12E-03	1,65	1,62E-02
12260	C1qb	complement component 1, q subcomponent, beta polypeptide	2,14	3,86E-04	1,87	3,73E-04
17135	Mafk	v-maf musculoaponeurotic fibrosarcoma oncogene family, protein K (avian)	2,13	2,82E-05	1,84	2,27E-04
18858	Pmp22	peripheral myelin protein 22	2,13	1,90E-05	1,69	2,36E-05
69538	Antxr1	anthrax toxin receptor 1	2,13	2,68E-04	1,78	8,77E-04
21973	Top2a	topoisomerase (DNA) II alpha	2,13	5,86E-04	1,67	9,51E-04
12475	Cd14	CD14 antigen	2,12	1,29E-02	1,84	1,94E-02
18951	Sept5	septin 5	2,12	4,49E-03	1,84	1,37E-02
17390	Mmp2	matrix metalloproteinase 2	2,12	3,10E-04	1,76	2,00E-05
69774	Ms4a6b	membrane-spanning 4-domains, subfamily A, member 6B	2,12	8,77E-03	1,58	4,64E-02
56772	Mllt11	myeloid/lymphoid or mixed-lineage leukemia (trithorax homolog, Drosophila); translocated to, 11	2,11	1,12E-02	1,80	1,36E-02
11629	Aif1	allograft inflammatory factor 1	2,11	7,19E-03	2,08	4,33E-03
15939	Ier5	immediate early response 5	2,11	2,65E-04	2,20	8,99E-05
19229	Ptk2b	PTK2 protein tyrosine kinase 2 beta	2,11	6,73E-03	2,13	3,10E-03
244152	Tsku	tsukushi	2,11	1,27E-03	1,49	2,00E-02
69769	Tnfaip8l2	tumor necrosis factor, alpha-induced protein 8-like 2	2,11	2,74E-02	1,82	3,26E-02
98365	Slamf9	SLAM family member 9	2,10	4,09E-04	1,76	6,33E-04
50720	Sacs	sacsin	2,09	4,10E-04	2,18	8,66E-04
21810	Tgfb1	transforming growth factor, beta induced	2,09	9,22E-04	1,89	4,46E-04
65112	Pmepa1	prostate transmembrane protein, androgen induced 1	2,09	4,78E-04	1,77	3,26E-04
70892	Tull7	tubulin tyrosine ligase-like family, member 7	2,08	4,77E-05	1,78	9,11E-03
16924	Lnx1	ligand of numb-protein X 1	2,08	2,37E-05	1,78	4,15E-04
73710	Tubb2b	tubulin, beta 2B class IIB	2,08	8,01E-04	1,65	1,29E-02
17022	Lum	lumican	2,08	1,58E-03	1,54	1,92E-02
217333	Trim47	tripartite motif-containing 47	2,08	7,25E-05	1,96	1,87E-04
71690	Esm1	endothelial cell-specific molecule 1	2,08	7,15E-04	1,53	6,79E-02
20692	Sparc	secreted acidic cysteine rich glycoprotein	2,07	2,36E-04	1,62	1,87E-03
107995	Cdc20	cell division cycle 20	2,07	2,97E-04	1,46	1,35E-02
20969	Sdc1	syndecan 1	2,07	5,36E-04	1,85	2,78E-04
23876	Fbln5	fibulin 5	2,06	2,72E-03	1,97	8,34E-05

17476	Mpeg1	macrophage expressed gene 1	2,06	1,08E-04	1,91	2,85E-04
20375	Sfp1	SFFV proviral integration 1	2,05	1,68E-02	2,26	2,87E-02
16971	Lrp1	low density lipoprotein receptor-related protein 1	2,05	4,49E-04	1,80	2,07E-04
54153	Rasa4	RAS p21 protein activator 4	2,05	2,63E-02	1,69	5,12E-02
24047	Ccl19	chemokine (C-C motif) ligand 19	2,05	1,12E-03	1,34	1,01E-01
14789	Leprel2	leprecan-like 2	2,05	5,84E-04	1,64	3,33E-03
64138	Ctsz	cathepsin Z	2,05	1,32E-03	1,65	1,11E-02
17996	Neb	nebulin	2,05	1,82E-02	2,00	2,43E-02
72275	2200002D01Rik	RIKEN cDNA 2200002D01 gene	2,05	1,25E-02	2,05	9,82E-03
216233	Socs2	suppressor of cytokine signaling 2	2,04	1,72E-02	1,91	2,72E-02
14745	Lpar1	lysophosphatidic acid receptor 1	2,04	4,88E-04	1,62	9,92E-03
100040792	Gm11627	predicted gene 11627	2,04	3,86E-03	1,96	5,09E-03
54720	Rcan1	regulator of calcineurin 1	2,04	2,76E-03	1,90	4,86E-03
19222	Ptgir	prostaglandin I receptor (IP)	2,04	1,90E-04	1,73	6,88E-04
239559	A4galt	alpha 1,4-galactosyltransferase	2,04	4,00E-02	1,29	2,65E-01
16005	Igfals	insulin-like growth factor binding protein, acid labile subunit	2,04	1,93E-02	2,28	9,73E-03
50769	Atp8a2	ATPase, aminophospholipid transporter-like, class I, type 8A, member 2	2,03	9,96E-05	2,14	6,72E-04
72709	C1qtnf6	C1q and tumor necrosis factor related protein 6	2,03	1,71E-03	1,62	5,91E-05
76974	1190003J15Rik	RIKEN cDNA 1190003J15 gene	2,03	9,22E-03	2,08	3,68E-02
67865	Rgs10	regulator of G-protein signalling 10	2,03	6,72E-04	1,58	4,90E-04
12505	Cd44	CD44 antigen	2,02	2,39E-02	1,79	3,13E-02
23880	Fyb	FYN binding protein	2,02	1,66E-04	1,91	3,09E-03
14778	Gpx3	glutathione peroxidase 3	2,02	4,08E-04	1,80	1,36E-04
52502	Carhsp1	calcium regulated heat stable protein 1	2,02	5,40E-05	1,67	5,02E-05
17345	Mki67	antigen identified by monoclonal antibody Ki 67	2,02	2,77E-03	1,42	2,21E-02
57265	Fzd2	frizzled homolog 2 (Drosophila)	2,02	5,85E-04	2,39	5,12E-05
14017	Evi2a	ecotropic viral integration site 2a	2,02	1,62E-03	1,71	8,80E-03
76686	Clip3	CAP-GLY domain containing linker protein 3	2,02	3,65E-03	1,98	5,81E-03
26949	Vat1	vesicle amine transport protein 1 homolog (T californica)	2,01	2,53E-03	1,85	1,09E-02
73656	Ms4a6c	membrane-spanning 4-domains, subfamily A, member 6C	2,01	1,64E-03	1,53	4,79E-03
52377	Rcn3	reticulocalbin 3, EF-hand calcium binding domain	2,01	2,93E-04	1,74	2,15E-04
55990	Fmo2	flavin containing monooxygenase 2	2,01	1,54E-02	1,39	4,44E-02
72500	Ier5l	immediate early response 5-like	2,01	1,50E-03	3,57	6,72E-05
50909	C1ra	complement component 1, r subcomponent A	2,01	1,03E-04	1,84	1,76E-04
21815	Tgif1	TGFB-induced factor homeobox 1	2,01	1,01E-02	1,50	5,37E-02
223453	Dap	death-associated protein	2,01	8,30E-04	1,71	6,59E-04
329384	Ptrh1	peptidyl-tRNA hydrolase 1 homolog (S. cerevisiae)	2,00	1,28E-03	2,33	2,05E-03
13040	Ctss	cathepsin S	2,00	2,18E-05	1,77	1,42E-04
268709	Fam107a	family with sequence similarity 107, member A	2,00	4,19E-03	1,10	2,60E-01
17218	Mcm5	minichromosome maintenance deficient 5, cell division cycle 46 (S. cerevisiae)	2,00	4,30E-03	1,94	6,20E-03
14114	Fbln1	fibulin 1	2,00	1,79E-03	1,97	1,63E-03
80914	Uck2	uridine-cytidine kinase 2	2,00	1,64E-04	1,95	9,31E-05
237253	Lrp11	low density lipoprotein receptor-related protein 11	1,99	8,28E-06	2,18	2,21E-04
14793	Cdca3	cell division cycle associated 3	1,99	1,67E-02	1,36	9,93E-02
69938	Scrn1	secernin 1	1,99	2,07E-02	1,69	5,52E-02
232984	B3gnt8	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 8	1,99	4,06E-02	1,40	1,46E-01
106957	Slc39a6	solute carrier family 39 (metal ion transporter), member 6	1,99	1,37E-03	1,73	9,42E-03
22240	Dpysl3	dihydropyrimidinase-like 3	1,98	2,42E-04	1,73	1,57E-03
11752	Anxa8	annexin A8	1,98	5,03E-03	1,22	7,09E-02
16998	Ltbp3	latent transforming growth factor beta binding protein 3	1,98	5,21E-04	1,82	7,67E-05
16848	Lfng	LFNG O-fucosylpeptide 3-beta-N-acetylglucosaminyltransferase	1,98	7,66E-03	1,69	2,71E-03
84094	Plvap	plasmalemma vesicle associated protein	1,98	1,37E-02	1,89	2,11E-02
67246	2810474O19Rik	RIKEN cDNA 2810474O19 gene	1,98	2,06E-02	1,72	1,86E-02
71093	Atoh8	atonal homolog 8 (Drosophila)	1,98	4,21E-04	1,82	5,78E-04
231821	Adap1	ArfGAP with dual PH domains 1	1,98	2,85E-05	2,30	1,72E-04
226101	Myof	myoferlin	1,98	5,78E-04	1,83	4,35E-03
12825	Col3a1	collagen, type III, alpha 1	1,98	3,26E-03	1,73	3,24E-03
244198	Olfml1	olfactomedin-like 1	1,98	7,77E-04	1,91	4,12E-03
16068	Il18bp	interleukin 18 binding protein	1,98	1,05E-03	1,93	1,23E-04
212898	Dse	dermatan sulfate epimerase	1,98	1,24E-04	1,66	8,13E-04
23882	Gadd45g	growth arrest and DNA-damage-inducible 45 gamma	1,97	4,87E-03	1,79	2,69E-03
20200	S100a6	S100 calcium binding protein A6 (calcyclin)	1,97	1,57E-03	1,83	3,83E-03
13849	Ephx1	epoxide hydrolase 1, microsomal	1,97	2,39E-04	1,64	4,70E-03
102644	Oaf	OAF homolog (Drosophila)	1,96	2,03E-04	1,67	1,42E-05
217203	Tmem106a	transmembrane protein 106A	1,96	2,25E-03	1,68	8,38E-03
12257	Tspo	translocator protein	1,95	5,26E-05	1,68	3,96E-04
27221	Chaf1a	chromatin assembly factor 1, subunit A (p150)	1,95	1,86E-04	1,76	6,03E-04
20249	Scd1	stearoyl-Coenzyme A desaturase 1	1,95	4,90E-03	1,60	1,63E-02

12043	Bcl2	B cell leukemia/lymphoma 2	1,95	1,46E-03	1,90	1,81E-03
56490	Zbtb20	zinc finger and BTB domain containing 20	1,95	2,35E-02	1,74	2,35E-02
27494	Amot	angiomin	1,94	7,24E-04	1,94	2,56E-04
20893	Bhlhe40	basic helix-loop-helix family, member e40	1,94	7,73E-03	1,87	2,36E-02
21335	Tacc3	transforming, acidic coiled-coil containing protein 3	1,94	1,68E-03	1,40	1,91E-02
18484	Pam	peptidylglycine alpha-amidating monooxygenase	1,94	1,18E-04	1,81	8,83E-06
56193	Plek	pleckstrin	1,94	2,37E-02	1,63	5,11E-02
71946	Endod1	endonuclease domain containing 1	1,94	3,83E-04	1,43	3,03E-03
16000	Igf1	insulin-like growth factor 1	1,93	8,50E-04	1,78	3,05E-03
100415914	Gm12505	predicted gene 12505	1,93	6,76E-03	1,83	2,37E-03
16477	Junb	Jun-B oncogene	1,93	7,32E-04	2,16	1,98E-04
21858	Timp2	tissue inhibitor of metalloproteinase 2	1,93	2,89E-04	1,76	5,61E-05
74127	Krt80	keratin 80	1,93	5,34E-03	1,43	1,12E-01
20195	S100a11	S100 calcium binding protein A11 (calgizzarin)	1,93	4,05E-04	1,58	1,98E-03
22146	Tuba1c	tubulin, alpha 1C	1,93	1,73E-03	1,85	3,57E-04
12262	C1qc	complement component 1, q subcomponent, C chain	1,92	1,12E-03	1,73	1,36E-03
17035	Lxn	latexin	1,92	9,33E-04	1,49	1,78E-02
99151	Cercam	cerebral endothelial cell adhesion molecule	1,92	1,64E-03	1,63	3,25E-03
15512	Hspa2	heat shock protein 2	1,92	2,14E-04	1,69	1,09E-03
67622	Mxra7	matrix-remodelling associated 7	1,92	6,00E-05	1,86	1,46E-05
17873	Gadd45b	growth arrest and DNA-damage-inducible 45 beta	1,92	3,61E-02	1,67	6,91E-02
12531	Cdc25b	cell division cycle 25B	1,92	1,63E-02	1,55	2,25E-02
12259	C1qa	complement component 1, q subcomponent, alpha polypeptide	1,91	4,38E-04	1,69	4,22E-03
57814	Kcne4	potassium voltage-gated channel, Isk-related subfamily, gene 4	1,91	1,02E-03	1,54	4,74E-02
18542	Pcolce	procollagen C-endopeptidase enhancer protein	1,91	3,47E-04	1,58	2,28E-03
109042	Prkcdbp	protein kinase C, delta binding protein	1,91	1,20E-02	1,99	1,41E-02
13601	Ecm1	extracellular matrix protein 1	1,91	6,71E-03	1,74	1,16E-02
18146	Npdc1	neural proliferation, differentiation and control gene 1	1,91	1,52E-02	1,60	3,88E-02
242109	Zfp697	zinc finger protein 697	1,90	2,22E-03	1,62	4,00E-03
214791	Sertad4	SERTA domain containing 4	1,90	4,88E-04	1,55	6,26E-03
108075	Ltbp4	latent transforming growth factor beta binding protein 4	1,90	3,26E-04	1,86	2,28E-03
15170	Ptpn6	protein tyrosine phosphatase, non-receptor type 6	1,90	2,20E-04	1,65	1,61E-03
208164	Fam180a	family with sequence similarity 180, member A	1,89	1,81E-02	1,23	1,99E-01
94352	Lox12	lysyl oxidase-like 2	1,89	2,27E-03	1,56	2,76E-04
12828	Col4a3	collagen, type IV, alpha 3	1,89	7,85E-03	1,63	2,84E-03
12306	Anxa2	annexin A2	1,89	7,84E-05	1,57	1,59E-03
23888	Gpc6	glypican 6	1,89	2,63E-04	1,52	4,38E-03
17534	Mrc2	mannose receptor, C type 2	1,89	1,75E-03	1,64	2,04E-04
20266	Scn1b	sodium channel, voltage-gated, type I, beta	1,89	3,86E-05	1,72	8,61E-05
76527	Il34	interleukin 34	1,88	1,31E-03	1,65	5,37E-03
22177	Tyrobp	TYRO protein tyrosine kinase binding protein	1,88	1,12E-03	1,63	2,05E-03
14681	Gnao1	guanine nucleotide binding protein, alpha O	1,88	4,99E-04	1,68	1,53E-03
75646	Rai14	retinoic acid induced 14	1,88	3,22E-04	1,47	2,27E-03
14775	Gpx1	glutathione peroxidase 1	1,88	2,20E-04	1,88	1,78E-04
83675	Bicc1	bicaudal C homolog 1 (Drosophila)	1,88	3,92E-04	1,75	1,04E-05
77976	Nuak1	NUAK family, SNF1-like kinase, 1	1,88	1,33E-05	1,49	2,81E-02
18223	Numb1	numb-like	1,88	2,07E-03	1,81	4,56E-03
213484	Nudt18	nudix (nucleoside diphosphate linked moiety X)-type motif 18	1,88	5,67E-04	1,69	1,04E-05
65972	Ifi30	interferon gamma inducible protein 30	1,88	1,52E-05	1,48	2,64E-04
16668	Krt18	keratin 18	1,87	3,77E-03	1,26	1,58E-01
20845	Star	steroidogenic acute regulatory protein	1,87	1,19E-03	1,31	4,17E-02
237560	Lrrc10	leucine rich repeat containing 10	1,87	5,54E-04	1,81	8,90E-04
17095	Lyl1	lymphoblastomic leukemia 1	1,86	1,48E-02	1,79	3,83E-02
68939	Ras11b	RAS-like, family 11, member B	1,86	3,64E-05	1,60	4,57E-04
381259	Tmem237	transmembrane protein 237	1,86	2,15E-02	1,49	5,76E-02
64297	Gprc5b	G protein-coupled receptor, family C, group 5, member B	1,86	1,83E-04	1,47	4,85E-03
12684	Cideb	cell death-inducing DNA fragmentation factor, alpha subunit-like effector B	1,86	6,30E-03	1,97	4,16E-03
14131	Fcgr3	Fc receptor, IgG, low affinity III	1,85	4,46E-04	1,59	2,05E-04
224796	Clic5	chloride intracellular channel 5	1,85	6,72E-05	1,69	1,50E-04
23833	Cd52	CD52 antigen	1,85	1,96E-03	1,42	2,06E-02
12702	Socs3	suppressor of cytokine signaling 3	1,85	2,50E-03	1,58	3,51E-03
12829	Col4a4	collagen, type IV, alpha 4	1,85	4,11E-02	1,65	8,03E-02
11690	Alox5ap	arachidonate 5-lipoxygenase activating protein	1,85	4,41E-03	1,54	7,82E-03
212943	Fam46a	family with sequence similarity 46, member A	1,85	7,12E-04	1,42	5,31E-02
13800	Enah	enabled homolog (Drosophila)	1,84	5,54E-05	1,65	1,21E-03
233107	Kctd15	potassium channel tetramerisation domain containing 15	1,84	2,35E-02	1,79	2,85E-02
218454	Lhfp12	lipoma HMGIC fusion partner-like 2	1,84	1,66E-02	1,54	5,50E-02
21835	Thrsp	thyroid hormone responsive	1,84	8,64E-04	1,90	6,07E-04
224024	Scarf2	scavenger receptor class F, member 2	1,83	6,41E-03	2,42	5,50E-03

69221	2410006H16Rik	RIKEN cDNA 2410006H16 gene	1,83	9,60E-04	1,62	2,84E-03
14182	Fgfr1	fibroblast growth factor receptor 1	1,83	2,69E-03	1,67	1,66E-02
233328	Lrrk1	leucine-rich repeat kinase 1	1,83	5,08E-04	1,55	2,82E-03
13555	E2f1	E2F transcription factor 1	1,83	4,57E-03	1,76	2,53E-03
75686	Nudt16	nudix (nucleoside diphosphate linked moiety X)-type motif 16	1,83	3,70E-02	1,68	5,51E-02
12372	Casq1	calsequestrin 1	1,83	2,86E-02	1,43	1,70E-02
54353	Skap2	src family associated phosphoprotein 2	1,83	7,39E-04	1,54	2,59E-03
104009	Qsox1	quiescin Q6 sulfhydryl oxidase 1	1,83	1,13E-04	1,67	4,21E-04
330267	Thsd7a	thrombospondin, type 1, domain containing 7A	1,83	1,54E-03	1,58	2,30E-03
629378	Dact3	dapper homolog 3, antagonist of beta-catenin (xenopus)	1,83	3,10E-04	2,27	4,56E-05
53614	Reck	reversion-inducing-cysteine-rich protein with kazal motifs	1,82	1,87E-03	1,65	1,46E-03
228846	D630003M21Rik	RIKEN cDNA D630003M21 gene	1,82	2,99E-03	1,41	5,35E-03
12295	Cacnb1	calcium channel, voltage-dependent, beta 1 subunit	1,82	2,83E-02	1,87	3,82E-02
67092	Gatm	glycine amidinotransferase (L-arginine:glycine amidinotransferase)	1,82	1,13E-02	1,43	6,03E-02
320078	Olfml2b	olfactomedin-like 2B	1,82	8,20E-03	1,49	4,57E-02
78321	Ankrd23	ankyrin repeat domain 23	1,82	2,72E-04	1,46	8,71E-03
13078	Cyp1b1	cytochrome P450, family 1, subfamily b, polypeptide 1	1,82	4,16E-03	1,71	2,50E-03
68262	Agpat4	1-acylglycerol-3-phosphate O-acyltransferase 4 (lysophosphatidic acid acyltransferase, delta)	1,82	6,71E-03	1,49	2,97E-02
20304	Ccl5	chemokine (C-C motif) ligand 5	1,82	4,62E-02	1,73	2,61E-02
71660	Rarres2	retinoic acid receptor responder (tazarotene induced) 2	1,82	4,54E-03	1,38	3,68E-02
320472	Ppm1e	protein phosphatase 1E (PP2C domain containing)	1,81	7,85E-05	1,39	1,58E-03
19268	Ptprf	protein tyrosine phosphatase, receptor type, F	1,81	1,42E-03	1,48	3,01E-03
234779	Plcg2	phospholipase C, gamma 2	1,81	6,77E-03	1,84	1,23E-02
12822	Col18a1	collagen, type XVIII, alpha 1	1,81	1,36E-03	1,62	6,04E-03
12258	Serping1	serine (or cysteine) peptidase inhibitor, clade G, member 1	1,81	2,28E-04	1,57	3,73E-04
231162	Cyt11	cytokine-like 1	1,81	1,14E-02	1,16	5,59E-01
11816	ApoE	apolipoprotein E	1,81	1,76E-03	1,99	9,66E-05
14129	Fcgr1	Fc receptor, IgG, high affinity I	1,81	1,64E-03	1,50	2,42E-02
14758	Gpm6b	glycoprotein m6b	1,81	6,03E-04	1,44	5,00E-03
55963	Slc1a4	solute carrier family 1 (glutamate/neutral amino acid transporter), member 4	1,81	2,95E-04	1,31	3,10E-02
22041	Trf	transferrin	1,80	1,64E-03	1,52	1,13E-02
20616	Snap91	synaptosomal-associated protein 91	1,80	2,89E-02	1,88	2,37E-02
26934	Racgap1	Rac GTPase-activating protein 1	1,80	3,59E-03	1,34	8,20E-03
12305	Ddr1	discoidin domain receptor family, member 1	1,80	7,49E-04	1,64	9,36E-04
76478	Haus8	4HAUS augmin-like complex, subunit 8	1,80	8,37E-06	1,54	2,79E-04
57138	Slc12a5	solute carrier family 12, member 5	1,80	1,66E-02	1,79	7,43E-02
71389	Chd6	chromodomain helicase DNA binding protein 6	1,79	1,16E-02	1,51	3,60E-02
320825	Samd5	sterile alpha motif domain containing 5	1,79	1,93E-02	1,44	6,18E-02
21393	Tcap	titin-cap	1,79	1,56E-03	1,75	1,09E-03
12524	Cd86	CD86 antigen	1,79	1,73E-03	1,54	1,77E-02
244864	Layn	layilin	1,79	1,90E-03	1,44	1,33E-02
66848	Fuca2	fucosidase, alpha-L-2, plasma	1,79	3,98E-04	1,75	1,18E-05
192166	Sardh	sarcosine dehydrogenase	1,79	2,60E-03	1,70	6,68E-04
20289	Scx	scleraxis	1,79	3,04E-02	2,23	9,35E-03
13732	Emp3	epithelial membrane protein 3	1,78	1,96E-02	1,49	6,49E-02
59056	Evc	Ellis van Creveld gene syndrome	1,78	7,47E-03	1,65	2,55E-02
20514	Slc1a5	solute carrier family 1 (neutral amino acid transporter), member 5	1,78	2,00E-03	1,68	8,60E-05
19240	Tmsb10	thymosin, beta 10	1,78	5,50E-04	1,89	3,38E-04
14709	Gng8	guanine nucleotide binding protein (G protein), gamma 8	1,78	2,91E-02	1,55	4,41E-02
20720	Serpine2	serine (or cysteine) peptidase inhibitor, clade E, member 2	1,78	3,24E-03	1,35	3,64E-02
12774	Ccr5	chemokine (C-C motif) receptor 5	1,78	2,30E-02	1,45	2,68E-02
107094	Rrp12	ribosomal RNA processing 12 homolog (S. cerevisiae)	1,77	5,69E-04	1,84	4,51E-04
12534	Cdk1	cyclin-dependent kinase 1	1,77	3,23E-02	1,48	9,32E-03
51793	Ddah2	dimethylarginine dimethylaminohydrolase 2	1,77	3,04E-05	1,55	8,00E-05
12925	Crip1	cysteine-rich protein 1 (intestinal)	1,77	9,05E-04	1,48	6,25E-03
214855	Arid5a	AT rich interactive domain 5A (MRF1-like)	1,77	9,28E-03	1,44	3,44E-02
235505	Cd109	CD109 antigen	1,77	1,31E-03	1,36	5,67E-03
12759	Clu	clusterin	1,76	3,43E-03	1,56	2,72E-03
211949	Spsb4	splA/ryanodine receptor domain and SOCS box containing 4	1,76	5,08E-03	1,98	5,69E-03
216858	Kctd11	potassium channel tetramerisation domain containing 11	1,76	1,29E-04	1,39	2,79E-03
12444	Ccnd2	cyclin D2	1,76	5,46E-04	1,66	1,90E-05
13627	Eef1a1	eukaryotic translation elongation factor 1 alpha 1	1,76	2,67E-05	1,44	1,77E-05
74617	Scpep1	serine carboxypeptidase 1	1,76	1,08E-03	1,53	3,95E-05
63913	Fam129a	family with sequence similarity 129, member A	1,76	2,49E-03	1,57	1,42E-02
109019	Nabp1	nucleic acid binding protein 1	1,75	1,09E-03	1,81	2,95E-03
19253	Ptpn18	protein tyrosine phosphatase, non-receptor type 18	1,75	5,06E-03	2,10	1,61E-03
17084	Ly86	lymphocyte antigen 86	1,75	2,67E-03	1,57	1,15E-02
20198	S100a4	S100 calcium binding protein A4	1,75	2,06E-02	1,60	1,35E-02

54124	Cks1b	CDC28 protein kinase 1b	1,75	4,53E-02	1,67	4,82E-02
106572	Rab31	RAB31, member RAS oncogene family	1,75	5,27E-04	1,49	1,36E-03
54123	Irf7	interferon regulatory factor 7	1,75	6,19E-05	1,51	1,11E-03
381822	1190002F15Rik	RIKEN cDNA 1190002F15 gene	1,75	3,67E-02	1,79	2,85E-02
21817	Tgm2	transglutaminase 2, C polypeptide	1,75	1,78E-03	1,58	3,58E-04
226123	Morn4	MORN repeat containing 4	1,75	3,52E-04	1,41	7,59E-02
241327	Olfml2a	olfactomedin-like 2A	1,75	2,61E-03	1,67	4,54E-02
54637	Prpf2	PRA1 domain family 2	1,74	1,20E-02	1,29	1,16E-01
13025	Ctla2b	cytotoxic T lymphocyte-associated protein 2 beta	1,74	6,16E-03	1,47	2,43E-02
232801	Lilra5	leukocyte immunoglobulin-like receptor, subfamily A (with TM domain), member 5	1,74	1,60E-03	1,56	6,06E-03
106795	Tcf19	transcription factor 19	1,74	2,36E-02	1,68	2,00E-02
98363	Efhd1	EF hand domain containing 1	1,74	3,17E-02	2,02	1,12E-02
57914	Crlf2	cytokine receptor-like factor 2	1,74	7,74E-02	2,39	3,77E-02
53322	Nucb2	nucleobindin 2	1,74	1,05E-02	1,59	2,15E-02
213575	Dync2li1	dynein cytoplasmic 2 light intermediate chain 1	1,74	2,84E-04	1,73	2,44E-03
327946	Gm12295	predicted gene 12295	1,74	3,34E-02	1,57	5,91E-02
27973	Vkorc1	vitamin K epoxide reductase complex, subunit 1	1,74	5,15E-05	1,54	4,06E-03
14389	Gab2	growth factor receptor bound protein 2-associated protein 2	1,74	5,70E-04	1,45	5,11E-03
27367	Rpl3	ribosomal protein L3	1,73	1,16E-04	1,55	1,31E-03
16419	Itgb5	integrin beta 5	1,73	4,45E-04	1,51	3,54E-04
211228	Lrrc25	leucine rich repeat containing 25	1,73	2,19E-02	1,95	9,56E-03
50709	Hist1h1e	histone cluster 1, H1e	1,73	2,61E-02	1,92	1,08E-02
232413	Clec12a	C-type lectin domain family 12, member a	1,73	1,57E-02	1,68	3,25E-02
22329	Vcam1	vascular cell adhesion molecule 1	1,73	3,78E-03	1,42	1,88E-02
109594	Lmo1	LIM domain only 1	1,73	1,04E-04	1,57	6,42E-03
19171	Psmb10	proteasome (prosome, macropain) subunit, beta type 10	1,73	8,88E-05	1,63	1,71E-04
26362	Axl	AXL receptor tyrosine kinase	1,73	1,98E-03	1,43	1,26E-02
12606	Cebpa	CCAAT/enhancer binding protein (C/EBP), alpha	1,73	7,16E-03	1,98	6,06E-05
17105	Lyz2	lysozyme 2	1,73	2,71E-04	1,59	9,92E-03
69156	Comtd1	catechol-O-methyltransferase domain containing 1	1,73	1,58E-05	1,87	2,72E-06
50773	Nt5c	5',3'-nucleotidase, cytosolic	1,72	8,49E-03	1,75	7,59E-03
68180	Hyi	hydroxypyruvate isomerase homolog (E. coli)	1,72	9,09E-03	1,95	2,01E-04
68041	Mid1ip1	Mid1 interacting protein 1 (gastrulation specific G12-like (zebrafish))	1,72	2,15E-02	1,67	1,34E-02
14211	Smc2	structural maintenance of chromosomes 2	1,72	1,31E-03	1,25	4,25E-02
67448	Plxdc2	plexin domain containing 2	1,72	9,73E-05	1,46	3,98E-04
17392	Mmp3	matrix metalloproteinase 3	1,72	1,79E-02	1,46	5,02E-02
73844	Ankrd45	ankyrin repeat domain 45	1,72	1,46E-02	1,44	3,67E-02
71839	Osgin1	oxidative stress induced growth inhibitor 1	1,72	4,66E-02	1,12	5,53E-01
18439	P2rx7	purinergic receptor P2X, ligand-gated ion channel, 7	1,72	1,99E-03	1,64	6,17E-03
20194	S100a10	S100 calcium binding protein A10 (calpactin)	1,72	1,96E-04	1,50	7,31E-04
109711	Actn1	actinin, alpha 1	1,72	1,03E-03	1,49	4,05E-03
11867	Arpc1b	actin related protein 2/3 complex, subunit 1B	1,72	5,65E-03	1,49	2,59E-02
67876	Coq10b	coenzyme Q10 homolog B (S. cerevisiae)	1,72	1,11E-02	1,51	2,23E-02
140792	Colec12	collectin sub-family member 12	1,71	1,57E-04	1,50	1,20E-04
223513	Abra	actin-binding Rho activating protein	1,71	5,98E-03	1,52	1,99E-02
56421	Pfkip	phosphofructokinase, platelet	1,71	1,18E-04	1,60	1,03E-03
72056	1810055G02Rik	RIKEN cDNA 1810055G02 gene	1,71	2,15E-04	1,48	1,24E-03
70445	Cd248	CD248 antigen, endosialin	1,71	7,32E-03	1,72	4,28E-03
19122	Prnp	prion protein	1,71	1,04E-05	1,51	2,99E-04
105855	Nckap11	NCK associated protein 1 like	1,71	4,15E-04	1,63	1,14E-03
12442	Ccnb2	cyclin B2	1,71	7,04E-03	1,11	1,54E-01
15902	Id2	inhibitor of DNA binding 2	1,71	8,05E-03	1,63	6,58E-03
15162	Hck	hemopoietic cell kinase	1,70	3,26E-05	1,49	1,51E-02
16985	Lsp1	lymphocyte specific 1	1,70	9,95E-05	1,54	5,39E-04
109857	Cbr3	carbonyl reductase 3	1,70	1,86E-02	1,44	2,67E-02
16172	Il17ra	interleukin 17 receptor A	1,70	3,67E-03	1,53	2,35E-02
17215	Mcm3	minichromosome maintenance deficient 3 (S. cerevisiae)	1,70	2,11E-03	1,58	1,59E-03
67220	Plekho1	pleckstrin homology domain containing, family O member 1	1,70	3,46E-04	1,65	3,01E-04
19221	Ptgfrn	prostaglandin F2 receptor negative regulator	1,70	1,82E-03	1,55	8,17E-03
14999	H2-DMb1	histocompatibility 2, class II, locus Mb1	1,70	5,49E-02	1,72	4,44E-02
12877	Cpeb1	cytoplasmic polyadenylation element binding protein 1	1,70	2,99E-03	1,47	1,68E-02
225724	Mapk4	mitogen-activated protein kinase 4	1,70	4,70E-04	1,59	8,80E-04
18826	Lcp1	lymphocyte cytosolic protein 1	1,70	6,17E-04	1,52	1,14E-03
27261	Dok3	docking protein 3	1,70	6,16E-02	1,88	3,49E-02
72318	Cyth4	cytohesin 4	1,70	3,25E-03	1,37	2,11E-02
14062	F2r	coagulation factor II (thrombin) receptor	1,69	9,84E-04	1,44	1,07E-05
14728	Lilrb4	leukocyte immunoglobulin-like receptor, subfamily B, member 4	1,69	1,13E-03	1,58	2,40E-03
100910	Chpf2	chondroitin polymerizing factor 2	1,69	1,36E-04	1,37	3,42E-04
14127	Fcer1g	Fc receptor, IgE, high affinity I, gamma polypeptide	1,69	2,25E-02	1,44	5,36E-02

100129	Gpr153	G protein-coupled receptor 153	1,69	3,64E-04	1,50	1,10E-03
171180	Syt12	synaptotagmin XII	1,69	1,04E-02	1,56	7,33E-03
14325	Ftl1	ferritin light chain 1	1,68	1,04E-03	1,46	1,20E-02
21390	Tbxa2r	thromboxane A2 receptor	1,68	1,63E-03	1,60	2,75E-03
68010	Bambi	BMP and activin membrane-bound inhibitor, homolog (Xenopus laevis)	1,68	6,29E-03	1,63	1,49E-02
109754	Cyb5r3	cytochrome b5 reductase 3	1,68	1,81E-04	1,40	9,82E-04
236900	Pdk3	pyruvate dehydrogenase kinase, isoenzyme 3	1,68	2,11E-03	1,43	4,12E-02
72042	Cot11	coactosin-like 1 (Dictyostelium)	1,68	9,46E-03	1,72	7,65E-02
79196	Osbpl5	oxysterol binding protein-like 5	1,68	3,97E-04	1,46	5,65E-03
15957	Ifit1	interferon-induced protein with tetratricopeptide repeats 1	1,68	7,27E-03	1,43	6,06E-02
66205	Cd302	CD302 antigen	1,67	9,54E-03	1,44	2,36E-02
16009	Igfbp3	insulin-like growth factor binding protein 3	1,67	7,81E-04	1,46	2,85E-03
104099	Itga9	integrin alpha 9	1,67	2,96E-03	1,57	3,47E-03
68303	Fam114a1	family with sequence similarity 114, member A1	1,67	5,07E-04	1,43	7,21E-04
68977	Haghl	hydroxyacylglutathione hydrolase-like	1,67	8,12E-03	1,66	1,10E-02
14527	Gcgr	glucagon receptor	1,67	4,79E-02	1,26	1,90E-01
13717	Eln	elastin	1,67	4,01E-02	1,81	4,63E-02
106672	AI413582	expressed sequence AI413582	1,67	4,34E-02	1,60	6,07E-02
67732	Iah1	isoamyl acetate-hydrolyzing esterase 1 homolog (S. cerevisiae)	1,67	4,50E-04	1,61	1,11E-03
79201	Tnfrsf23	tumor necrosis factor receptor superfamily, member 23	1,67	1,27E-02	1,67	1,09E-02
107522	Ece2	endothelin converting enzyme 2	1,67	2,21E-04	1,48	2,63E-03
12514	Cd68	CD68 antigen	1,67	1,35E-02	1,51	1,33E-02
16881	Lig1	ligase I, DNA, ATP-dependent	1,67	5,44E-04	1,33	1,14E-02
80879	Slc16a3	solute carrier family 16 (monocarboxylic acid transporters), member 3	1,66	3,77E-03	1,15	2,11E-01
15490	Hsd17b7	hydroxysteroid (17-beta) dehydrogenase 7	1,66	9,51E-03	1,83	1,82E-02
22271	Upp1	uridine phosphorylase 1	1,66	1,81E-02	1,62	1,74E-02
114679	Selm	selenoprotein M	1,66	9,97E-05	1,45	9,62E-04
15446	Hpgd	hydroxyprostaglandin dehydrogenase 15 (NAD)	1,66	3,88E-02	1,48	8,37E-02
56336	B4galt5	UDP-Gal:betaGlcNAc beta 1,4-galactosyltransferase, polypeptide 5	1,66	3,42E-03	1,53	1,01E-03
320292	Rasgef1b	RasGEF domain family, member 1B	1,66	5,31E-03	1,54	2,96E-03
78070	Cpt1c	carnitine palmitoyltransferase 1c	1,66	1,14E-03	1,16	2,17E-01
17219	Mcm6	minichromosome maintenance deficient 6 (MIS5 homolog, S. pombe) (S. cerevisiae)	1,66	1,39E-03	1,57	2,30E-03
15374	Hn1	hematological and neurological expressed sequence 1	1,66	2,40E-04	1,60	8,68E-06
24088	Tlr2	toll-like receptor 2	1,66	1,79E-02	1,47	2,45E-02
108101	Fermt3	fermitin family homolog 3 (Drosophila)	1,66	1,05E-03	1,48	1,05E-02
210530	Leprel1	leprecan-like 1	1,66	7,05E-03	1,51	1,77E-02
219151	Scara3	scavenger receptor class A, member 3	1,65	9,74E-03	1,45	1,12E-02
14645	Glul	glutamate-ammonia ligase (glutamine synthetase)	1,65	4,38E-03	1,53	6,51E-03
67305	Gpx7	glutathione peroxidase 7	1,65	9,49E-03	1,35	5,52E-02
13429	Dnm1	dynamamin 1	1,65	6,42E-04	1,70	4,47E-04
27056	Irf5	interferon regulatory factor 5	1,65	1,89E-03	1,60	2,99E-03
17110	Lyz1	lysozyme 1	1,65	1,39E-03	1,51	3,80E-02
74760	Rab3il1	RAB3A interacting protein (rabin3)-like 1	1,65	2,49E-03	1,53	5,94E-03
19703	Renbp	renin binding protein	1,65	2,27E-02	1,34	9,53E-02
14063	F2rl1	coagulation factor II (thrombin) receptor-like 1	1,65	5,23E-03	1,25	1,52E-01
217371	Rab40b	Rab40b, member RAS oncogene family	1,65	4,04E-03	1,60	5,56E-03
22402	Wisp1	WNT1 inducible signaling pathway protein 1	1,65	2,70E-02	1,17	6,01E-02
71712	Dram1	DNA-damage regulated autophagy modulator 1	1,65	2,30E-04	1,42	2,02E-02
233406	Prc1	protein regulator of cytokinesis 1	1,64	4,20E-02	1,53	5,07E-02
54132	Pdlim1	PDZ and LIM domain 1 (elfin)	1,64	7,82E-04	1,61	4,99E-05
12585	Cdr2	cerebellar degeneration-related 2	1,64	3,35E-03	1,31	3,65E-02
17537	Meis3	Meis homeobox 3	1,64	3,15E-04	1,68	2,52E-04
12496	Entpd2	ectonucleoside triphosphate diphosphohydrolase 2	1,64	9,66E-05	1,54	9,59E-06
16852	Lgals1	lectin, galactose binding, soluble 1	1,64	7,44E-04	1,47	3,47E-07
170768	Pfkfb3	6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 3	1,64	1,94E-02	1,48	1,38E-02
100952	Emilin1	elastin microfibril interfacer 1	1,64	4,24E-03	1,44	1,12E-02
216869	Arrb2	arrestin, beta 2	1,63	1,98E-03	1,33	3,28E-02
68201	Ccdc34	coiled-coil domain containing 34	1,63	4,37E-03	1,67	6,41E-03
242022	Frem2	Fras1 related extracellular matrix protein 2	1,63	1,18E-02	1,63	2,42E-02
216148	Shc2	SHC (Src homology 2 domain containing) transforming protein 2	1,63	9,15E-04	1,40	2,64E-02
19091	Prkg1	protein kinase, cGMP-dependent, type I	1,63	2,15E-02	1,62	1,97E-02
108927	Lhfp	lipoma HMGIC fusion partner	1,63	1,06E-03	1,40	5,35E-03
98878	Ehd4	EH-domain containing 4	1,63	4,13E-04	1,63	2,37E-05
20350	Sema3f	sema domain, immunoglobulin domain (Ig), short basic domain, secreted, (semaphorin) 3F	1,63	1,81E-02	1,46	4,70E-02
101359	Prrt4	proline-rich transmembrane protein 4	1,63	2,23E-02	1,44	2,62E-03
17181	Matn2	matrilin 2	1,63	2,12E-04	1,50	1,68E-03
15958	Ifit2	interferon-induced protein with tetratricopeptide repeats 2	1,63	6,25E-05	1,32	1,42E-03
13179	Dcn	decorin	1,63	7,24E-05	1,34	5,98E-04



140494	Atp6v0a4	ATPase, H+ transporting, lysosomal V0 subunit A4	1,63	1,43E-02	1,02	1,04E-01
93671	Cd163	CD163 antigen	1,63	4,56E-02	1,44	2,14E-02
58916	Myot	myotilin	1,63	<b>4,19E-03</b>	1,47	1,10E-02
16782	Lamc2	laminin, gamma 2	1,62	1,29E-02	1,50	3,77E-02
71653	4930506M07Rik	RIKEN cDNA 4930506M07 gene	1,62	<b>8,84E-04</b>	1,48	<b>8,88E-03</b>
217305	Cd300ld	CD300 molecule-like family member d	1,62	<b>4,23E-03</b>	1,49	<b>8,62E-03</b>
12267	C3ar1	complement component 3a receptor 1	1,62	2,77E-02	1,57	6,40E-02
18824	Plp2	proteolipid protein 2	1,62	<b>3,31E-04</b>	1,42	<b>2,14E-04</b>
668215	1500017E21Rik	RIKEN cDNA 1500017E21 gene	1,62	<b>9,29E-04</b>	1,49	2,14E-02
14396	Gabra3	gamma-aminobutyric acid (GABA) A receptor, subunit alpha 3	1,62	3,81E-02	1,58	1,76E-02
11746	Anxa4	annexin A4	1,62	<b>4,81E-04</b>	1,37	<b>4,81E-03</b>
15460	Hr	hairless	1,62	2,56E-02	1,62	2,46E-02
21938	Tnfrsf1b	tumor necrosis factor receptor superfamily, member 1b	1,62	<b>3,25E-03</b>	1,45	<b>3,00E-03</b>
11854	Rhod	ras homolog gene family, member D	1,62	3,40E-02	1,81	1,77E-02
18573	Pde1a	phosphodiesterase 1A, calmodulin-dependent	1,62	4,31E-02	1,29	1,69E-01
18733	Lilrb3	leukocyte immunoglobulin-like receptor, subfamily B (with TM and ITIM domains), member 3	1,62	<b>8,96E-03</b>	1,50	1,52E-02
16980	Lrrn2	leucine rich repeat protein 2, neuronal	1,62	2,69E-02	1,46	3,87E-02
17216	Mcm2	minichromosome maintenance deficient 2 mitotin ( <i>S. cerevisiae</i> )	1,62	3,13E-02	1,87	<b>7,42E-03</b>
69183	C1qtnf2	C1q and tumor necrosis factor related protein 2	1,62	<b>5,39E-03</b>	1,60	1,10E-02
64074	Smoc2	SPARC related modular calcium binding 2	1,62	<b>6,88E-04</b>	1,47	<b>4,70E-04</b>
19224	Ptgs1	prostaglandin-endoperoxide synthase 1	1,61	<b>2,37E-04</b>	1,45	<b>5,73E-04</b>
105245	Txndc5	thioredoxin domain containing 5	1,61	<b>5,18E-04</b>	1,44	<b>2,63E-03</b>
104027	Synpo	synaptopodin	1,61	<b>9,49E-03</b>	1,45	1,90E-02
26382	Fgd2	FYVE, RhoGEF and PH domain containing 2	1,61	3,59E-02	1,40	6,80E-02
24055	Sh3bp2	SH3-domain binding protein 2	1,61	<b>9,66E-03</b>	1,51	<b>7,13E-03</b>
15200	Hbegf	heparin-binding EGF-like growth factor	1,61	<b>9,06E-04</b>	1,34	<b>1,81E-03</b>
74782	Glt8d2	glycosyltransferase 8 domain containing 2	1,61	4,02E-02	1,34	1,20E-01
13733	Emr1	EGF-like module containing, mucin-like, hormone receptor-like sequence 1	1,61	<b>2,32E-03</b>	1,46	<b>7,47E-03</b>
74039	Nfam1	Nfat activating molecule with ITAM motif 1	1,61	<b>5,25E-03</b>	1,62	<b>1,76E-03</b>
69399	1700025G04Rik	RIKEN cDNA 1700025G04 gene	1,61	<b>1,21E-04</b>	1,47	<b>2,49E-04</b>
20970	Sdc3	syndecan 3	1,61	<b>1,76E-03</b>	1,44	1,62E-02
12831	Col5a1	collagen, type V, alpha 1	1,61	<b>2,86E-03</b>	1,45	<b>2,20E-03</b>
13385	Dlg4	discs, large homolog 4 ( <i>Drosophila</i> )	1,61	2,39E-02	1,29	1,36E-01
71911	Bdh1	3-hydroxybutyrate dehydrogenase, type 1	1,61	<b>5,73E-04</b>	1,67	<b>5,62E-04</b>
78892	Crispld2	cysteine-rich secretory protein LCCL domain containing 2	1,61	<b>8,63E-04</b>	1,45	<b>1,19E-04</b>
13198	Ddit3	DNA-damage inducible transcript 3	1,61	<b>9,13E-03</b>	1,50	1,68E-02
17916	Myo1f	myosin IF	1,61	1,63E-02	1,52	2,75E-02
216161	Sbno2	strawberry notch homolog 2 ( <i>Drosophila</i> )	1,61	<b>1,36E-03</b>	1,33	<b>6,81E-03</b>
227737	Fam129b	family with sequence similarity 129, member B	1,61	<b>1,00E-03</b>	1,44	<b>4,46E-03</b>
64103	Tnmd	tenomodulin	1,61	4,35E-02	1,26	1,79E-01
233571	P2ry6	pyrimidineric receptor P2Y, G-protein coupled, 6	1,61	<b>9,52E-03</b>	1,51	2,10E-02
68659	Fam198b	family with sequence similarity 198, member B	1,61	<b>3,58E-04</b>	1,34	<b>5,33E-03</b>
211480	Kcnj14	potassium inwardly-rectifying channel, subfamily J, member 14	1,60	1,32E-02	1,64	<b>3,04E-03</b>
15900	Irf8	interferon regulatory factor 8	1,60	1,40E-02	1,63	<b>3,72E-03</b>
12490	Cd34	CD34 antigen	1,60	<b>1,16E-03</b>	1,28	1,92E-02
114332	Lyve1	lymphatic vessel endothelial hyaluronan receptor 1	1,60	1,55E-02	1,53	<b>8,19E-03</b>
12409	Cbr2	carbonyl reductase 2	1,60	3,75E-02	1,46	4,18E-02
170743	Tlr7	toll-like receptor 7	1,60	<b>2,47E-03</b>	1,31	4,82E-02
14049	Eya2	eyes absent 2 homolog ( <i>Drosophila</i> )	1,60	<b>9,61E-03</b>	1,58	<b>4,10E-04</b>
69806	Slc39a11	solute carrier family 39 (metal ion transporter), member 11	1,60	<b>6,23E-03</b>	1,31	1,34E-02
28077	Med10	mediator of RNA polymerase II transcription, subunit 10 homolog (NUT2, <i>S. cerevisiae</i> )	1,60	<b>1,73E-03</b>	1,55	<b>2,34E-03</b>
59126	Nek6	NIMA (never in mitosis gene a)-related expressed kinase 6	1,60	2,76E-02	1,60	4,12E-02
73106	Prss57	protease, serine 57	1,59	<b>4,70E-03</b>	1,32	<b>4,79E-03</b>
12428	Ccna2	cyclin A2	1,59	1,29E-02	1,25	1,16E-01
20657	Sod3	superoxide dismutase 3, extracellular	1,59	<b>4,99E-03</b>	1,62	<b>8,35E-05</b>
66098	Chchd6	coiled-coil-helix-coiled-coil-helix domain containing 6	1,59	<b>6,44E-03</b>	1,54	<b>6,86E-03</b>
12721	Coro1a	coronin, actin binding protein 1A	1,59	3,31E-02	1,37	9,72E-02
12363	Casp4	caspase 4, apoptosis-related cysteine peptidase	1,59	<b>2,71E-05</b>	1,39	<b>6,97E-04</b>
110595	Timp4	tissue inhibitor of metalloproteinase 4	1,59	3,38E-02	1,14	4,81E-01
13058	Cybb	cytochrome b-245, beta polypeptide	1,59	2,12E-02	1,40	6,08E-02
22151	Tubb2a	tubulin, beta 2A class IIA	1,59	<b>2,27E-03</b>	1,37	<b>5,27E-04</b>
26360	Angptl2	angiopoietin-like 2	1,59	<b>4,89E-04</b>	1,36	<b>5,15E-03</b>
72982	Tmem138	transmembrane protein 138	1,59	3,32E-02	1,17	3,09E-01
68525	Evc2	Ellis van Creveld syndrome 2	1,59	<b>1,11E-03</b>	1,52	<b>1,88E-03</b>
66172	Med11	mediator of RNA polymerase II transcription, subunit 11 homolog ( <i>S. cerevisiae</i> )	1,59	2,95E-02	1,34	7,98E-02
85031	Pla1a	phospholipase A1 member A	1,59	2,04E-02	1,34	7,65E-02
20130	Rras	Harvey rat sarcoma oncogene, subgroup R	1,58	<b>1,87E-04</b>	1,33	<b>7,30E-04</b>

18102	Nme1	NME/NM23 nucleoside diphosphate kinase 1	1,58	2,89E-02	1,47	3,62E-02
66832	Rsph3a	radial spoke 3A homolog (Chlamydomonas)	1,58	<b>3,00E-03</b>	<b>2,55</b>	<b>1,36E-04</b>
229600	BC028528	cDNA sequence BC028528	1,58	1,94E-02	1,22	2,70E-01
20613	Snai1	snail homolog 1 (Drosophila)	1,58	1,88E-02	1,53	2,14E-02
21346	Tagln2	transgelin 2	1,58	<b>1,76E-05</b>	1,41	<b>1,34E-04</b>
216505	Pik3ip1	phosphoinositide-3-kinase interacting protein 1	1,58	<b>5,17E-03</b>	1,51	<b>6,72E-03</b>
100504114	Gm16907	predicted gene, 16907	1,58	1,11E-02	1,37	6,98E-02
68166	Spire1	spire homolog 1 (Drosophila)	1,58	<b>6,85E-03</b>	1,40	<b>2,60E-03</b>
50795	Sh3bgr	SH3-binding domain glutamic acid-rich protein	1,58	<b>1,15E-04</b>	1,49	<b>1,12E-04</b>
320092	E030003E18Rik	RIKEN cDNA E030003E18 gene	1,58	<b>1,94E-04</b>	1,22	8,09E-02
207565	Camkk2	calcium/calmodulin-dependent protein kinase kinase 2, beta	1,57	<b>1,35E-03</b>	1,58	<b>1,34E-03</b>
242608	Podn	podocan	1,57	1,22E-02	1,39	1,13E-02
11853	Rhoc	ras homolog gene family, member C	1,57	<b>1,07E-03</b>	1,43	<b>2,82E-03</b>
19340	Rab3d	RAB3D, member RAS oncogene family	1,57	<b>2,14E-04</b>	1,41	<b>1,93E-03</b>
114584	Clic1	chloride intracellular channel 1	1,57	<b>1,59E-03</b>	1,32	<b>1,08E-04</b>
67513	2610002J02Rik	RIKEN cDNA 2610002J02 gene	1,57	<b>2,08E-03</b>	1,37	1,04E-02
81896	Ift122	intraflagellar transport 122	1,57	<b>4,64E-03</b>	1,40	1,28E-02
58804	Cdc42ep5	CDC42 effector protein (Rho GTPase binding) 5	1,57	<b>2,88E-03</b>	1,53	2,42E-02
81904	Cacng7	calcium channel, voltage-dependent, gamma subunit 7	1,57	3,93E-02	1,79	2,60E-02
12517	Cd72	CD72 antigen	1,57	1,51E-02	1,46	3,46E-02
53886	Cdk12	cyclin-dependent kinase-like 2 (CDC2-related kinase)	1,57	<b>1,42E-03</b>	1,44	<b>2,11E-03</b>
100038882	Isg15	ISG15 ubiquitin-like modifier	1,57	<b>3,33E-03</b>	1,45	<b>1,38E-03</b>
104759	Pld4	phospholipase D family, member 4	1,57	<b>6,31E-04</b>	1,52	1,24E-02
102442	Dennd4a	DENN/MADD domain containing 4A	1,57	<b>3,15E-03</b>	1,26	9,02E-02
106512	Gpsm3	G-protein signalling modulator 3 (AGS3-like, C. elegans)	1,57	<b>6,50E-04</b>	1,64	<b>5,55E-03</b>
14107	Fat1	FAT tumor suppressor homolog 1 (Drosophila)	1,56	<b>1,38E-03</b>	1,37	<b>5,79E-03</b>
106585	Ankrd12	ankyrin repeat domain 12	1,56	<b>6,79E-04</b>	1,35	3,86E-02
214305	Hhip1	hedgehog interacting protein-like 1	1,56	2,22E-02	1,35	4,65E-02
12834	Col6a2	collagen, type VI, alpha 2	1,56	<b>3,47E-03</b>	1,43	1,39E-02
69581	Rhou	ras homolog gene family, member U	1,56	3,26E-02	1,53	4,21E-02
13024	Ctla2a	cytotoxic T lymphocyte-associated protein 2 alpha	1,56	<b>2,83E-04</b>	1,28	<b>1,88E-03</b>
211550	Tifa	TRAF-interacting protein with forkhead-associated domain	1,56	<b>6,16E-05</b>	1,48	<b>2,39E-03</b>
194126	Mtmr11	myotubularin related protein 11	1,56	2,30E-02	1,28	8,86E-02
107029	Me2	malic enzyme 2, NAD(+)-dependent, mitochondrial	1,56	<b>3,18E-03</b>	1,52	<b>4,27E-03</b>
21813	Tgfb2	transforming growth factor, beta receptor II	1,56	<b>3,77E-04</b>	1,39	<b>1,55E-05</b>
11750	Anxa7	annexin A7	1,55	<b>2,16E-03</b>	1,41	<b>4,42E-03</b>
13051	Cx3cr1	chemokine (C-X3-C) receptor 1	1,55	1,50E-02	1,47	2,94E-02
72560	Naalad2	N-acetylated alpha-linked acidic dipeptidase 2	1,55	<b>3,58E-04</b>	1,42	<b>2,18E-04</b>
53318	Pdlim3	PDZ and LIM domain 3	1,55	1,15E-02	1,35	6,44E-02
234577	Cpne2	copine II	1,55	<b>7,39E-04</b>	1,50	<b>3,07E-04</b>
21366	Slc6a6	solute carrier family 6 (neurotransmitter transporter, taurine), member 6	1,55	3,13E-02	1,47	2,06E-02
66251	Arfgap3	ADP-ribosylation factor GTPase activating protein 3	1,55	<b>1,83E-04</b>	1,37	1,29E-02
208177	Phldb2	pleckstrin homology-like domain, family B, member 2	1,55	<b>3,17E-03</b>	1,40	<b>3,19E-04</b>
73723	Sh3bgrl3	SH3 domain binding glutamic acid-rich protein-like 3	1,55	<b>1,06E-03</b>	1,43	<b>1,43E-03</b>
11745	Anxa3	annexin A3	1,55	<b>3,00E-03</b>	1,36	2,17E-02
12495	Entpd1	ectonucleoside triphosphate diphosphohydrolase 1	1,55	<b>4,96E-03</b>	1,28	<b>2,08E-03</b>
22038	Plscr1	phospholipid scramblase 1	1,55	<b>6,55E-03</b>	1,24	7,08E-02
14773	Grk5	G protein-coupled receptor kinase 5	1,55	<b>3,03E-04</b>	1,27	<b>9,61E-03</b>
227620	Uap1l1	UDP-N-acetylglucosamine pyrophosphorylase 1-like 1	1,55	2,05E-02	1,55	1,93E-02
12266	C3	complement component 3	1,55	2,14E-02	1,54	3,72E-02
69745	Pold4	polymerase (DNA-directed), delta 4	1,54	<b>1,17E-03</b>	1,27	1,30E-02
17918	Myo5a	myosin VA	1,54	<b>1,90E-03</b>	1,48	<b>1,19E-04</b>
83490	Pik3ap1	phosphoinositide-3-kinase adaptor protein 1	1,54	<b>4,16E-03</b>	1,27	2,99E-02
319939	Tns3	tensin 3	1,54	<b>9,13E-03</b>	1,43	2,71E-02
58809	Rnase4	ribonuclease, RNase A family 4	1,54	<b>2,51E-04</b>	1,29	1,03E-02
11881	Arsb	arylsulfatase B	1,54	<b>4,07E-04</b>	1,29	<b>2,92E-03</b>
17969	Ncf1	neutrophil cytosolic factor 1	1,54	<b>9,31E-03</b>	1,62	<b>1,87E-03</b>
56615	Mgst1	microsomal glutathione S-transferase 1	1,54	3,06E-02	1,52	2,05E-02
66455	Cnpy4	canopy 4 homolog (zebrafish)	1,54	4,14E-02	1,14	3,52E-01
83691	Crispld1	cysteine-rich secretory protein LCCL domain containing 1	1,54	1,00E-02	1,05	2,94E-01
74145	F13a1	coagulation factor XIII, A1 subunit	1,54	4,55E-02	1,51	1,88E-02
18763	Pkd1	polycystic kidney disease 1 homolog	1,54	<b>1,90E-04</b>	1,26	5,99E-02
14456	Gas6	growth arrest specific 6	1,54	<b>1,17E-03</b>	1,49	<b>2,31E-05</b>
53376	Usp2	ubiquitin specific peptidase 2	1,54	2,29E-02	1,50	2,77E-02
68567	Cgref1	cell growth regulator with EF hand domain 1	1,54	<b>6,23E-03</b>	1,24	5,17E-02
68235	2410066E13Rik	RIKEN cDNA 2410066E13 gene	1,54	1,50E-02	1,21	1,57E-01
665155	Srp54b	signal recognition particle 54B	1,54	2,97E-02	1,86	1,20E-02
171212	Galnt10	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 10	1,54	<b>3,25E-04</b>	1,23	1,08E-02

16909	Lmo2	LIM domain only 2	1,54	8,31E-03	1,69	6,50E-04
212974	Ath11	ATH1, acid trehalase-like 1 (yeast)	1,54	4,33E-02	1,37	9,80E-02
19200	Pstpip1	proline-serine-threonine phosphatase-interacting protein 1	1,53	4,36E-03	1,33	8,59E-02
72061	2010111I01Rik	RIKEN cDNA 2010111I01 gene	1,53	9,39E-04	1,39	7,34E-03
16010	Igfbp4	insulin-like growth factor binding protein 4	1,53	7,54E-04	1,62	1,86E-03
73720	Cst6	cystatin E/M	1,53	7,97E-03	1,50	1,25E-02
73914	Irak3	interleukin-1 receptor-associated kinase 3	1,53	1,36E-03	1,37	9,53E-03
18950	Pnp	purine-nucleoside phosphorylase	1,53	1,27E-02	1,19	1,05E-01
22793	Zyx	zyxin	1,53	4,47E-04	1,32	3,93E-03
230751	Oscp1	organic solute carrier partner 1	1,53	5,82E-03	1,60	3,23E-04
66815	Ccdc109b	coiled-coil domain containing 109B	1,53	1,19E-02	1,23	1,18E-01
330177	Taok3	TAO kinase 3	1,53	5,47E-03	1,35	2,16E-02
16319	Incenp	inner centromere protein	1,53	1,09E-02	1,70	6,47E-05
19084	Prkar1a	protein kinase, cAMP dependent regulatory, type I, alpha	1,53	2,58E-03	1,51	1,36E-03
29818	Hspb7	heat shock protein family, member 7 (cardiovascular)	1,53	2,63E-03	1,44	3,24E-03
78560	Gpr124	G protein-coupled receptor 124	1,53	8,39E-04	1,46	1,20E-03
373864	Col27a1	collagen, type XXVII, alpha 1	1,53	8,81E-04	1,22	3,48E-02
74122	Tmem43	transmembrane protein 43	1,53	3,01E-04	1,35	1,30E-04
100740	AI839979	expressed sequence AI839979	1,53	2,45E-02	1,22	1,37E-01
118453	Mmp28	matrix metalloproteinase 28 (epilysin)	1,53	1,60E-03	1,25	1,36E-01
338367	Myo1d	myosin ID	1,53	3,22E-03	1,20	9,12E-02
14538	Gcnt2	glucosaminyl (N-acetyl) transferase 2, I-branching enzyme	1,53	2,03E-03	1,25	2,75E-02
17294	Mest	mesoderm specific transcript	1,53	1,65E-02	1,25	1,12E-01
18414	Osmr	oncostatin M receptor	1,53	3,93E-03	1,19	1,39E-01
66578	Mis18a	MIS18 kinetochore protein homolog A (S. pombe)	1,53	5,47E-03	1,33	2,49E-02
12273	C5ar1	complement component 5a receptor 1	1,53	3,64E-02	1,54	2,90E-03
21939	Cd40	CD40 antigen	1,53	2,91E-02	1,48	4,85E-02
211770	Trib1	tribbles homolog 1 (Drosophila)	1,53	1,15E-02	1,36	2,93E-02
268739	Arhgef40	Rho guanine nucleotide exchange factor (GEF) 40	1,53	1,14E-02	1,35	3,01E-02
244216	Zfp771	zinc finger protein 771	1,52	6,53E-02	3,58	1,11E-03
117606	Boc	biregional cell adhesion molecule-related/down-regulated by oncogenes (Cdon) binding protein	1,52	9,85E-03	1,31	4,68E-02
71710	Lrrcc1	leucine rich repeat and coiled-coil domain containing 1	1,52	4,45E-04	1,32	1,23E-02
329739	Fam102b	family with sequence similarity 102, member B	1,52	2,95E-03	1,26	1,85E-02
93677	Lmod2	leiomodulin 2 (cardiac)	1,52	1,25E-02	1,47	5,61E-03
13010	Cst3	cystatin C	1,52	9,49E-04	1,47	1,55E-03
23830	Capn10	calpain 10	1,52	6,23E-04	1,45	3,51E-04
50908	C1s	complement component 1, s subcomponent	1,52	7,07E-05	1,32	5,22E-04
12982	Csf2ra	colony stimulating factor 2 receptor, alpha, low-affinity (granulocyte-macrophage)	1,52	7,70E-02	1,75	4,09E-02
94280	Sfxn3	sideroflexin 3	1,52	2,46E-03	1,36	4,28E-03
66120	Fkbp11	FK506 binding protein 11	1,52	9,46E-03	1,52	1,79E-02
71962	Gatsl3	GATS protein-like 3	1,52	2,82E-02	1,03	7,81E-01
213211	Rnf26	ring finger protein 26	1,52	2,82E-03	1,38	1,09E-02
16478	Jund	Jun proto-oncogene related gene d	1,52	1,25E-03	2,65	1,49E-05
216445	Arhgap9	Rho GTPase activating protein 9	1,52	1,09E-01	2,16	1,49E-02
76561	Snx7	sorting nexin 7	1,52	2,62E-02	1,42	3,73E-02
17925	Myo9b	myosin IXb	1,52	4,05E-04	1,32	4,41E-02
66775	Ptplad2	protein tyrosine phosphatase-like A domain containing 2	1,52	3,61E-03	1,27	2,82E-02
18217	Ntsr2	neurotensin receptor 2	1,52	1,15E-02	1,45	1,02E-02
72361	Ces2g	carboxylesterase 2G	1,52	8,85E-03	1,26	8,13E-02
16414	Itgb2	integrin beta 2	1,52	1,25E-02	1,30	7,42E-02
170706	Tmem37	transmembrane protein 37	1,52	4,62E-02	1,36	8,70E-02
140559	Igsf8	immunoglobulin superfamily, member 8	1,52	5,97E-03	1,48	7,59E-03
105785	Kdelr3	KDEL (Lys-Asp-Glu-Leu) endoplasmic reticulum protein retention receptor 3	1,52	1,25E-02	1,27	8,42E-02
58207	Slc43a3	solute carrier family 43, member 3	1,52	3,38E-02	1,17	2,40E-01
14739	S1pr2	sphingosine-1-phosphate receptor 2	1,51	9,37E-03	1,37	2,67E-04
63954	Rbp7	retinol binding protein 7, cellular	1,51	1,56E-02	1,27	7,68E-02
13590	Lefty1	left right determination factor 1	1,51	4,64E-02	1,27	7,38E-02
14695	Gnb3	guanine nucleotide binding protein (G protein), beta 3	1,51	2,99E-03	1,53	2,16E-02
15903	Id3	inhibitor of DNA binding 3	1,51	2,02E-03	1,44	3,17E-03
226652	Arhgap30	Rho GTPase activating protein 30	1,51	9,10E-03	1,49	6,86E-03
192173	Fam195b	family with sequence similarity 195, member B	1,51	1,17E-03	1,30	9,73E-03
19075	Prim1	DNA primase, p49 subunit	1,51	8,36E-03	1,67	1,25E-02
97130	C77080	expressed sequence C77080	1,51	2,87E-03	1,24	1,10E-01
71904	Paqr7	progesterone and adiponectin receptor family member VII	1,51	2,16E-02	1,48	1,27E-02
20425	Shmt1	serine hydroxymethyltransferase 1 (soluble)	1,51	2,05E-02	1,87	6,79E-04
83396	Glis2	GLIS family zinc finger 2	1,51	1,22E-02	1,30	4,28E-02
17130	Smad6	SMAD family member 6	1,51	3,13E-02	1,96	5,93E-03
23853	Def6	differentially expressed in FDCP 6	1,51	2,19E-02	1,39	4,35E-02

74486	Osbpl10	oxysterol binding protein-like 10	1,50	2,33E-02	1,23	1,73E-01
56264	Cpxml	carboxypeptidase X 1 (M14 family)	1,50	4,01E-02	1,30	1,22E-01
18753	Prkcd	protein kinase C, delta	1,50	1,46E-03	1,41	5,39E-03
19038	Ppic	peptidylprolyl isomerase C	1,50	1,39E-03	1,31	7,48E-03
69274	Ctdspl	CTD (carboxy-terminal domain, RNA polymerase II, polypeptide A) small phosphatase-like	1,50	5,14E-03	1,30	3,09E-02
16409	Itgam	integrin alpha M	1,50	2,64E-02	1,59	1,09E-02
14451	Gas1	growth arrest specific 1	1,50	7,98E-04	1,59	1,03E-02
19219	Ptger4	prostaglandin E receptor 4 (subtype EP4)	1,50	5,43E-02	1,51	3,16E-02
109900	Asl	argininosuccinate lyase	1,49	1,87E-02	1,55	1,95E-02
22371	Vwf	Von Willebrand factor homolog	1,49	3,06E-03	1,74	5,88E-03
15205	Hes1	hairy and enhancer of split 1 (Drosophila)	1,49	2,80E-03	1,54	1,04E-03
17930	Myom2	myomesin 2	1,48	1,57E-03	1,51	1,42E-03
240514	Ccdc85b	coiled-coil domain containing 85B	1,48	3,63E-02	2,03	3,70E-03
193280	C030037D09Rik	RIKEN cDNA C030037D09 gene	1,48	5,44E-02	1,67	3,09E-02
68612	Ube2c	ubiquitin-conjugating enzyme E2C	1,47	5,06E-02	1,73	1,18E-02
17160	Man2b2	mannosidase 2, alpha B2	1,47	5,30E-03	1,54	2,22E-03
13346	Des	desmin	1,46	8,20E-04	1,61	2,53E-04
66391	2310061J03Rik	RIKEN cDNA 2310061J03 gene	1,46	6,91E-02	2,30	4,11E-04
17131	Smad7	SMAD family member 7	1,46	2,26E-02	1,66	1,53E-02
17357	Marcks1l	MARCKS-like 1	1,46	1,65E-02	1,63	3,29E-03
21391	Tbxas1	thromboxane A synthase 1, platelet	1,46	3,41E-02	1,66	1,18E-02
78926	Gas2l1	growth arrest-specific 2 like 1	1,45	1,25E-03	1,51	2,84E-04
19290	Pura	purine rich element binding protein A	1,44	5,53E-04	1,87	3,04E-04
55950	Bri3	brain protein I3	1,44	5,42E-05	1,82	9,78E-05
17153	Mal	myelin and lymphocyte protein, T cell differentiation protein	1,43	1,30E-02	1,67	5,21E-05
69386	Hist1h4h	histone cluster 1, H4h	1,42	2,39E-02	2,10	5,75E-04
76900	Ssbp4	single stranded DNA binding protein 4	1,42	1,17E-02	1,57	2,65E-03
235599	6430571L13Rik	RIKEN cDNA 6430571L13 gene	1,42	5,10E-02	1,61	6,56E-03
17901	Myl1	myosin, light polypeptide 1	1,40	8,13E-02	1,52	9,31E-03
269799	Clec4a1	C-type lectin domain family 4, member a1	1,40	3,04E-03	1,55	3,98E-02
66330	1700020L24Rik	RIKEN cDNA 1700020L24 gene	1,39	4,97E-02	1,56	2,79E-02
319192	Hist2h2aa2	histone cluster 2, H2aa2	1,39	5,85E-02	2,36	7,42E-03
19881	Rom1	rod outer segment membrane protein 1	1,39	2,64E-07	1,59	2,38E-03
209268	Igsf1	immunoglobulin superfamily, member 1	1,38	6,92E-02	1,55	2,53E-02
68209	Rnaseh2c	ribonuclease H2, subunit C	1,38	5,06E-02	1,99	7,77E-03
19018	Scand1	SCAN domain-containing 1	1,38	2,90E-01	5,43	3,82E-03
171171	Ntng2	netrin G2	1,37	7,93E-03	1,63	5,44E-04
15507	Hspb1	heat shock protein 1	1,37	1,20E-02	1,72	3,39E-04
67862	2310033P09Rik	RIKEN cDNA 2310033P09 gene	1,37	3,82E-03	1,65	4,51E-04
74596	Cds1	CDP-diacylglycerol synthase 1	1,37	3,43E-02	1,56	1,13E-02
232440	H2afj	H2A histone family, member J	1,37	4,82E-02	2,28	2,27E-04
12561	Cdh4	cadherin 4	1,37	5,24E-02	1,59	3,30E-02
17533	Mrc1	mannose receptor, C type 1	1,37	3,25E-02	1,50	1,83E-03
15248	Hic1	hypermethylated in cancer 1	1,36	6,76E-02	1,64	2,28E-03
214951	Rhbdl1	rhomboid, veinlet-like 1 (Drosophila)	1,36	9,28E-02	1,80	1,18E-03
60322	Chst7	carbohydrate (N-acetylglucosamino) sulfotransferase 7	1,35	6,39E-02	1,65	1,01E-02
13144	Dapk3	death-associated protein kinase 3	1,34	5,07E-02	1,61	1,04E-02
19698	Relb	avian reticuloendotheliosis viral (v-rel) oncogene related B	1,33	5,15E-02	1,52	9,70E-04
319748	Zfp865	zinc finger protein 865	1,33	1,36E-02	1,53	3,38E-03
14201	Fhl3	four and a half LIM domains 3	1,32	5,35E-02	1,76	4,34E-03
68165	Fdx1l	ferredoxin 1-like	1,32	2,27E-02	1,51	6,39E-03
59036	Dact1	dapper homolog 1, antagonist of beta-catenin (xenopus)	1,32	7,02E-02	1,54	1,30E-02
213121	Ankrd35	ankyrin repeat domain 35	1,31	1,11E-02	1,57	3,40E-03
29805	Znhit2	zinc finger, HIT domain containing 2	1,30	1,06E-01	1,57	2,34E-02
107771	Bmyc	brain expressed myelocytomatosis oncogene	1,30	1,73E-01	1,72	3,47E-02
70083	Metrn	meteorin, glial cell differentiation regulator	1,30	4,44E-02	1,78	3,28E-03
56009	Alyref2	Aly/REF export factor 2	1,29	1,46E-01	1,58	3,31E-02
319180	Hist1h2bf	histone cluster 1, H2bf	1,25	2,57E-01	2,00	1,38E-02
16373	Irx3	Iroquois related homeobox 3 (Drosophila)	1,25	3,27E-01	2,06	2,29E-02
320869	4732415M23Rik	RIKEN cDNA 4732415M23 gene	1,24	1,17E-01	1,55	8,05E-03
69094	Tmem160	transmembrane protein 160	1,23	1,96E-01	1,55	4,03E-02
217219	Fam171a2	family with sequence similarity 171, member A2	1,23	1,64E-01	1,53	1,56E-02
14431	Gamt	guanidinoacetate methyltransferase	1,22	1,41E-02	1,52	2,88E-03
67078	Pgp	phosphoglycolate phosphatase	1,22	1,45E-01	1,92	5,69E-03
170770	Bbc3	BCL2 binding component 3	1,22	2,50E-01	1,55	4,71E-02
216622	4931440F15Rik	RIKEN cDNA 4931440F15 gene	1,20	1,34E-02	1,67	7,75E-05
77127	A930001A20Rik	RIKEN cDNA A930001A20 gene	1,20	5,78E-01	8,93	3,53E-03
620695	Gm13889	predicted gene 13889	1,20	2,79E-01	1,58	2,82E-02
68431	Fbx115	F-box and leucine-rich repeat protein 15	1,19	2,41E-01	2,10	4,46E-04

69372	Mocs3	molybdenum cofactor synthesis 3	1,18	3,38E-01	1,89	2,22E-02
12193	Zfp3612	zinc finger protein 36, C3H type-like 2	1,18	3,41E-02	1,51	2,72E-04
54352	Irx5	Iroquois related homeobox 5 (Drosophila)	1,18	4,62E-01	1,91	3,79E-02
75135	4930526I15Rik	RIKEN cDNA 4930526I15 gene	1,17	1,81E-01	2,38	1,01E-03
19799	Rn4.5s	4.5S RNA	1,17	6,78E-01	8,11	3,69E-05
12055	Bcl7c	B cell CLL/lymphoma 7C	1,16	1,55E-01	1,53	8,94E-03
79044	Mrps34	mitochondrial ribosomal protein S34	1,15	1,38E-02	1,52	1,29E-04
69878	Snrpf	small nuclear ribonucleoprotein polypeptide F	1,13	2,53E-01	1,50	2,17E-02
232969	Zfp428	zinc finger protein 428	1,12	4,76E-01	1,74	2,07E-02
16476	Jun	Jun oncogene	1,11	3,43E-01	1,51	4,51E-02
214616	Spata511	spermatogenesis associated 5-like 1	1,10	6,57E-01	2,09	2,20E-02
78108	4930414L22Rik	RIKEN cDNA 4930414L22 gene	1,09	1,65E-01	1,66	1,24E-03
70350	Baspl	brain abundant, membrane attached signal protein 1	1,08	3,74E-01	1,59	2,41E-02
13864	Nr2f6	nuclear receptor subfamily 2, group F, member 6	1,08	3,90E-01	1,86	1,96E-05
14761	Gpr27	G protein-coupled receptor 27	1,07	1,51E-01	2,71	6,32E-05
15166	Hcn2	hyperpolarization-activated, cyclic nucleotide-gated K+ 2	1,07	1,95E-01	1,63	1,52E-03
21407	Tcf15	transcription factor 15	1,06	6,68E-01	1,78	1,64E-03
246735	AY074887	cDNA sequence AY074887	1,06	3,74E-01	2,03	1,13E-02
56222	Cited4	Cbp/p300-interacting transactivator, with Glu/Asp-rich carboxy-terminal domain, 4	1,05	6,32E-01	1,61	3,10E-02
18091	Nkx2-5	NK2 transcription factor related, locus 5 (Drosophila)	1,03	7,38E-01	1,65	5,72E-05
668158	Ccdc85c	coiled-coil domain containing 85C	1,01	8,91E-01	1,72	1,50E-04
13804	Endog	endonuclease G	1,00	9,65E-01	1,76	1,24E-03
73951	4930413G21Rik	RIKEN cDNA 4930413G21 gene	-1,01	9,31E-01	2,25	3,57E-03
170942.chrY	Erdr1	erythroid differentiation regulator 1	-1,02	8,81E-01	2,91	2,00E-03
14173	Fgf2	fibroblast growth factor 2	-1,02	8,86E-01	1,56	3,98E-03
77134	Hnrnpa0	heterogeneous nuclear ribonucleoprotein A0	-1,05	7,03E-01	1,55	2,39E-02
319587	4930539J05Rik	RIKEN cDNA 4930539J05 gene	-1,11	6,50E-01	3,27	3,40E-03
18617	Rhox5	reproductive homeobox 5	-1,13	4,89E-01	-1,57	2,88E-02
17765	Mtf2	metal response element binding transcription factor 2	-1,30	4,57E-02	-1,55	4,55E-03
67378	Bbs2	Bardet-Biedl syndrome 2 (human)	-1,31	7,84E-03	-1,51	1,85E-03
76365	Tbx18	T-box18	-1,33	4,16E-02	-1,64	8,81E-03
225594	Gm4841	predicted gene 4841	-1,34	4,78E-01	-1,58	2,44E-02
69930	Zfp715	zinc finger protein 715	-1,34	5,73E-03	-1,60	4,46E-04
16904	Gzmm	granzyme M (lymphocyte met-ase 1)	-1,36	2,80E-02	-1,51	8,79E-03
328186	Gm10336	predicted gene 10336	-1,37	3,61E-02	-1,59	8,43E-03
12518	Cd79a	CD79A antigen (immunoglobulin-associated alpha)	-1,37	2,85E-02	-1,55	2,15E-02
15950	Ifi203	interferon activated gene 203	-1,37	1,19E-02	-1,54	1,88E-03
319615	Zfp944	zinc finger protein 944	-1,37	3,07E-02	-1,54	1,21E-02
319613	Sybu	syntabulin (syntaxin-interacting)	-1,38	5,87E-02	-1,53	2,38E-02
432769	Zfp708	zinc finger protein 708	-1,40	3,39E-02	-1,51	2,37E-02
70055	1700030L20Rik	RIKEN cDNA 1700030L20 gene	-1,40	1,03E-01	-1,71	2,56E-02
66597	Trim13	tripartite motif-containing 13	-1,40	8,52E-02	-1,52	4,30E-02
70551	Tmtc4	transmembrane and tetratricopeptide repeat containing 4	-1,40	5,63E-02	-1,53	3,22E-02
214137	Arhgap29	Rho GTPase activating protein 29	-1,41	1,73E-03	-1,53	4,56E-04
73316	Calr3	calreticulin 3	-1,41	1,04E-02	-1,64	2,05E-03
70423	Tspan15	tetraspanin 15	-1,43	1,20E-02	-1,52	5,79E-03
109934	Abr	active BCR-related gene	-1,43	1,79E-03	-1,51	8,25E-04
101401	Adamts9	a disintegrin-like and metallopeptidase (reprolysin type) with thrombospondin type 1 motif, 9	-1,44	5,52E-02	-1,51	5,30E-04
18105	Nqo2	NAD(P)H dehydrogenase, quinone 2	-1,45	3,32E-04	-1,51	1,57E-04
13134	Dach1	dachshund 1 (Drosophila)	-1,45	4,51E-03	-1,56	2,28E-04
100233208	Gm10778	predicted gene 10778	-1,45	3,21E-03	-1,58	4,11E-03
75712	Tmem14a	transmembrane protein 14A	-1,45	3,56E-02	-1,63	2,02E-02
74670	Zfp943	zinc finger protein 943	-1,46	1,59E-03	-1,61	3,03E-04
114676	4930519F09Rik	pyruvate dehydrogenase E1 alpha 1 pseudogene	-1,46	1,15E-02	-1,51	3,07E-02
21788	Tfpi	tissue factor pathway inhibitor	-1,46	3,19E-03	-1,58	1,31E-03
328949	Mcc	mutated in colorectal cancers	-1,47	1,05E-02	-1,55	5,77E-03
237823	Pfas	phosphoribosylformylglycinamidine synthase (FGAR amidotransferase)	-1,47	3,90E-03	-1,53	2,80E-04
20447	St6galnac3	ST6 (alpha-N-acetyl-neuraminyl-2,3-beta-galactosyl-1,3)-N-acetylgalactosaminide alpha-2,6-sialyltransferase 3	-1,47	2,94E-02	-1,59	7,27E-03
73204	3110056K07Rik	RIKEN cDNA 3110056K07 gene	-1,48	3,26E-02	-1,50	3,00E-02
14792	Lpcat3	lysophosphatidylcholine acyltransferase 3	-1,48	1,03E-03	-1,50	1,78E-04
13992	Khdrs3	KH domain containing, RNA binding, signal transduction associated 3	-1,49	1,71E-03	-1,53	8,09E-04
241289	Ppp1r26	protein phosphatase 1, regulatory subunit 26	-1,50	9,07E-03	-1,54	8,24E-03
329584	Slc2a4rg-ps	Slc2a4 regulator, pseudogene	-1,50	6,38E-03	-1,67	2,34E-03
16763	Lad1	ladinin	-1,50	6,98E-03	-1,70	1,43E-03
93704	Pcdhgb7	protocadherin gamma subfamily B, 7	-1,50	1,03E-02	-1,42	1,42E-02
104349	Zfp119a	zinc finger protein 119a	-1,50	1,88E-02	-1,35	5,16E-02
319582	6430573F11Rik	RIKEN cDNA 6430573F11 gene	-1,50	2,04E-02	-1,44	8,88E-03

19329	Rab17	RAB17, member RAS oncogene family	-1,50	2,66E-02	-1,39	7,70E-02
16542	Kdr	kinase insert domain protein receptor	-1,50	3,95E-03	-1,47	4,85E-03
77864	Ypel2	yippee-like 2 (Drosophila)	-1,51	1,71E-03	-1,48	4,92E-02
234728	Ftsjd1	FtsJ methyltransferase domain containing 1	-1,51	7,26E-04	-1,38	1,39E-02
11640	Akap1	A kinase (PRKA) anchor protein 1	-1,51	9,95E-05	-1,32	5,69E-05
20928	Abcc9	ATP-binding cassette, sub-family C (CFTR/MRP), member 9	-1,51	1,32E-05	-1,49	1,82E-05
18784	Pla2g5	phospholipase A2, group V	-1,51	1,93E-02	-1,15	7,17E-02
110880	Scn4a	sodium channel, voltage-gated, type IV, alpha	-1,51	8,76E-03	-1,28	1,79E-02
14198	Fhit	fragile histidine triad gene	-1,51	1,14E-02	-1,26	2,10E-01
106869	Tnfaip8	tumor necrosis factor, alpha-induced protein 8	-1,51	1,21E-03	-1,31	7,28E-03
57279	Slc25a20	solute carrier family 25 (mitochondrial carnitine/acylcarnitine translocase), member 20	-1,51	5,44E-05	-1,34	2,73E-03
100662	D930016D06Rik	RIKEN cDNA D930016D06 gene	-1,51	6,56E-03	-1,81	1,11E-03
320091	Ano4	anoctamin 4	-1,51	5,78E-03	-1,15	1,73E-01
320635	Cyb5r2	cytochrome b5 reductase 2	-1,51	6,81E-03	-1,41	1,14E-02
225049	Ttc7	tetratricopeptide repeat domain 7	-1,52	4,17E-04	-1,45	6,19E-04
74488	Lrrc15	leucine rich repeat containing 15	-1,52	4,37E-04	-1,36	6,63E-03
11624	Ahrr	aryl-hydrocarbon receptor repressor	-1,52	7,55E-04	-1,42	9,71E-03
108682	Gpt2	glutamic pyruvate transaminase (alanine aminotransferase) 2	-1,52	6,02E-04	-1,41	1,05E-03
104776	Aldh6a1	aldehyde dehydrogenase family 6, subfamily A1	-1,52	1,67E-03	-1,42	1,68E-02
75894	Adal	adenosine deaminase-like	-1,52	3,43E-03	-1,57	2,14E-03
26457	Slc27a1	solute carrier family 27 (fatty acid transporter), member 1	-1,52	1,30E-03	-1,43	8,93E-04
16780	Lamb3	laminin, beta 3	-1,53	1,39E-03	-1,48	7,49E-04
100380944	Gm11602	predicted gene 11602	-1,53	8,32E-03	-1,53	3,72E-03
22418	Wnt5a	wingless-related MMTV integration site 5A	-1,53	2,51E-03	-1,36	8,81E-03
54137	Acrbp	proacrosin binding protein	-1,53	1,36E-02	-1,59	7,91E-03
227399	Ppip5k2	diphosphoinositol pentakisphosphate kinase 2	-1,53	3,52E-03	-1,54	4,23E-06
74319	Mettl23	methyltransferase like 23	-1,53	1,06E-03	-1,55	9,59E-04
11689	Alox5	arachidonate 5-lipoxygenase	-1,53	3,16E-02	-1,38	8,51E-02
67075	Magt1	magnesium transporter 1	-1,53	1,21E-02	-1,61	1,41E-02
52250	Reep1	receptor accessory protein 1	-1,53	4,58E-04	-1,43	8,39E-03
18821	Pln	phospholamban	-1,53	5,95E-03	-1,57	1,05E-02
22417	Wnt4	wingless-related MMTV integration site 4	-1,53	4,00E-02	-1,40	3,62E-02
28169	Agpat3	1-acylglycerol-3-phosphate O-acyltransferase 3	-1,53	1,43E-03	-1,39	3,30E-04
234725	Zfp612	zinc finger protein 612	-1,53	5,90E-03	-1,67	4,49E-02
12753	Clock	circadian locomotor output cycles kaput	-1,53	1,20E-02	-1,57	1,18E-02
100040852	Gm3002	alpha-takusan pseudogene	-1,53	3,34E-02	-1,52	4,15E-02
67484	Eepd1	endonuclease/exonuclease/phosphatase family domain containing 1	-1,54	3,86E-02	-1,42	6,26E-02
18111	Nnat	neuronatin	-1,54	1,16E-02	-1,61	5,23E-03
26416	Mapk14	mitogen-activated protein kinase 14	-1,54	2,37E-04	-1,44	6,69E-07
18767	Pkia	protein kinase inhibitor, alpha	-1,54	2,63E-02	-1,51	4,69E-02
72759	Tmem135	transmembrane protein 135	-1,54	4,26E-04	-1,31	1,88E-03
56690	Mlycd	malonyl-CoA decarboxylase	-1,54	1,29E-03	-1,32	1,12E-04
109731	Maob	monoamine oxidase B	-1,54	1,31E-03	-1,65	3,37E-04
76261	0610040J01Rik	RIKEN cDNA 0610040J01 gene	-1,54	1,90E-02	-1,39	5,06E-02
68895	Ras11a	RAS-like, family 11, member A	-1,55	1,75E-03	-1,31	7,90E-02
56543	Kcnd3	potassium voltage-gated channel, Shal-related family, member 3	-1,55	2,66E-03	-1,55	6,01E-03
68312	Gstm7	glutathione S-transferase, mu 7	-1,55	3,62E-04	-1,44	1,02E-03
208618	Etl4	enhancer trap locus 4	-1,55	4,43E-03	-1,57	1,41E-03
78802	Ttc30a1	tetratricopeptide repeat domain 30A1	-1,55	1,58E-02	-1,27	1,04E-01
240667	Sec31b	Sec31 homolog B (S. cerevisiae)	-1,55	1,64E-03	-1,57	2,27E-03
66968	Plin5	perilipin 5	-1,55	2,95E-03	-1,50	2,30E-05
224893	Zfp959	zinc finger protein 959	-1,55	1,06E-03	-1,70	7,65E-04
23831	Car14	carbonic anhydrase 14	-1,55	5,07E-04	-1,46	1,02E-04
22190	Ubc	ubiquitin C	-1,55	2,32E-04	-1,42	4,58E-03
246049	Slc36a2	solute carrier family 36 (proton/amino acid symporter), member 2	-1,55	9,28E-05	-1,31	4,21E-03
668917	Zfp133-ps	zinc finger protein 133, pseudogene	-1,55	1,87E-02	-1,60	6,63E-03
229905	Ccbl2	cysteine conjugate-beta lyase 2	-1,55	4,00E-03	-1,46	6,63E-03
56018	Stard10	START domain containing 10	-1,56	2,81E-04	-1,38	2,85E-04
433752	AA415398	expressed sequence AA415398	-1,56	6,06E-03	-1,82	1,53E-03
209584	Tyw3	tRNA-yW synthesizing protein 3 homolog (S. cerevisiae)	-1,56	3,88E-02	-1,59	2,38E-02
29867	Cabp1	calcium binding protein 1	-1,56	1,14E-02	-1,41	2,27E-02
235636	Rtp3	receptor transporter protein 3	-1,56	1,11E-02	-1,64	9,57E-03
70832	4921504A21Rik	RIKEN cDNA 4921504A21 gene	-1,56	4,21E-02	-1,34	1,21E-01
11875	Art5	ADP-ribosyltransferase 5	-1,56	3,31E-03	-1,69	6,43E-03
100502987	Gm17066	predicted gene 17066	-1,57	3,64E-02	-1,58	3,50E-02
68493	Ndutf4	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, assembly factor 4	-1,57	1,36E-03	-1,47	7,33E-03
71916	Dus4l	dihydrouridine synthase 4-like (S. cerevisiae)	-1,57	4,27E-02	-1,26	1,53E-01
382073	Ccdc84	coiled-coil domain containing 84	-1,57	3,81E-04	-1,55	2,44E-03

108767	Pnrc1	proline-rich nuclear receptor coactivator 1	-1,57	1,69E-04	-1,19	1,88E-01
654318	C530005A16Rik	RIKEN cDNA C530005A16 gene	-1,57	1,80E-02	-1,15	1,91E-01
16367	Irs1	insulin receptor substrate 1	-1,58	5,76E-04	-1,54	5,31E-03
100502933	Gm19461	predicted gene, 19461	-1,58	1,24E-02	-1,42	3,40E-02
226844	Mfsd7b	major facilitator superfamily domain containing 7B	-1,58	1,23E-02	-1,73	5,57E-03
100043102	4632428C04Rik	RIKEN cDNA 4632428C04 gene	-1,58	5,54E-03	-1,61	1,74E-02
103729	AI450353	expressed sequence AI450353	-1,58	3,86E-02	-1,60	3,83E-02
20167	Rtn2	reticulon 2 (Z-band associated protein)	-1,58	2,76E-03	-1,46	1,90E-04
16776	Lama5	laminin, alpha 5	-1,58	2,61E-03	-1,61	4,54E-03
12790	Cnga3	cyclic nucleotide gated channel alpha 3	-1,58	2,55E-02	-1,36	7,56E-02
233552	Gdpd5	glycerophosphodiester phosphodiesterase domain containing 5	-1,59	2,32E-03	-1,45	1,78E-03
109685	Hyal3	hyaluronoglucosaminidase 3	-1,59	1,49E-03	-1,74	5,72E-04
235497	Leo1	Leo1, Paf1/RNA polymerase II complex component, homolog (S. cerevisiae)	-1,59	1,51E-02	-1,35	2,29E-02
320977	A330023F24Rik	RIKEN cDNA A330023F24 gene	-1,59	2,16E-02	-1,50	6,17E-02
68867	Rnf122	ring finger protein 122	-1,59	2,36E-03	-1,51	5,18E-03
214579	Aldh5a1	aldehyde dehydrogenase family 5, subfamily A1	-1,59	2,97E-03	-1,35	2,19E-03
69149	Kbtbd3	kelch repeat and BTB (POZ) domain containing 3	-1,59	8,77E-03	-1,53	7,24E-03
238276	Akap5	A kinase (PRKA) anchor protein 5	-1,59	2,28E-02	-1,37	7,55E-02
243382	Ppm1k	protein phosphatase 1K (PP2C domain containing)	-1,59	7,18E-04	-1,56	1,11E-04
269397	Ss18l1	synovial sarcoma translocation gene on chromosome 18-like 1	-1,59	1,85E-03	-1,47	5,72E-03
72324	Plxdc1	plexin domain containing 1	-1,59	1,18E-02	-1,57	2,18E-03
67564	Tmem35	transmembrane protein 35	-1,60	2,92E-03	-1,39	9,22E-02
16716	Ky	kyphoscoliosis peptidase	-1,61	8,78E-03	-1,24	8,10E-02
29815	Bcar3	breast cancer anti-estrogen resistance 3	-1,61	4,67E-04	-1,55	4,15E-04
77015	Mpped2	metallophosphoesterase domain containing 2	-1,61	1,76E-04	-1,39	8,95E-04
100502829	Gm9899	predicted gene 9899	-1,62	4,65E-04	-1,54	6,13E-03
21936	Tnfrsf18	tumor necrosis factor receptor superfamily, member 18	-1,62	2,84E-02	-1,70	1,75E-02
30878	Apln	apelin	-1,62	1,59E-02	-1,44	1,46E-02
18619	Penk	preproenkephalin	-1,63	8,97E-02	-1,65	3,07E-02
73095	Slc25a42	solute carrier family 25, member 42	-1,63	1,98E-05	-1,50	4,86E-04
60611	Foxj2	forkhead box J2	-1,63	1,77E-04	-1,61	3,31E-04
20183	Rxrg	retinoid X receptor gamma	-1,63	2,22E-03	-1,58	9,54E-05
17309	Mgat3	mannoside acetylglucosaminyltransferase 3	-1,63	2,48E-02	-1,41	6,67E-02
75581	Yipf7	Yip1 domain family, member 7	-1,63	5,53E-04	-1,61	4,49E-03
791403	D830015G02Rik	RIKEN cDNA D830015G02 gene	-1,63	1,24E-03	-1,24	3,49E-02
244886	AI118078	expressed sequence AI118078	-1,63	1,11E-02	-1,22	1,56E-01
76282	Gpt	glutamic pyruvic transaminase, soluble	-1,64	4,73E-04	-1,41	6,96E-03
104103	Aim	antisense Igf2r RNA	-1,64	4,87E-03	-1,39	2,71E-02
76187	Adhfe1	alcohol dehydrogenase, iron containing, 1	-1,64	1,48E-04	-1,55	1,62E-04
224598	Zfp758	zinc finger protein 758	-1,64	1,55E-02	-1,65	1,47E-02
320438	Alg6	asparagine-linked glycosylation 6 (alpha-1,3,-glucosyltransferase)	-1,64	1,90E-03	-1,52	4,10E-04
280668	Adam1a	a disintegrin and metallopeptidase domain 1a	-1,65	8,06E-03	-1,64	5,63E-03
100302730	5830417I10Rik	gon-4-like pseudogene	-1,65	1,85E-05	-1,57	4,26E-05
60345	Nrip2	nuclear receptor interacting protein 2	-1,65	1,11E-02	-1,53	1,64E-02
11722	Amy1	amylase 1, salivary	-1,65	1,05E-03	-1,56	5,53E-03
12142	Prdm1	PR domain containing 1, with ZNF domain	-1,65	3,75E-04	-1,69	2,19E-03
66211	Rpl3l	ribosomal protein L3-like	-1,65	3,26E-05	-1,54	1,06E-04
76263	Gstk1	glutathione S-transferase kappa 1	-1,65	1,17E-03	-1,55	1,70E-04
18030	Nfil3	nuclear factor, interleukin 3, regulated	-1,66	1,16E-02	-1,84	4,30E-03
70031	Cmtm8	CKLF-like MARVEL transmembrane domain containing 8	-1,66	8,79E-03	-1,76	6,81E-03
70772	Ggnbp1	gametogenetin binding protein 1	-1,67	2,14E-04	-1,41	9,51E-03
258334	Olfir1396	olfactory receptor 1396	-1,67	3,02E-02	-1,68	1,33E-02
26912	Gcat	glycine C-acetyltransferase (2-amino-3-ketobutyrate-coenzyme A ligase)	-1,67	4,01E-03	-1,82	2,66E-04
14711	Gnmt	glycine N-methyltransferase	-1,68	1,08E-02	-1,41	4,40E-02
320456	B330016D10Rik	RIKEN cDNA B330016D10 gene	-1,68	1,62E-03	-1,38	5,50E-03
19682	Rdh5	retinol dehydrogenase 5	-1,68	1,10E-03	-1,74	1,79E-02
53945	Slc40a1	solute carrier family 40 (iron-regulated transporter), member 1	-1,69	2,10E-02	-1,46	5,60E-02
117167	Steap4	STEAP family member 4	-1,69	2,68E-03	-1,67	3,76E-04
16508	Kcnd2	potassium voltage-gated channel, Shal-related family, member 2	-1,69	4,69E-02	-1,49	1,55E-02
12292	Cacna1s	calcium channel, voltage-dependent, L type, alpha 1S subunit	-1,69	8,10E-03	-1,36	4,34E-03
208922	Cpeb3	cytoplasmic polyadenylation element binding protein 3	-1,69	1,16E-04	-1,60	1,28E-04
382864	Colq	collagen-like tail subunit (single strand of homotrimer) of asymmetric acetylcholinesterase	-1,69	2,27E-02	-1,14	2,32E-01
52570	Ccdc69	coiled-coil domain containing 69	-1,70	4,58E-04	-1,73	1,12E-03
112422	2610305D13Rik	RIKEN cDNA 2610305D13 gene	-1,70	3,61E-02	-2,20	1,40E-02
210789	Tbc1d4	TBC1 domain family, member 4	-1,70	2,77E-05	-1,60	3,00E-06
108153	Adams7	a disintegrin-like and metallopeptidase (repolysin type) with thrombospondin type 1 motif, 7	-1,70	1,30E-03	-1,60	6,89E-04
171429.chr9.1	Slc26a6	solute carrier family 26, member 6	-1,70	4,02E-03	-1,49	2,08E-03

74770	Hhat1	hedgehog acyltransferase-like	-1,71	9,72E-05	-1,50	2,88E-04
619597	Gm6086	predicted gene 6086	-1,71	8,18E-03	-1,68	5,39E-03
319830	1500004A13Rik	RIKEN cDNA 1500004A13 gene	-1,72	9,17E-04	-1,51	2,27E-03
213402	Armc2	armadillo repeat containing 2	-1,72	2,44E-03	-1,66	3,43E-03
19716	Bex1	brain expressed gene 1	-1,72	3,27E-02	-1,65	4,52E-02
71145	Scara5	scavenger receptor class A, member 5 (putative)	-1,72	2,76E-04	-1,62	1,24E-03
140483	Hnmt	histamine N-methyltransferase	-1,72	1,28E-02	-1,45	4,12E-02
67442	Retsat	retinol saturase (all trans retinol 13,14 reductase)	-1,72	9,36E-04	-1,66	4,91E-03
14585	Gfra1	glial cell line derived neurotrophic factor family receptor alpha 1	-1,73	4,09E-03	-1,47	1,58E-02
100043160	Gm10012	cytochrome c oxidase, subunit VIII pseudogene	-1,73	4,91E-02	-3,71	1,22E-02
13166	Dbh	dopamine beta hydroxylase	-1,74	8,68E-03	-1,70	1,08E-02
16002	Igf2	insulin-like growth factor 2	-1,74	2,17E-02	-1,34	1,17E-01
18639	Pfkfb1	6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 1	-1,74	3,94E-02	-1,88	2,50E-03
12351	Car4	carbonic anhydrase 4	-1,74	4,93E-03	-1,91	2,18E-03
330938	Dixdc1	DIX domain containing 1	-1,75	1,07E-02	-1,75	1,84E-03
67419	3632451O06Rik	RIKEN cDNA 3632451O06 gene	-1,75	1,54E-03	-2,05	9,08E-04
381218	4430402I18Rik	RIKEN cDNA 4430402I18 gene	-1,75	4,56E-03	-1,73	3,70E-03
18606	Enpp2	ectonucleotide pyrophosphatase/phosphodiesterase 2	-1,75	4,40E-03	-1,77	2,98E-02
330409	Cecr2	cat eye syndrome chromosome region, candidate 2	-1,75	9,80E-03	-1,68	1,18E-02
272428	Acsm5	acyl-CoA synthetase medium-chain family member 5	-1,75	9,98E-03	-1,37	9,11E-02
52538	Acaa2	acetyl-Coenzyme A acyltransferase 2 (mitochondrial 3-oxoacyl-Coenzyme A thiolase)	-1,75	2,10E-04	-1,58	4,85E-06
380674	Rdh18-ps	retinol dehydrogenase 18, pseudogene	-1,76	1,23E-02	-2,25	2,24E-04
217830	9030617O03Rik	RIKEN cDNA 9030617O03 gene	-1,76	1,79E-04	-1,64	2,17E-03
73326	4932702P03Rik	RIKEN cDNA 4932702P03 gene	-1,76	4,85E-03	-1,33	3,41E-02
51798	Ech1	enoyl coenzyme A hydratase 1, peroxisomal	-1,76	3,31E-04	-1,73	5,42E-07
18712	Pim1	proviral integration site 1	-1,76	1,11E-03	-1,46	7,09E-03
211429	Pla2g4b	phospholipase A2, group IVB (cytosolic)	-1,77	3,19E-05	-1,75	1,82E-04
329252	Lgr6	leucine-rich repeat-containing G protein-coupled receptor 6	-1,77	3,43E-03	-1,66	2,93E-03
63953	Dusp10	dual specificity phosphatase 10	-1,77	4,85E-04	-1,88	1,47E-03
54388	Hils1	histone H1-like protein in spermatids 1	-1,78	8,25E-04	-1,59	1,16E-02
11785	Apbb1	amyloid beta (A4) precursor protein-binding, family B, member 1	-1,78	1,19E-03	-1,64	1,43E-05
100504714	Gm16793	predicted gene, 16793	-1,78	8,18E-03	-1,56	5,66E-03
78910	Asb15	ankyrin repeat and SOCS box-containing 15	-1,78	4,18E-05	-1,67	1,20E-04
320844	Amigo3	adhesion molecule with Ig like domain 3	-1,79	6,99E-04	-1,50	1,44E-02
268859	Rbfox1	RNA binding protein, fox-1 homolog (C. elegans) 1	-1,79	3,54E-03	-1,66	1,05E-06
100271841	Gm16119	predicted gene 16119	-1,79	1,18E-02	-1,34	8,35E-02
436022	Dnaaf3	dynein, axonemal assembly factor 3	-1,79	1,28E-03	-1,55	2,32E-04
380863	Tmem171	transmembrane protein 171	-1,81	9,38E-03	-1,46	5,58E-02
235611	Plxnb1	plexin B1	-1,81	8,44E-05	-1,61	5,88E-06
52480	D7ErtD715e	DNA segment, Chr 7, ERATO Doi 715, expressed	-1,81	2,92E-02	-2,13	1,31E-02
14588	Gfra4	glial cell line derived neurotrophic factor family receptor alpha 4	-1,82	7,30E-03	-1,44	3,53E-02
11987	Slc7a1	solute carrier family 7 (cationic amino acid transporter, y+ system), member 1	-1,82	4,34E-02	-1,74	4,70E-02
216441	Slc26a10	solute carrier family 26, member 10	-1,82	2,25E-03	-1,56	4,41E-03
18823	Plp1	proteolipid protein (myelin) 1	-1,82	4,63E-02	-1,92	4,53E-02
353169	Slc2a12	solute carrier family 2 (facilitated glucose transporter), member 12	-1,82	3,00E-03	-1,41	2,42E-02
18143	Npas2	neuronal PAS domain protein 2	-1,83	3,96E-03	-1,83	9,13E-04
53422	Ybx2	Y box protein 2	-1,83	1,81E-04	-1,52	1,66E-03
11492	Adam19	a disintegrin and metallopeptidase domain 19 (meltrin beta)	-1,83	7,12E-03	-1,67	2,46E-02
73010	Gpr22	G protein-coupled receptor 22	-1,83	5,21E-03	-1,77	5,97E-03
69308	1700007P06Rik	RIKEN cDNA 1700007P06 gene	-1,83	2,28E-04	-1,91	2,06E-05
68646	Nadkd1	NAD kinase domain containing 1	-1,84	1,00E-03	-1,76	2,88E-03
319974	Auts2	autism susceptibility candidate 2	-1,84	1,35E-03	-1,66	2,09E-03
192216	Tmem47	transmembrane protein 47	-1,84	2,23E-02	-1,83	2,47E-02
68267	Slc25a22	solute carrier family 25 (mitochondrial carrier, glutamate), member 22	-1,84	3,78E-03	-1,80	3,03E-03
74591	Abca12	ATP-binding cassette, sub-family A (ABC1), member 12	-1,85	1,60E-03	-1,85	1,60E-03
208777	Sned1	sushi, nidogen and EGF-like domains 1	-1,87	2,29E-03	-1,88	1,97E-03
54525	Syt7	synaptotagmin VII	-1,87	5,55E-05	-1,68	5,34E-05
319942	A530016L24Rik	RIKEN cDNA A530016L24 gene	-1,88	6,51E-04	-1,56	1,70E-04
73442	Hspa12a	heat shock protein 12A	-1,89	9,71E-04	-1,63	5,75E-04
545276	Gal3st3	galactose-3-O-sulfotransferase 3	-1,90	1,07E-03	-1,51	8,56E-03
21953	Tnni2	troponin I, skeletal, fast 2	-1,92	1,95E-02	-1,90	1,98E-02
14955	H19	H19 fetal liver mRNA	-1,93	8,68E-03	-1,65	6,33E-02
11832	Aqp7	aquaporin 7	-1,93	1,05E-03	-1,74	8,81E-04
19735	Rgs2	regulator of G-protein signaling 2	-1,95	3,68E-03	-2,20	2,57E-03
272381	Lrrc4b	leucine rich repeat containing 4B	-1,96	3,12E-03	-1,34	2,21E-02
52882	Rgs7bp	regulator of G-protein signalling 7 binding protein	-1,96	3,88E-02	-2,02	3,97E-02
108000	Cenpf	centromere protein F	-1,98	2,76E-04	-2,14	6,31E-03
12125	Bcl2l11	BCL2-like 11 (apoptosis facilitator)	-1,99	5,52E-04	-1,94	6,82E-04



243547	Grip2	glutamate receptor interacting protein 2	-1,99	5,59E-05	-1,66	3,99E-04
432720	Akr1c19	aldo-keto reductase family 1, member C19	-2,00	1,63E-04	-1,63	1,80E-03
12960	Crybb1	crystallin, beta B1	-2,00	1,12E-02	-1,95	6,14E-03
12589	Ift81	intraflagellar transport 81	-2,00	3,48E-05	-1,94	4,51E-05
171210	Acot2	acyl-CoA thioesterase 2	-2,01	6,12E-04	-1,46	6,34E-05
53867	Col5a3	collagen, type V, alpha 3	-2,02	3,95E-02	-1,72	2,09E-02
74492	Kbtbd13	kelch repeat and BTB (POZ) domain containing 13	-2,02	1,57E-03	-1,76	7,66E-05
80978	Mrgprh	MAS-related GPR, member H	-2,02	3,54E-03	-1,73	1,44E-03
208943	Myo5c	myosin VC	-2,02	6,42E-04	-2,09	2,16E-04
320736	Vstm4	V-set and transmembrane domain containing 4	-2,03	3,27E-03	-1,81	5,68E-03
57875	Angptl4	angiopoietin-like 4	-2,04	3,28E-02	-2,15	3,17E-02
75216	Cep128	centrosomal protein 128	-2,05	1,90E-03	-2,11	1,67E-05
329502	Pla2g4e	phospholipase A2, group IVE	-2,06	1,63E-03	-1,66	2,57E-04
74931	4930481A15Rik	RIKEN cDNA 4930481A15 gene	-2,08	1,67E-02	-1,86	2,90E-02
14120	Fbp2	fructose biphosphatase 2	-2,08	1,91E-05	-1,86	3,19E-04
81840	Sorcs2	sortilin-related VPS10 domain containing receptor 2	-2,10	5,53E-04	-1,95	9,43E-04
16420	Itgb6	integrin beta 6	-2,12	1,96E-03	-1,77	1,20E-02
268319	BC025920	zinc finger protein pseudogene	-2,13	1,59E-02	-2,16	9,97E-03
20292	Ccl11	chemokine (C-C motif) ligand 11	-2,14	2,00E-02	-2,24	2,91E-02
114663	Impa2	inositol (myo)-1(or 4)-monophosphatase 2	-2,17	5,74E-04	-1,61	1,28E-02
319953	Ttll1	tubulin tyrosine ligase-like 1	-2,18	6,21E-04	-1,96	2,76E-04
100503040	Gm19522	predicted gene, 19522	-2,18	2,04E-02	-2,15	2,18E-02
216616	Efemp1	epidermal growth factor-containing fibulin-like extracellular matrix protein 1	-2,19	3,91E-03	-2,04	5,16E-02
11548	Adra1b	adrenergic receptor, alpha 1b	-2,22	1,07E-03	-1,79	2,90E-03
333182	Cox6b2	cytochrome c oxidase subunit VIb polypeptide 2	-2,23	1,29E-02	-1,51	1,15E-01
18546	Pcp4	Purkinje cell protein 4	-2,25	2,49E-02	-2,12	1,58E-02
16467	Atcay	ataxia, cerebellar, Cayman type homolog (human)	-2,27	3,88E-03	-2,35	3,19E-03
231646	Myo1h	myosin 1H	-2,28	2,73E-02	-1,01	9,33E-01
12477	Ctla4	cytotoxic T-lymphocyte-associated protein 4	-2,33	2,70E-02	-2,29	4,90E-02
20519	Slc22a3	solute carrier family 22 (organic cation transporter), member 3	-2,35	2,62E-03	-1,59	1,83E-02
17380	Mme	membrane metallo endopeptidase	-2,37	7,89E-04	-2,10	3,23E-03
73750	Whrn	whirlin	-2,41	3,69E-04	-1,91	1,91E-04
16372	Irx2	Iroquois related homeobox 2 (Drosophila)	-2,46	5,56E-03	-1,98	3,69E-04
233813	Vwa3a	von Willebrand factor A domain containing 3A	-2,49	6,48E-03	-2,19	1,49E-02
623312	Gm6416	predicted gene 6416	-2,49	9,58E-04	-2,56	8,97E-04
74356	4931428F04Rik	RIKEN cDNA 4931428F04 gene	-2,56	7,14E-05	-2,29	1,21E-02
20503	Slc16a7	solute carrier family 16 (monocarboxylic acid transporters), member 7	-2,61	2,07E-03	-2,69	1,93E-03
12723	Clcn1	chloride channel 1	-2,65	4,10E-04	-2,21	1,16E-03
13838	Epha4	Eph receptor A4	-2,68	1,13E-03	-2,34	2,76E-03
73990	4930455C13Rik	RIKEN cDNA 4930455C13 gene	-2,71	4,68E-02	1,04	7,13E-01
71699	Slc41a3	solute carrier family 41, member 3	-2,75	1,35E-02	-1,90	2,14E-02
216188	Aldh112	aldehyde dehydrogenase 1 family, member L2	-2,82	1,67E-03	-2,94	6,48E-04
65079	Rtn4r	reticulon 4 receptor	-2,93	3,39E-02	-2,20	5,21E-02
381836	Sbk2	SH3-binding domain kinase family, member 2	-3,09	1,32E-04	-3,03	1,42E-04
237403	Lingo3	leucine rich repeat and Ig domain containing 3	-3,16	3,71E-03	-2,18	2,51E-03
104158	Ces1d	carboxylesterase 1D	-3,19	9,63E-04	-2,99	7,58E-06
108995	Tbc1d10c	TBC1 domain family, member 10c	-3,19	1,97E-03	-2,80	5,87E-04
230163	Aldob	aldolase B, fructose-bisphosphate	-3,20	4,34E-04	-2,51	1,61E-03
102566	Ano10	anoctamin 10	-3,26	3,42E-05	-3,53	8,63E-04
57262	Retnla	resistin like alpha	-3,26	2,37E-04	-2,03	5,47E-02
100038575	Gm10635	predicted gene 10635	-3,43	2,25E-03	-3,46	2,66E-03
16855	Lgals4	lectin, galactose binding, soluble 4	-3,51	2,57E-04	-3,10	1,09E-04
381835	Gm1078	predicted gene 1078	-3,70	2,25E-03	-3,35	2,08E-05
240595	Kcnv2	potassium channel, subfamily V, member 2	-3,72	2,67E-04	-3,20	2,35E-04
100689	Spon2	spondin 2, extracellular matrix protein	-3,73	1,24E-02	-3,30	1,24E-02
11865	Arntl	aryl hydrocarbon receptor nuclear translocator-like	-5,19	1,09E-02	-4,20	2,45E-02
26897	Acot1	acyl-CoA thioesterase 1	-6,44	9,57E-04	-3,56	1,82E-05