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Supplemental Information

Insights into Negative Regulation by the Glucocorticoid Receptor from Genome-wide Profiling of Inflammatory Cistromes

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Supplementary Figure 1, related to Figures 1 and 2, Uhlenhaut et al.

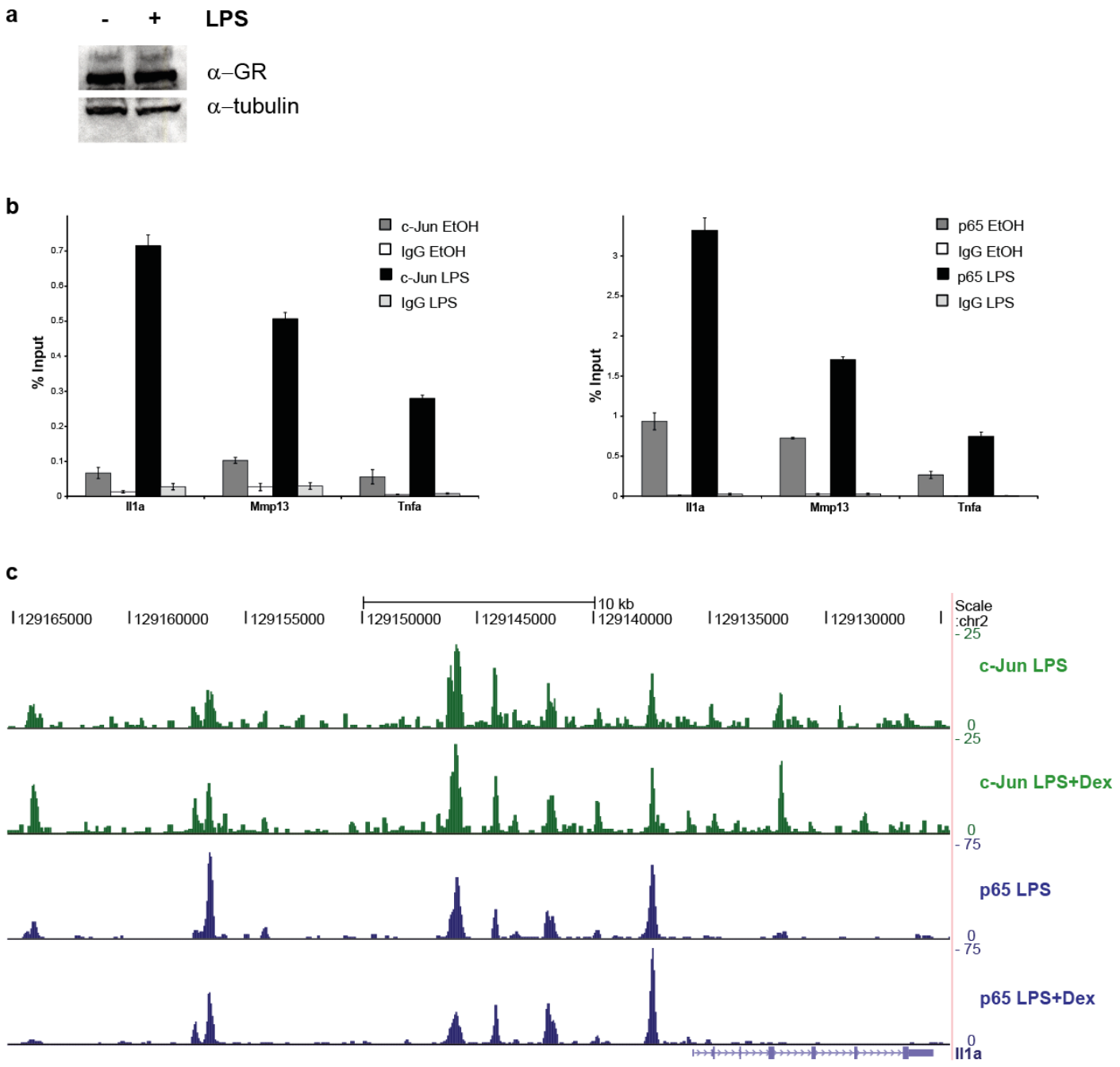


Figure S1.

a) GR protein expression levels are unaffected by 3 hours of LPS stimulation. Western Blot to detect GR protein levels in macrophages before and after 3 hours of LPS treatment. Equal amounts of total protein were loaded and tubulin was used as a loading control. **b) AP-1 and NF-kB DNA binding is almost undetectable in the absence of LPS stimuli.** ChIP-qPCR experiments using c-Jun and p65 antibodies show almost no enrichment for known target enhancers in the absence of LPS stimulation, but confirm significant chromatin occupancy after 3 hours of TLR4 activation in primary macrophages. **c) AP-1 and NF-kB binding is not affected by GR ligand treatment.** Representative example of ChIP-sequencing tracks observed at inflammatory loci that are repressed by Dex, i.e. the IL-1a locus. c-Jun (green) and p65 (blue) occupancy at cis-regulatory regions in macrophages treated with LPS and in cells treated with LPS plus Dex appears identical.

Supplementary Figure 2, related to Figure 3, Uhlenhaut et al.

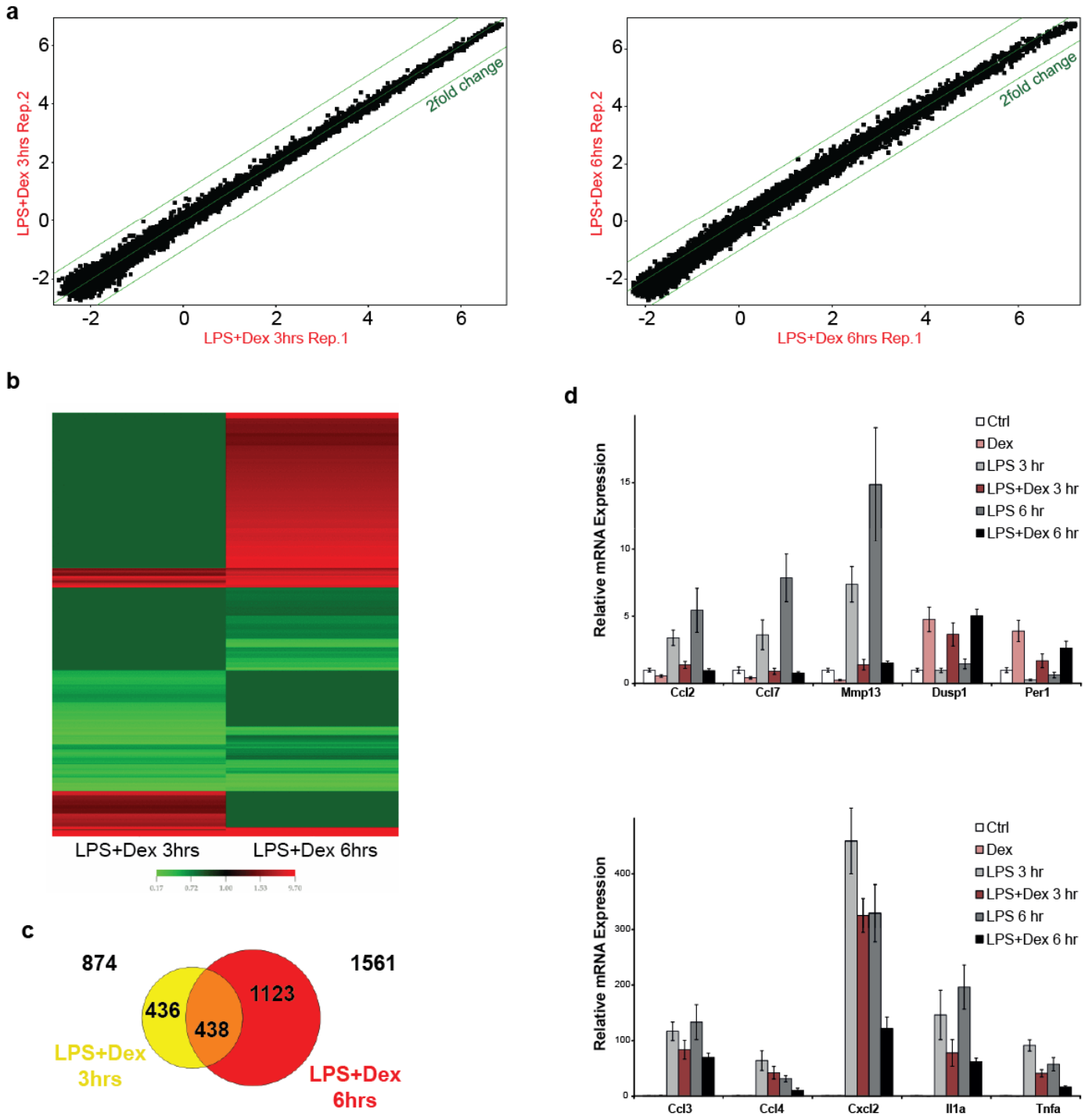


Figure S2. Reproducibility of Microarray Expression Profiles

a) Probe intensity profiles of replicate chip experiments (LPS+Dex at 3hrs and at 6hrs, performed in duplicate) show excellent correlation (log scale, green lines denote twofold changes in expression levels). b) Heatmap of microarray expression profiles at 3hrs and at 6hrs of LPS+Dex treatment. Each line depicts one probeset, red color = upregulation, green color = downregulation. c) Venn diagram of differentially expressed genes (1.5 fold change) at both timepoints. 438 genes show up- or downregulation at both timepoints. d) RT-qPCR experi-ments confirm differential expression as detected by microarray profiling. Real time qPCR using RNA isolated fromprimary mouse macrophages confirms downregulation of GR target genes predicted to be repressed from the microarray data set (with primers against *Ccl2, Ccl7, Mmp13, Ccl3, Ccl4, Cxcl2, Il1a* and *TNFa*) for two different timepoints, 3 and 6 hours. Similarly, using primers against *Dusp1* and *Per1*, the upregulation of GR target genes observed in the microarray experiment was confirmed as well.

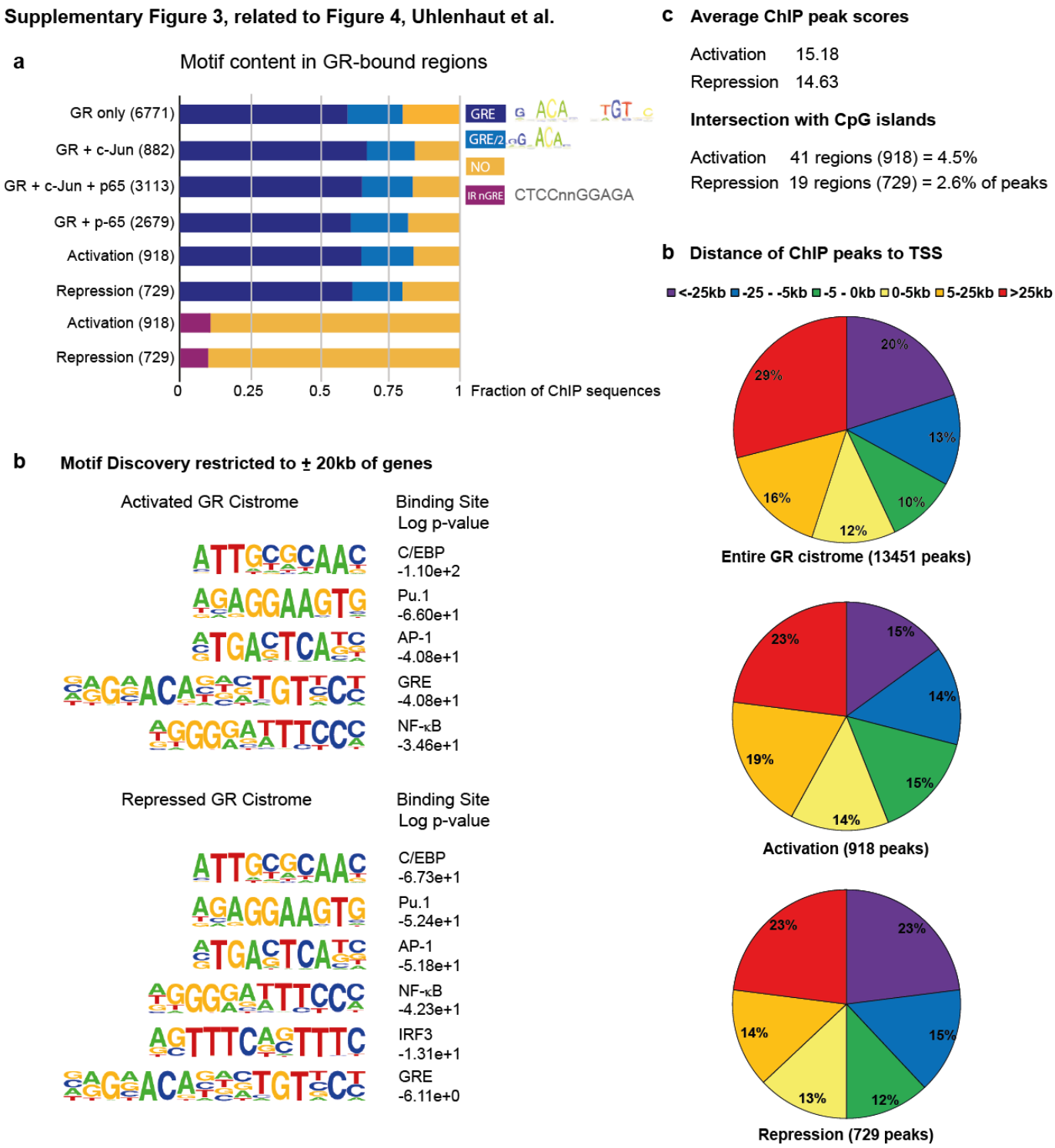


Figure S3. Statistical analysis of ChIP peaks associated with activation vs. repression

a) Lack of GRE de-enrichment in tethering or repressive scenarios. Bars show fractions of GR ChIP-sequences containing GREs: Motif content analysis of GR ChIP sequences shows that roughly 60% of cis-regulatory elements contain classical GREs, and an additional 20% contain a GRE half site. These proportions do not change significantly in peaks overlapping with AP-1 or NF-kB occupancy, nor between peaks associated with transcriptional activation vs repression. In addition, we could not detect the IR nGRE motif (Surjit et al.) in more than about 10% of peaks. b) Overrepresented motifs detected in ChIP sequences located within 20kb up- or downstream of differentially expressed genes. c) Average scores of ChIP peaks associated with up- and downregulation, and number of ChIP peaks that overlap with or lie next to annotated CpG islands. d) Genomic location of GR ChIP peaks with respect to the TSS of the nearest gene (linear proximity). Note that motifs (apart from IRF3), genomic distribution, peak height and intersection with CpG islands is similar for positive and negative sites.

Supplementary Figure 4, related to Figures 1 and 4, Uhlenhaut et al.

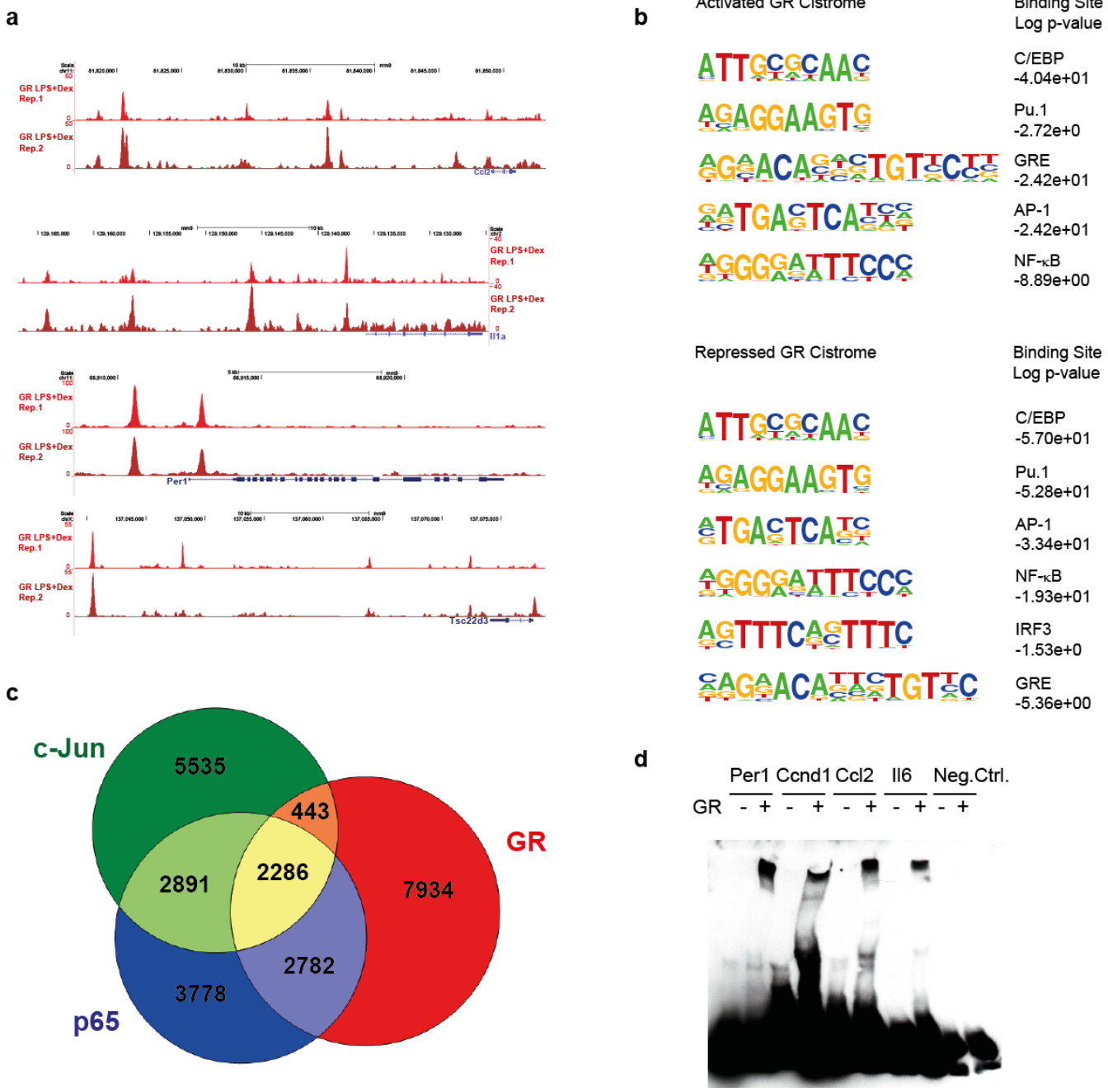


Figure S4. Reproducibility of GR ChIP-Seq experiments

a) Representative examples of GR ChIP-sequencing tracks, from two biological replicates. GR ChIP-peaks appear nearly identical at repressed (*Ccl2, Il1a*) as well as at activated (*Per1, Gilz*) loci, in response to stimulation by LPS and Dex. b) Motif discovery in GR ChIP-sequences that are linked to activation/repression of nearby gene expression. Genes that showed at least 1.5fold differential expression when comparing LPS to LPS+Dex treated RNA microarray samples for the two different timepoints examined (both at 3 and at 6 hours post treatment) were assigned to nearby ChIP peaks. Those peaks that were consistently called in the two biological ChIP-Seq replicates were used for motif analysis. This analysis confirms the co-occurence of Pu.1, C/EBP, NF-κB, AP-1 and GRE motifs at both up- and downregulated genes and the IRF3 motif associated with repression. c) NF-κB and AP-1 ChIP-Seq replicates. Venn diagram showing peak overlap of GR with ChIP signals from two independent biological replicates using p65 and c-Jun antibodies, confirming the intersections of cistromes shown in figure 1c. Numbers represent ChIP peaks. d) GR binds ChIP-peak GREs in vitro. EMSAs using biotinylated oligos containing the GRE motif sequences identified in Figure 4. Addition of human recombinant GR protein results in a gel shift only for *Per1, Ccnd1, Ccl2* and *Il6* GREs, but not for an unrelated negative control sequence.

Supplementary Figure 5, related to Figures 1 and 5, Uhlenhaut et al.

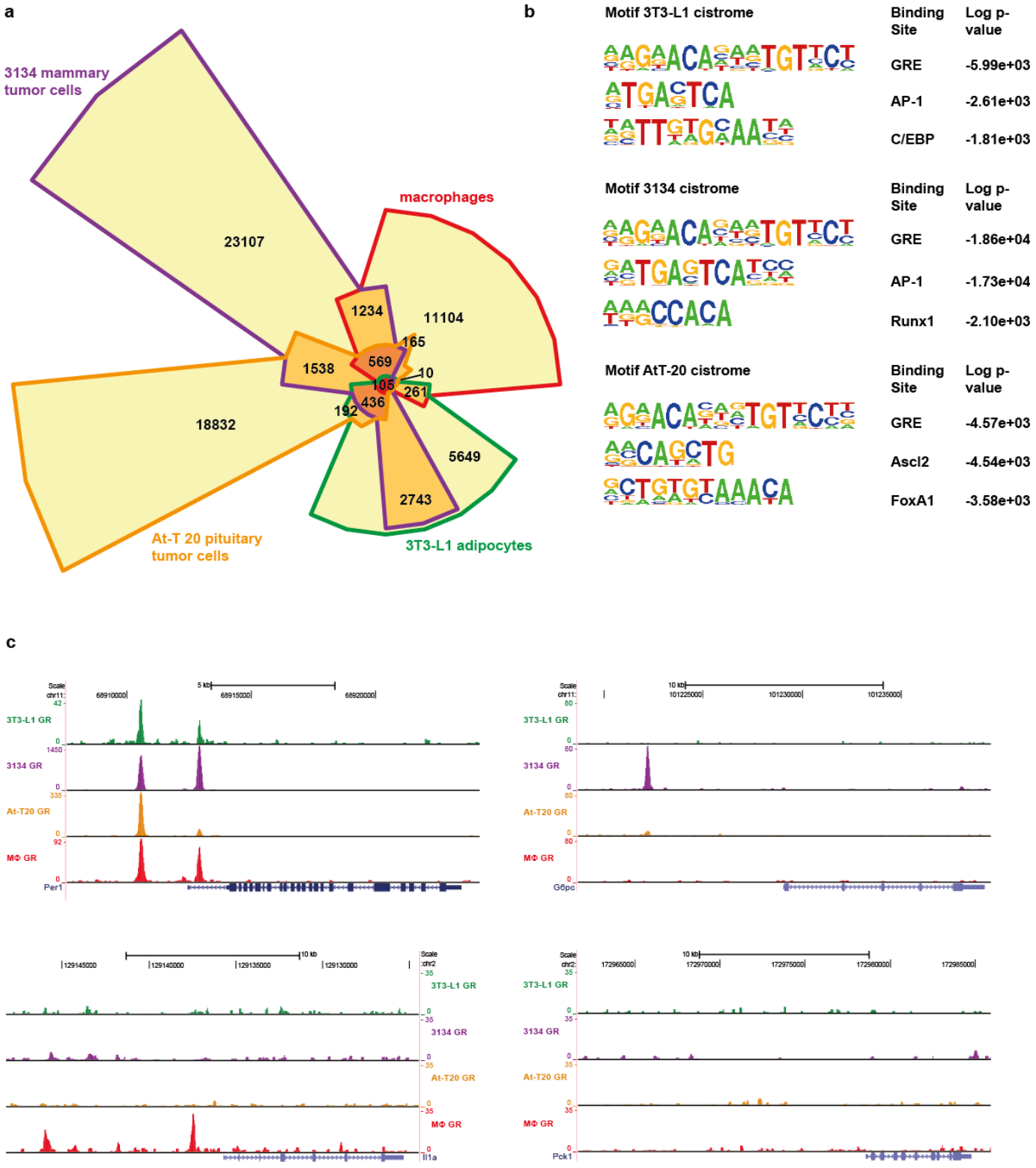
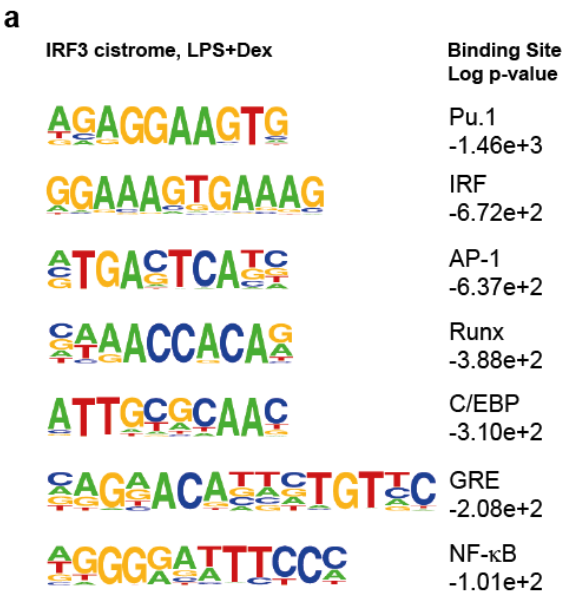
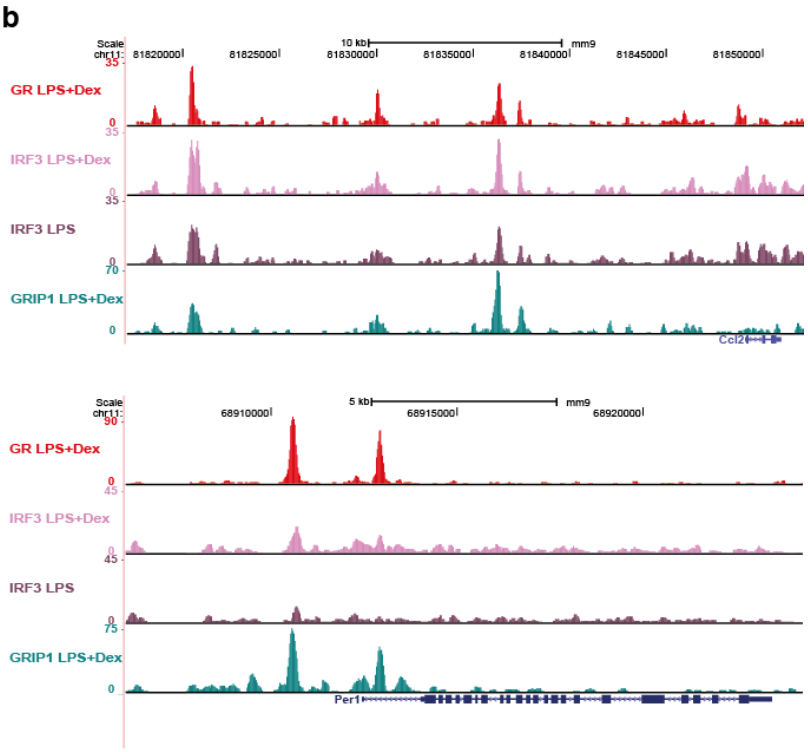


Figure S5. Cell type specific GR cistromes

a) Area propotional Euler diagram showing the overlap between genomic GR binding sites in 3134, AtT-20, 3T3-L1 cell lines and primary macrophages. Numbers represent detected ChIP-Seq peaks. Shades of yellow represent the amount of overlap between different cell types. b) De novo motif analysis of GR cistromes in different cells types. c) Visualization of GR ChIP-sequencing tracks in different cell types, showing *Per1, G6pc, Il1a* and *Pck1* loci. Data was used from John et al. and Steger et al.

Supplementary Figure 6, related to Figure 6, Uhlenhaut et al.





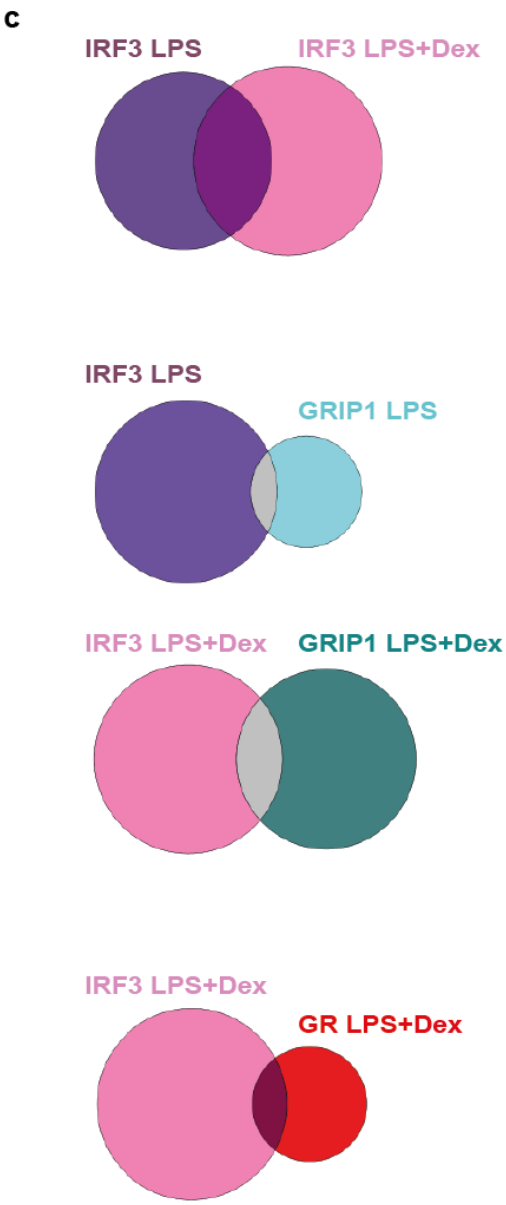


Figure S6. The IRF3 cistrome

a) De novo motif discovery in IRF3-occupied ChIP-sequences
Overrepresented motifs identified in IRF3 ChIP-peak sequences upon LPS and Dex treatment. As expected, the IRF3 cistrome features Pu.1, C/EBP, IRF, AP-1, NF-κB and GRE motifs. In addition, we also found Runx consensus sequences, which might point to additional functions of IRF3.

b) Representative examples of IRF3 ChIP-Seq tracks
Top: IRF3 colocalizes with GR and GRIP1 occupied cis-regulatory regions at repressed genes such as Ccl2. Please note that GR does NOT appear to antagonize IRF3 function by competitive binding. Bottom: No co-occupancy can be detected at enhancers of positively regulated genes such as Per1.

c) Area-proportional Venn diagrams showing IRF3, GRIP1 and GR colocalization
Top: Hormone treatment results in altered IRF3 binding patterns, with the cistromic landscape changing upon Dex treatment. About two thirds of IRF3 ChIP peaks are affected by GR ligand. Middle: Similarly, hormone treatment results in increased GRIP1 binding and increased colocalization with IRF3-occupied enhancers. Bottom: More than 20% of the GR cistrome show overlapping binding events with IRF3.

Supplementary Figure 7, related to Figure 7, Uhlenhaut et al.

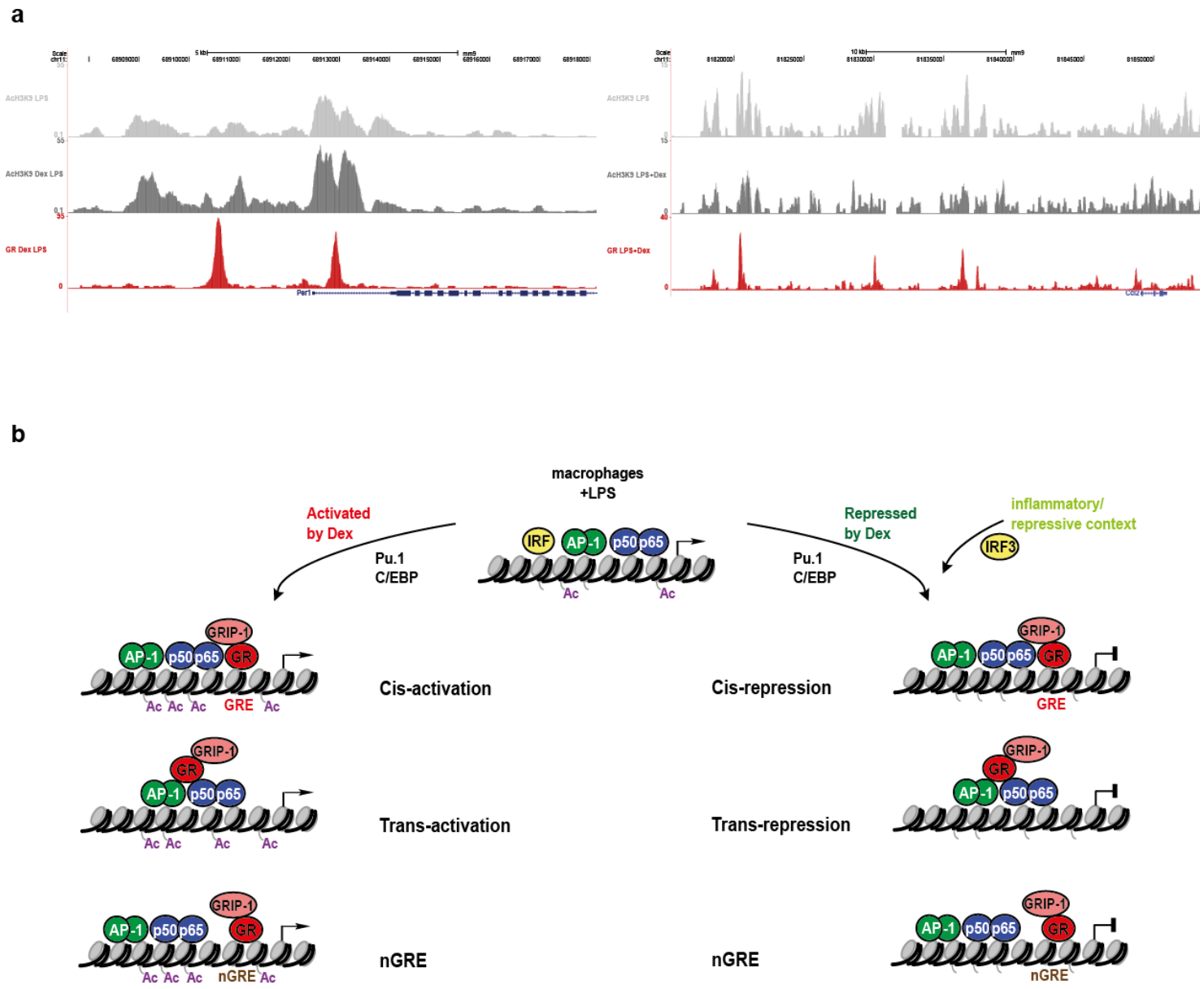


Figure S7.

a) Activation and repression by GR correlate with changes in histone acetylation. Representative ChIP-sequencing tracks of histone H3K9 acetylation marks. Loci that are activated by GR, such as Per1, show an increase in acetylated histone peaks, whereas repressed loci such as Ccl2 display reduced H3K9 acetylation patterns. **b) Model of GR-mediated gene regulation in macrophages.** When macrophages are stimulated by an inflammatory trigger such as LPS, TLR4 signaling leads to the activation and nuclear localization of AP-1 and NF-kB (and IRF3) and to chromatin reorganization and changes in accessibility. In these stimulated cells, the GR thus binds to a subset of enhancers, specified by the lineage-determining transcription factors Pu.1 and C/EBP, mainly corresponding to inflammatory genes, and colocalizing with AP-1 and NF-kB.The resulting anti-inflammatory GR cistrome features canonical GRE motifs as well as C/EBP and Pu.1 consensus sequences. Interestingly, but positive and negative enhancers display the same motif content. Both up- and downregulated genes display AP-1, NF-kB and GRIP1 occupancy, and hormone responsiveness can be equally conferred by classical GREs, tethering or nGREs. At negative enhancers, GR may antagonize inflammatory gene expression by utilizing the corepressor function of GRIP-1 and interfering with IRF3, AP-1 and NF-kB transcriptional activity. These repressive sites are characterized by depletion of histone H3K9 acetylation marks (and corresponding HDAC recruitment), whereas activated loci show increased acetyl-histone patterns (in conjunction with p300/CBP HAT activity).

Table S1, Uhlenhaut et al.

Table S1A:

Functional categories of GR cistromes in different states

Quiescent (Dex only, 6938 sites)

Term Name	Binom Raw P-Value	Binom Observed Region Hits	Hyper Observed Gene Hits	Hyper Total Genes
activation of MAPK activity	4.13873E-12	117	35	60
positive regulation of JUN kinase activity	1.38123E-06	55	15	23
regulation of protein homodimerization activity	2.23701E-06	25	5	5
dichotomous subdivision of an epithelial terminal unit	3.93594E-05	35	7	8
sprouting angiogenesis	4.56207E-05	40	9	10
dichotomous subdivision of terminal units (salivary gland branching)	6.28006E-05	31	5	5
negative regulation of peptidyl-tyrosine phosphorylation	7.91768E-05	20	8	10
regulation of alpha-beta T cell proliferation	8.25489E-05	34	10	13
regulation of macrophage derived foam cell differentiation	0.000150234	32	11	16
positive regulation of alpha-beta T cell proliferation	0.000269135	25	8	9
negative T cell selection	0.00027832	23	8	10
vacuolar transport	0.000334214	25	14	20
phagocytosis, engulfment	0.000358011	26	10	14
sphingomyelin biosynthetic process	0.000379519	10	5	5
positive regulation of phagocytosis	0.000379839	29	16	25
positive regulation of phosphatase activity	0.000394656	18	7	8
lysosomal transport	0.000594066	23	12	16
positive regulation of cholesterol storage	0.001975971	20	6	6

Constant (Dex and LPS+Dex, 3629 sites)

Term Name	Binom Raw P-Value	Binom Observed Region Hits	Hyper Observed Gene Hits	Hyper Total Genes
regulation of immune system process	1.74476E-35	325	149	439
response to wounding	1.13039E-34	349	173	489
response to bacterium	1.90031E-30	199	87	251
regulation of cytokine production	1.16662E-28	165	81	193
response to other organism	4.64157E-27	226	107	353
regulation of intracellular protein kinase cascade	8.75294E-27	240	108	284
response to molecule of bacterial origin	1.91054E-25	154	62	145
response to lipopolysaccharide	7.19207E-25	148	57	131
response to biotic stimulus	3.48528E-24	246	121	428
inflammatory response	2.02843E-23	188	95	271
immune response	3.04406E-23	237	138	442
regulation of response to stress	9.22022E-22	213	95	286
positive regulation of immune system process	3.93647E-20	194	85	271

phagocytosis	5.78327E-20	66	24	50
induction of apoptosis	2.80036E-19	150	69	198
induction of programmed cell death	3.80284E-19	150	69	199
response to oxidative stress	1.83429E-18	127	55	174
cytokine-mediated signaling pathway	1.95972E-18	74	30	77
wound healing	5.92186E-17	156	67	179
regulation of angiogenesis	1.37692E-16	77	29	78
regulation of interleukin-6 production	1.7028E-16	52	21	42
negative regulation of response to stimulus	2.73445E-16	126	51	127
negative regulation of cytokine production	1.78269E-15	57	25	42
regulation of defense response	3.52216E-15	116	55	150
positive regulation of angiogenesis	5.3132E-15	55	18	42
cellular response to extracellular stimulus	7.41926E-15	75	29	83
negative regulation of defense response	8.07319E-15	51	20	46
regulation of binding	1.27439E-14	145	64	170
positive regulation of cytokine production	1.69949E-14	82	43	93
negative regulation of inflammatory response	5.3773E-14	45	17	32

Anti-inflammatory (LPS+Dex, 9822 sites)

Term Name	Binom Raw P-Value	Binom Observed Region Hits	Hyper Observed Gene Hits	Hyper Total Genes
regulation of cytokine production	2.98307E-48	381	112	193
regulation of cytokine biosynthetic process	5.97082E-31	166	46	75
regulation of defense response	1.29199E-30	291	91	150
regulation of inflammatory response	2.97504E-28	210	61	92
regulation of T cell activation	1.33546E-25	265	77	122
cytokine-mediated signaling pathway	9.39943E-24	151	48	77
homeostasis of number of cells	2.54386E-23	210	62	111
positive regulation of cytokine biosynthetic process	9.77605E-23	115	34	52
B cell activation	1.18434E-21	198	55	82
icosanoid metabolic process	1.81164E-21	96	30	43
negative regulation of cell activation	1.23869E-20	134	42	61
negative regulation of immune system process	2.37306E-20	187	62	98
negative regulation of leukocyte activation	2.92237E-20	127	39	57
negative regulation of lymphocyte activation	3.76181E-20	119	36	53
positive regulation of peptidyl-tyrosine phosphorylation	5.56914E-20	133	33	52
negative regulation of cytokine production	9.83188E-20	115	31	42
unsaturated fatty acid biosynthetic process	3.71469E-19	74	23	32
icosanoid biosynthetic process	5.40893E-19	73	22	31
regulation of alpha-beta T cell activation	2.34654E-18	124	25	35
regulation of peptidyl-tyrosine phosphorylation	4.05727E-18	169	48	73
negative regulation of defense response	5.84574E-18	100	29	46
negative regulation of inflammatory response	1.19396E-17	89	23	32
regulation of tyrosine phosphorylation of STAT protein	1.21125E-16	69	17	24
regulation of JAK-STAT cascade	1.55425E-16	93	25	34
negative regulation of T cell activation	3.49901E-16	101	30	43

regulation of B cell activation	3.80296E-16	118	37	57
B cell differentiation	4.76671E-16	132	28	45
regulation of I-kappaB kinase/NF-kappaB cascade	9.02225E-16	163	64	99
regulation of lymphocyte differentiation	2.23749E-15	137	38	62
regulation of interleukin-12 production	4.95578E-15	75	20	26

GREAT version 1.8

Species assembly: mm9

Association rule: Basal+extension: 5000 bp upstream, 1000 bp downstream, 1000000 bp max extension, curated regulatory domains included

Table S1B:

Functional categories of GR cistromes in different cell types

Macrophage-specific

Term Name	Binom Raw P-Value	Binom Observed Region Hits	Hyper Observed Gene Hits	Hyper Total Genes
regulation of cytokine production	1.51E-62	453	124	193
inflammatory response	1.04E-51	527	155	271
regulation of cell activation	2.83E-42	461	127	194
regulation of defense response	5.70E-40	346	95	150
regulation of lymphocyte activation	6.63E-39	392	105	161
cytokine-mediated signaling pathway	2.37E-35	191	51	77
response to molecule of bacterial origin	1.24E-34	365	90	145
regulation of inflammatory response	4.72E-34	244	64	92
negative regulation of response to stimulus	1.94E-32	344	82	127
regulation of cytokine biosynthetic process	1.45E-31	181	50	75
positive regulation of cell activation	7.05E-31	321	81	125
regulation of T cell activation	3.27E-30	305	81	122
phagocytosis	3.70E-27	145	34	50
B cell activation	7.20E-27	232	55	82
positive regulation of cytokine production	9.68E-27	215	58	93
negative regulation of immune system process	2.98E-26	222	65	98
positive regulation of cytokine biosynthetic process	8.05E-26	131	37	52
leukocyte migration	1.88E-25	159	41	58
icosanoid metabolic process	3.39E-25	111	30	43
homeostasis of number of cells	3.86E-25	235	65	111

3T3-L1-specific

Term Name	Binom Raw P-Value	Binom Observed Region Hits	Hyper Observed Gene Hits	Hyper Total Genes
vasculature development	2.94E-59	555	133	299
blood vessel development	2.37E-58	538	126	288

blood vessel morphogenesis	1.59E-40	428	107	239
angiogenesis	1.92E-38	316	73	164
regulation of cellular component movement	1.47E-37	372	90	227
organ regeneration	7.20E-37	128	18	47
regulation of cell migration	4.98E-36	348	80	207
positive regulation of Ras protein signal transduction	5.85E-36	90	10	17
regulation of anatomical structure size	9.89E-36	370	105	304
positive regulation of small GTPase mediated signal transduction	2.92E-33	90	10	18
regulation of protein amino acid phosphorylation	1.17E-32	306	79	208
positive regulation of cellular protein metabolic process	2.56E-31	280	81	215
positive regulation of locomotion	1.87E-29	239	58	132
regulation of cell growth	1.90E-29	256	68	178
negative regulation of growth	4.73E-29	192	45	130
positive regulation of protein metabolic process	6.06E-29	295	89	229
regulation of cell size	8.25E-29	266	70	197
anti-apoptosis	8.40E-29	202	50	123
cellular response to hormone stimulus	1.70E-28	193	44	129
response to hypoxia	4.30E-28	234	62	163

3134-specific

Term Name	Binom Raw P-Value	Binom Observed Region Hits	Hyper Observed Gene Hits	Hyper Total Genes
negative regulation of transferase activity	5.76E-55	508	79	95
cellular response to peptide hormone stimulus	7.13E-44	423	64	83
negative regulation of kinase activity	3.67E-43	456	77	91
regulation of epithelial cell differentiation	2.52E-42	280	25	30
homeostasis of number of cells	1.30E-41	462	90	111
negative regulation of mitotic cell cycle	5.29E-38	182	16	18
cellular response to insulin stimulus	7.41E-38	391	57	76
regulation of TGF beta receptor signaling pathway	1.09E-35	323	44	50
fatty acid biosynthetic process	4.74E-32	340	73	94
leukocyte activation involved in immune response	9.37E-32	202	32	40
regulation of smooth muscle cell proliferation	4.63E-31	313	41	47
cell junction organization	8.55E-28	256	37	46
positive regulation of lipid metabolic process	2.05E-26	263	43	54
regulation of cytokine biosynthetic process	7.68E-26	277	56	75
lactation	8.27E-25	172	28	33
cell junction assembly	2.02E-24	181	26	29
positive regulation of cytoskeleton organization	2.80E-24	246	42	47
erythrocyte homeostasis	5.69E-23	219	41	50
positive regulation of smooth muscle cell proliferation	6.32E-23	202	29	32
regulation of B cell activation	3.07E-22	239	44	57

AtT-20-specific

Term Name	Binom Raw P-Value	Binom Observed Region Hits	Hyper Observed Gene Hits	Hyper Total Genes

regulation of cellular carbohydrate metabolic process	5.13E-20	203	33	41
regulation of carbohydrate metabolic process	1.91E-19	203	33	42
regulation of glucose metabolic process	1.33E-18	172	26	33
positive regulation of cellular carbohydrate metabolic process	5.01E-14	133	19	23
negative regulation of lipid biosynthetic process	2.76E-11	74	14	16
DNA damage response, signal transduction by p53 (induction of apoptosis)	9.40474E-06	46	12	13

Common to all four cell types

Term Name	Binom Raw P-Value	Binom Observed Region Hits	Hyper Observed Gene Hits	Hyper Total Genes
response to light stimulus	4.93E-08	11	9	131
cellular protein metabolic process	3.78E-07	40	38	1974
response to radiation	8.20E-07	12	10	209
transcription	8.1248E-06	37	33	1639
response to chemical stimulus	1.40669E-05	32	32	1443
response to oxygen levels	0.000235216	9	9	172

Common to two or more cell types

Term Name	Binom Raw P-Value	Binom Observed Region Hits	Hyper Observed Gene Hits	Hyper Total Genes
induction of programmed cell death	3.61169E-28	275	92	199
induction of apoptosis	4.58202E-28	274	91	198
anti-apoptosis	6.36501E-26	231	60	123
cellular response to peptide hormone stimulus	2.72701E-25	160	42	83
cellular response to insulin stimulus	2.33508E-24	153	38	76
negative regulation of transferase activity	4.63242E-23	172	44	95
negative regulation of signal transduction	6.71752E-23	198	61	110
negative regulation of signaling process	6.88316E-22	201	62	112
regeneration	1.18736E-20	196	65	97
positive regulation of angiogenesis	1.40747E-19	93	23	42
negative regulation of mitotic cell cycle	1.53698E-19	69	14	18
negative regulation of kinase activity	1.7131E-19	157	42	91
organ regeneration	5.65507E-19	111	32	47
mitochondrion organization	2.97981E-18	173	55	126
regulation of angiogenesis	5.99756E-18	123	39	78
regulation of myeloid cell differentiation	2.23909E-17	147	43	86
regulation of smooth muscle cell proliferation	2.30082E-17	116	27	47
placenta development	2.36348E-17	147	55	98
negative regulation of cell migration	3.48142E-17	141	33	59
negative regulation of intracellular protein kinase cascade	1.01632E-15	94	27	45

GREAT version 1.6.1 Species assembly: mm9

Association rule: Basal+extension: 5000 bp upstream, 1000 bp downstream, 1000000 bp max extension, curated regulatory domains included

Table S2, Uhlenhaut et al.

Table S2A:

Genes differentially expressed in macrophages treated with LPS+Dex (compared to LPS alone)

Feature	F.C.	Gene	Description
ILMN_2711910	0.17	**Ifnb1**	interferon beta 1, fibroblast
ILMN_1225909	0.20	**Pnliprp1**	pancreatic lipase related protein 1
ILMN_2835117	0.24	**Ccl7**	chemokine (C-C motif) ligand 7
ILMN_1219869	0.24	**Il15**	interleukin 15
ILMN_2737685	0.25	**Mmp13**	matrix metallopeptidase 13
ILMN_1245710	0.25	**Ccl2**	chemokine (C-C motif) ligand 2
ILMN_2685393	0.26	**Ccr5**	chemokine (C-C motif) receptor 5
ILMN_2702303	0.26	**Ch25h**	cholesterol 25-hydroxylase
ILMN_1249336	0.27	**Mmp13**	matrix metallopeptidase 13
ILMN_1221750	0.29	**Mycl1**	v-myc myelocytomatosis viral oncogene homolog 1, lung carcinoma derived
ILMN_2999439	0.29	**Klf4**	Kruppel-like factor 4 (gut)
ILMN_2926842	0.30	**Flrt2**	fibronectin leucine rich transmembrane protein 2
ILMN_3154691	0.31	**Sirpb1a**	signal-regulatory protein beta 1A
ILMN_2707870	0.31	**Mx1**	myxovirus (influenza virus) resistance 1
ILMN_1233172	0.31	**Pou3f1**	POU domain, class 3, transcription factor 1
ILMN_3072427	0.31	**Il1rn**	interleukin 1 receptor antagonist
ILMN_2938704	0.31	**Il15**	interleukin 15
ILMN_2685392	0.32	**Ccr5**	chemokine (C-C motif) receptor 5
ILMN_1212702	0.32	**Hba-a1**	hemoglobin alpha, adult chain 1
ILMN_1229813	0.33	**Krt16**	keratin 16
ILMN_2708203	0.33	**Cdkn1c**	cyclin-dependent kinase inhibitor 1C (P57)
ILMN_1377919	0.34	**Tubb2b**	tubulin, beta 2B
ILMN_2597769	0.35	**Igf2**	insulin-like growth factor 2
ILMN_2598622	0.35	**Slamf8**	SLAM family member 8
ILMN_3047389	0.36	**Gbp2**	guanylate binding protein 2
ILMN_1260448	0.36	**Plk2**	polo-like kinase 2 (Drosophila)
ILMN_2621448	0.36	**Adh7**	alcohol dehydrogenase 7 (class IV), mu or sigma polypeptide
ILMN_1230458	0.36	**Ifit3**	interferon-induced protein with tetratricopeptide repeats 3
ILMN_1241903	0.36	**Klf4**	Kruppel-like factor 4 (gut)
ILMN_2897891	0.37	**Rgs1**	regulator of G-protein signaling 1
ILMN_2743244	0.37	**Cd86**	CD86 antigen
ILMN_2623983	0.37	**Egr2**	early growth response 2
ILMN_2663249	0.38	**Slamf9**	SLAM family member 9
ILMN_2804166	0.38	**Igsf9**	immunoglobulin superfamily, member 9
ILMN_3151270	0.38	**Il1rn**	interleukin 1 receptor antagonist
ILMN_3162407	0.38	**Zfp36**	zinc finger protein 36
ILMN_2847437	0.39	**A430084P05Rik**	RIKEN cDNA A430084P05 gene
ILMN_1243601	0.39	**Il6**	interleukin 6
ILMN_2610234	0.39	**Il15**	interleukin 15

ILMN_2735615	0.39	**Isg20**	interferon-stimulated protein
ILMN_2868220	0.39	**Inhba**	inhibin beta-A
ILMN_2722380	0.40	**Oasl1**	2'-5' oligoadenylate synthetase-like 1
ILMN_2677634	0.40	**Clic5**	chloride intracellular channel 5
ILMN_3142296	0.40	**Klri1**	killer cell lectin-like receptor family I member 1
ILMN_2696491	0.40	**Phf11**	PHD finger protein 11
ILMN_1246194	0.41	**I830012O16Rik**	RIKEN cDNA I830012O16 gene
ILMN_2596596	0.41	**Rgs1**	regulator of G-protein signaling 1
ILMN_2843286	0.42	**Slc28a2**	solute carrier family 28 (sodium-coupled nucleoside transporter), member 2
ILMN_2662926	0.42	**Egr1**	early growth response 1
ILMN_2436146	0.42	**Tnfsf10**	tumor necrosis factor (ligand) superfamily, member 10
ILMN_1227018	0.42	**Il1a**	interleukin 1 alpha
ILMN_2829594	0.42	**Hspa1a**	heat shock protein 1A
ILMN_1216386	0.42	**Cd86**	CD86 antigen
ILMN_2888191	0.42	**Ccr5**	chemokine (C-C motif) receptor 5
ILMN_1253874	0.42	**Serpinb2**	serine (or cysteine) peptidase inhibitor, clade B, member 2
ILMN_1239219	0.42	**Mx2**	myxovirus (influenza virus) resistance 2
ILMN_2979237	0.43	**Gsta1**	glutathione S-transferase, alpha 1 (Ya)
ILMN_2959291	0.43	**Upp1**	uridine phosphorylase 1
ILMN_2619408	0.43	**Atf3**	activating transcription factor 3
ILMN_1218240	0.43	**Cd69**	CD69 antigen
ILMN_1231600	0.43	**Ptgs2**	prostaglandin-endoperoxide synthase 2
ILMN_3054914	0.44	**Usp18**	ubiquitin specific peptidase 18
ILMN_2746681	0.44	**BC013712**	cDNA sequence BC013712
ILMN_2981167	0.44	**Ifit2**	interferon-induced protein with tetratricopeptide repeats 2
ILMN_2917471	0.45	**Ednrb**	endothelin receptor type B
ILMN_3159720	0.45	**Rin2**	Ras and Rab interactor 2
ILMN_2663196	0.45	**Rin2**	Ras and Rab interactor 2
ILMN_1240864	0.45	**Cmpk2**	cytidine monophosphate (UMP-CMP) kinase 2, mitochondrial
ILMN_2596917	0.46	**LOC100044475**	similar to SH2/SH3 adaptor protein
ILMN_2905717	0.46	**Cd180**	CD180 antigen
ILMN_2654754	0.46	**Pdpn**	podoplanin
ILMN_3142299	0.46	**Klri1**	killer cell lectin-like receptor family I member 1
ILMN_2502136	0.46	**Cd40**	CD40 antigen
ILMN_1243826	0.46	**Plekha4**	pleckstrin homology domain containing, family A (phosphoinositide binding specific) member 4
ILMN_1256257	0.46	**Isg15**	ISG15 ubiquitin-like modifier
ILMN_1256089	0.46	**Rasgef1b**	RasGEF domain family, member 1B
ILMN_3162887	0.47	**Sp140**	Sp140 nuclear body protein
ILMN_2639018	0.47	**Cav2**	caveolin 2
ILMN_2622856	0.47	**Apol9b**	apolipoprotein L 9b
ILMN_2771766	0.47	**Ccl12**	chemokine (C-C motif) ligand 12
ILMN_3161805	0.47	**Ccl12**	chemokine (C-C motif) ligand 12
ILMN_2778655	0.47	**Vcam1**	vascular cell adhesion molecule 1
ILMN_2943699	0.47	**Vrk2**	vaccinia related kinase 2
ILMN_3162671	0.48	**Gm5431**	predicted gene 5431
ILMN_2696492	0.48	**Phf11**	PHD finger protein 11
ILMN_2818717	0.48	**Aftph**	aftiphilin
ILMN_2903945	0.48	**Gadd45g**	growth arrest and DNA-damage-inducible 45 gamma

ILMN_2750740	0.48	**LOC100048721**	similar to fibronectin leucine rich transmembrane protein 3
ILMN_1235032	0.48	**Wdr20b**	WD repeat domain 20b
ILMN_2717366	0.49	**Oasl1**	2'-5' oligoadenylate synthetase-like 1
ILMN_2726905	0.49	**Gnb4**	guanine nucleotide binding protein (G protein), beta 4
ILMN_2793464	0.49	**Oasl1**	2'-5' oligoadenylate synthetase-like 1
ILMN_2717176	0.49	**Rgl1**	ral guanine nucleotide dissociation stimulator,-like 1
ILMN_1234137	0.49	**A530023O14Rik**	RIKEN cDNA A530023O14 gene
ILMN_2789762	0.49	**Fam3b**	family with sequence similarity 3, member B
ILMN_2589640	0.50	**Ednrb**	endothelin receptor type B
ILMN_1229680	0.50	**Flrt3**	fibronectin leucine rich transmembrane protein 3
ILMN_2919411	0.50	**Osm**	oncostatin M
ILMN_2491202	0.50	**Vnn3**	vanin 3
ILMN_3010089	0.50	**Ifi204**	interferon activated gene 204
ILMN_2653132	0.51	**Clec7a**	C-type lectin domain family 7, member a
ILMN_2649068	0.51	**Irf1**	interferon regulatory factor 1
ILMN_3097131	0.51	**Timeless**	timeless homolog (Drosophila)
ILMN_3160750	0.51	**AA467197**	expressed sequence AA467197
ILMN_2603647	0.51	**Clec2d**	C-type lectin domain family 2, member d
ILMN_2981169	0.51	**Ifit2**	interferon-induced protein with tetratricopeptide repeats 2
ILMN_2937320	0.52	**Schip1**	schwannomin interacting protein 1
ILMN_1249864	0.52	**Fam26f**	family with sequence similarity 26, member F
ILMN_2664491	0.52	**Snx2**	sorting nexin 2
ILMN_2706462	0.52	**Il12a**	interleukin 12a
ILMN_2819841	0.52	**Rpl7a**	ribosomal protein L7A
ILMN_2632942	0.52	**Sumo1**	SMT3 suppressor of mif two 3 homolog 1 (yeast)
ILMN_2503129	0.52	**Cd40**	CD40 antigen
ILMN_2597030	0.53	**Smox**	spermine oxidase
ILMN_1239808	0.53	**Lysmd2**	LysM, putative peptidoglycan-binding, domain containing 2
ILMN_1260378	0.53	**Csrp1**	cysteine and glycine-rich protein 1
ILMN_2959293	0.53	**Upp1**	uridine phosphorylase 1
ILMN_1243593	0.53	**Pcgf5**	polycomb group ring finger 5
ILMN_1217133	0.53	**Gstt4**	glutathione S-transferase, theta 4
ILMN_2642913	0.53	**Emp1**	epithelial membrane protein 1
ILMN_2974720	0.53	**Igf2bp2**	insulin-like growth factor 2 binding protein 2
ILMN_3142257	0.53	**Mtus1**	mitochondrial tumor suppressor 1
ILMN_2944413	0.53	**Akap7**	A kinase (PRKA) anchor protein 7
ILMN_3096144	0.53	**Stat3**	signal transducer and activator of transcription 3
ILMN_2603081	0.54	**Nt5c3**	5'-nucleotidase, cytosolic III
ILMN_2904117	0.54	**Six1**	sine oculis-related homeobox 1 homolog (Drosophila)
ILMN_3075340	0.54	**P2ry14**	purinergic receptor P2Y, G-protein coupled, 14
ILMN_2827780	0.54	**D14Ertd668e**	DNA segment, Chr 14, ERATO Doi 668, expressed
ILMN_2754158	0.54	**Tgtp1**	T-cell specific GTPase 1
ILMN_2636403	0.54	**Csrnp1**	cysteine-serine-rich nuclear protein 1
ILMN_2707865	0.54	**Epsti1**	epithelial stromal interaction 1 (breast)
ILMN_2590884	0.54	**Plaur**	plasminogen activator, urokinase receptor
ILMN_2648548	0.54	**Casp7**	caspase 7
ILMN_2649067	0.54	**Irf1**	interferon regulatory factor 1
ILMN_2621021	0.55	**Ptpn14**	protein tyrosine phosphatase, non-receptor type 14

ILMN_3160770	0.55	**Cd200**	CD200 antigen
ILMN_1236059	0.55	**Stat4**	signal transducer and activator of transcription 4
ILMN_2625377	0.55	**Rgs1**	regulator of G-protein signaling 1
ILMN_2987487	0.55	**Tmem171**	transmembrane protein 171
ILMN_2726371	0.55	**Nqo1**	NAD(P)H dehydrogenase, quinone 1
ILMN_2783223	0.55	**Iigp1b**	interferon inducible GTPase 1B
ILMN_1217041	0.55	**Cd86**	CD86 antigen
ILMN_2603636	0.55	**Sirpb1a**	signal-regulatory protein beta 1A
ILMN_1247704	0.55	**Hmgn3**	high mobility group nucleosomal binding domain 3
ILMN_2719803	0.55	**Stap1**	signal transducing adaptor family member 1
ILMN_2834777	0.56	**Irf1**	interferon regulatory factor 1
ILMN_1230157	0.56	**Rnd3**	Rho family GTPase 3
ILMN_1228165	0.56	**Tbc1d9**	TBC1 domain family, member 9
ILMN_2642339	0.56	**Slc1a2**	solute carrier family 1 (glial high affinity glutamate transporter), member 2
ILMN_2647594	0.56	**Igf1**	insulin-like growth factor 1
ILMN_2865016	0.56	**Cd83**	CD83 antigen
ILMN_1217786	0.56	**Epsti1**	epithelial stromal interaction 1 (breast)
ILMN_2848163	0.56	**Rilpl1**	Rab interacting lysosomal protein-like 1
ILMN_2632940	0.56	**Sumo1**	SMT3 suppressor of mif two 3 homolog 1 (yeast)
ILMN_3155492	0.56	**Tapbp**	TAP binding protein
ILMN_3115796	0.56	**Cd40**	CD40 antigen
ILMN_2735350	0.56	**Gdf15**	growth differentiation factor 15
ILMN_1224883	0.57	**Slc30a1**	solute carrier family 30 (zinc transporter), member 1
ILMN_2899863	0.57	**Tnf**	tumor necrosis factor
ILMN_2730463	0.57	**Cdt1**	chromatin licensing and DNA replication factor 1
ILMN_2841024	0.57	**Pnpla1**	patatin-like phospholipase domain containing 1
ILMN_1247267	0.57	**Smox**	spermine oxidase
ILMN_2944666	0.58	**Ifit3**	interferon-induced protein with tetratricopeptide repeats 3
ILMN_3035162	0.58	**Sgk3**	serum/glucocorticoid regulated kinase 3
ILMN_2671266	0.58	**Fam116b**	family with sequence similarity 116, member B
ILMN_1245200	0.58	**Ifi205**	interferon activated gene 205
ILMN_3138732	0.58	**Nrap**	nebulin-related anchoring protein
ILMN_2663258	0.58	**Clec7a**	C-type lectin domain family 7, member a
ILMN_1226800	0.58	**Cd274**	CD274 antigen
ILMN_2630993	0.58	**Ppap2b**	phosphatidic acid phosphatase type 2B
ILMN_2747651	0.58	**Hat1**	histone aminotransferase 1
ILMN_2887630	0.58	**Fabp3**	fatty acid binding protein 3, muscle and heart
ILMN_2684848	0.58	**D14Ertd668e**	DNA segment, Chr 14, ERATO Doi 668, expressed
ILMN_2780247	0.58	**Lta**	lymphotoxin A
ILMN_2926198	0.58	**2310016C08Rik**	RIKEN cDNA 2310016C08 gene
ILMN_1244479	0.58	**Vnn3**	vanin 3
ILMN_2671320	0.58	**Il23a**	interleukin 23, alpha subunit p19
ILMN_2599782	0.58	**Irf1**	interferon regulatory factor 1
ILMN_3006767	0.58	**Mlkl**	mixed lineage kinase domain-like
ILMN_3131679	0.59	**Usp18**	ubiquitin specific peptidase 18
ILMN_2700166	0.59	**Ccnd2**	cyclin D2
ILMN_1234539	0.59	**Irgm1**	immunity-related GTPase family M member 1
ILMN_1238486	0.59	**Ctsc**	cathepsin C

ILMN_1240125	0.59	**Gnb4**	guanine nucleotide binding protein (G protein), beta 4
ILMN_1221264	0.59	**Klf4**	Kruppel-like factor 4 (gut) (Klf4)
ILMN_1239221	0.59	**2310016C08Rik**	RIKEN cDNA 2310016C08 gene
ILMN_2845658	0.59	**LOC625360**	2-cell-stage, variable group, member 3-like
ILMN_1219200	0.59	**P2ry14**	purinergic receptor P2Y, G-protein coupled, 14
ILMN_2614970	0.59	**Stat4**	signal transducer and activator of transcription 4
ILMN_2855315	0.59	**Hist1h1c**	histone cluster 1, H1c
ILMN_2811154	0.59	**Cxcl2**	chemokine (C-X-C motif) ligand 2
ILMN_1244866	0.59	**Gbp5**	guanylate binding protein 5
ILMN_2588051	0.59	**Tubb2b**	tubulin, beta 2B
ILMN_1214750	0.59	**Kynu**	kynureninase (L-kynurenine hydrolase)
ILMN_1229523	0.59	**Fcgr1**	Fc receptor, IgG, high affinity I
ILMN_2762380	0.60	**Enpp4**	ectonucleotide pyrophosphatase/phosphodiesterase 4
ILMN_2814974	0.60	**Klra2**	killer cell lectin-like receptor, subfamily A, member 2
ILMN_3161263	0.60	**Fzd5**	frizzled homolog 5 (Drosophila)
ILMN_2629375	0.60	**1110038F14Rik**	RIKEN cDNA 1110038F14 gene
ILMN_2906728	0.60	**H19**	H19 fetal liver (H19) on chromosome 7
ILMN_2433990	0.60	**LOC100048346**	similar to ubiquitin specific protease UBP43
ILMN_2850753	0.60	**Mdm2**	transformed mouse 3T3 cell double minute 2
ILMN_2904321	0.60	**Akt3**	thymoma viral proto-oncogene 3
ILMN_2626939	0.60	**Daxx**	Fas death domain-associated protein
ILMN_1216764	0.60	**Ier3**	immediate early response 3
ILMN_2634970	0.60	**Ripk2**	receptor (TNFRSF)-interacting serine-threonine kinase 2
ILMN_1247710	0.60	**Nod1**	nucleotide-binding oligomerization domain containing 1
ILMN_2630045	0.60	**Il27**	interleukin 27
ILMN_2593554	0.60	**Igtp**	interferon gamma induced GTPase
ILMN_2644719	0.61	**Hmgn3**	high mobility group nucleosomal binding domain 3
ILMN_2741445	0.61	**AA960436**	expressed sequence AA960436
ILMN_1236693	0.61	**Bfar**	bifunctional apoptosis regulator
ILMN_3006790	0.61	**Hpse**	heparanase
ILMN_1234774	0.61	**2010005H15Rik**	RIKEN cDNA 2010005H15 gene
ILMN_3066763	0.61	**Arl4a**	ADP-ribosylation factor-like 4A
ILMN_2628174	0.61	**Acss1**	acyl-CoA synthetase short-chain family member 1
ILMN_1254113	0.61	**Snx2**	sorting nexin 2
ILMN_2624100	0.61	**Irf1**	interferon regulatory factor 1
ILMN_2725188	0.61	**Atp10a**	ATPase, class V, type 10A
ILMN_2780392	0.61	**Slc7a8**	solute carrier family 7 (cationic amino acid transporter, y+ system), member 8
ILMN_1229939	0.61	**A530064D06Rik**	RIKEN cDNA A530064D06 gene (A530064D06Rik)
ILMN_2478101	0.61	**LOC100047963**	similar to ADIR1
ILMN_1228453	0.61	**Setdb2**	SET domain, bifurcated 2
ILMN_2747923	0.61	**Slc40a1**	solute carrier family 40 (iron-regulated transporter), member 1
ILMN_1244829	0.62	**Hap1**	huntingtin-associated protein 1
ILMN_1212938	0.62	**Aif1**	allograft inflammatory factor 1
ILMN_3160771	0.62	**Cd200**	CD200 antigen
ILMN_2493067	0.62	**Zranb3**	zinc finger, RAN-binding domain containing 3
ILMN_3161790	0.62	**Nlrc5**	NLR family, CARD domain containing 5
ILMN_2904658	0.62	**Procr**	protein C receptor, endothelial
ILMN_2688306	0.62	**Rbl1**	retinoblastoma-like 1 (p107)

ILMN_3049896	0.62	**Evi2b**	ecotropic viral integration site 2b
ILMN_2638491	0.62	**Slamf7**	SLAM family member 7
ILMN_2706803	0.62	**Crlf3**	cytokine receptor-like factor 3
ILMN_2711172	0.62	**Irgm1**	immunity-related GTPase family M member 1
ILMN_2940510	0.62	**Tlk2**	tousled-like kinase 2 (Arabidopsis)
ILMN_2651715	0.62	**Axl**	AXL receptor tyrosine kinase
ILMN_2632665	0.62	**Cav1**	caveolin 1, caveolae protein
ILMN_2731057	0.62	**Psme2**	proteasome (prosome, macropain) 28 subunit, beta
ILMN_2652511	0.62	**Hist1h2bj**	histone cluster 1, H2bj
ILMN_2519676	0.62	**Triobp**	TRIO and F-actin binding protein
ILMN_2998303	0.62	**Katna1**	katanin p60 (ATPase-containing) subunit A1
ILMN_1238069	0.62	**4930539E08Rik**	RIKEN cDNA 4930539E08 gene (4930539E08Rik)
ILMN_3008859	0.63	**Ctsc**	cathepsin C
ILMN_3052430	0.63	**Cd63**	CD63 antigen
ILMN_1223499	0.63	**Nos2**	nitric oxide synthase 2, inducible
ILMN_2628822	0.63	**Oas1g**	2'-5' oligoadenylate synthetase 1G
ILMN_3071764	0.63	**Fam82a2**	family with sequence similarity 82, member A2
ILMN_2719498	0.63	**Mar5**	membrane-associated ring finger (C3HC4) 5
ILMN_2965903	0.63	**Hdc**	histidine decarboxylase
ILMN_1230019	0.63	**Uba7**	ubiquitin-like modifier activating enzyme 7
ILMN_3142803	0.63	**Cxcl10**	chemokine (C-X-C motif) ligand 10
ILMN_1230357	0.63	**Itpr1**	inositol 1,4,5-triphosphate receptor 1
ILMN_2776681	0.63	**Dusp28**	dual specificity phosphatase 28
ILMN_3042112	0.63	**Gpr137b**	G protein-coupled receptor 137B
ILMN_3122961	0.63	**Gbp2**	guanylate binding protein 2
ILMN_1239843	0.63	**Clecsf12**	C-type lectin domain family 7, member a
ILMN_3120510	0.63	**Gvin1**	GTPase, very large interferon inducible 1
ILMN_1224754	0.63	**Ckb**	creatine kinase, brain
ILMN_2915279	0.63	**Mov10**	Moloney leukemia virus 10
ILMN_1248849	0.63	**Gsta2**	glutathione S-transferase, alpha 2 (Yc2)
ILMN_2624854	0.63	**Gstm2**	glutathione S-transferase, mu 2
ILMN_1236609	0.63	**Gp49a**	glycoprotein 49 A
ILMN_2744890	0.63	**Gadd45g**	growth arrest and DNA-damage-inducible 45 gamma
ILMN_2416145	0.63	**Tpx2**	TPX2, microtubule-associated protein homolog (Xenopus laevis)
ILMN_1230287	0.64	**Cd300ld**	CD300 molecule-like family member d
ILMN_2834294	0.64	**Tmem229b**	transmembrane protein 229B
ILMN_3008858	0.64	**Ctsc**	cathepsin C
ILMN_3139158	0.64	**Trim21**	tripartite motif-containing 21
ILMN_1249727	0.64	**Car13**	carbonic anhydrase 13
ILMN_1247592	0.64	**Casp1**	caspase 1
ILMN_2702628	0.64	**2900002H16Rik**	RIKEN cDNA 2900002H16 gene (2900002H16Rik)
ILMN_2936118	0.64	**Rpl24**	ribosomal protein L24
ILMN_1230143	0.64	**Batf2**	basic leucine zipper transcription factor, ATF-like 2
ILMN_1230765	0.64	**Tpst1**	protein-tyrosine sulfotransferase 1
ILMN_1232716	0.64	**Cyp1b1**	cytochrome P450, family 1, subfamily b, polypeptide 1
ILMN_1214183	0.64	**A530064D06Rik**	RIKEN cDNA A530064D06 gene (A530064D06Rik)
ILMN_2989706	0.64	**Prdx1**	peroxiredoxin 1
ILMN_2820379	0.64	**Rnf135**	ring finger protein 135

ILMN_2804487	0.64	**Aif1**	allograft inflammatory factor 1
ILMN_1257020	0.64	**Aldh1b1**	aldehyde dehydrogenase 1 family, member B1
ILMN_2698046	0.64	**Stat3**	signal transducer and activator of transcription 3
ILMN_3161253	0.64	**Shisa3**	shisa homolog 3 (Xenopus laevis)
ILMN_1259290	0.64	**Akt3**	thymoma viral proto-oncogene 3
ILMN_2732996	0.64	**Gpr68**	G protein-coupled receptor 68
ILMN_3072407	0.64	**BC094916**	cDNA sequence BC094916 (BC094916)
ILMN_3116885	0.65	**Gpr137b**	G protein-coupled receptor 137B
ILMN_2702406	0.65	**Pim1**	proviral integration site 1 (Pim1)
ILMN_3149944	0.65	**Cklf**	chemokine-like factor
ILMN_2686087	0.65	**Cutc**	cutC copper transporter homolog (E.coli)
ILMN_3006505	0.65	**Bcl2a1d**	B-cell leukemia/lymphoma 2 related protein A1d
ILMN_2496288	0.65	**Cd40**	CD40 antigen
ILMN_1232041	0.65	**Klf6**	Kruppel-like factor 6
ILMN_1247347	0.65	**Gcg**	glucagon
ILMN_2746842	0.65	**Mgat4a**	mannoside acetylglucosaminyltransferase 4, isoenzyme A
ILMN_3151243	0.65	**BC094916**	cDNA sequence BC094916
ILMN_2689062	0.65	**Mtmr14**	myotubularin related protein 14
ILMN_2677772	0.65	**Srxn1**	sulfiredoxin 1 homolog (S. cerevisiae)
ILMN_2661005	0.65	**1110018G07Rik**	RIKEN cDNA 1110018G07 gene
ILMN_1249863	0.65	**Slamf1**	signaling lymphocytic activation molecule family member 1
ILMN_3163347	0.66	**Mtus1**	mitochondrial tumor suppressor 1 (Mtus1)
ILMN_2946672	0.66	**2310014L17Rik**	RIKEN cDNA 2310014L17 gene (2310014L17Rik)
ILMN_3161013	0.66	**Hk3**	hexokinase 3
ILMN_2625290	0.66	**Ifi35**	interferon-induced protein 35
ILMN_3158725	0.66	**Raet1b**	retinoic acid early transcript beta
ILMN_1229804	0.66	**Lta**	lymphotoxin A (Lta),
ILMN_1220586	0.66	**Papd4**	PAP associated domain containing 4
ILMN_2680076	0.66	**Ifi205**	interferon activated gene 205
ILMN_2829646	0.66	**Ift172**	intraflagellar transport 172 homolog (Chlamydomonas)
ILMN_1224472	0.66	**Ccl4**	chemokine (C-C motif) ligand 4
ILMN_1252757	0.66	**Mllt3**	myeloid/lymphoid or mixed lineage-leukemia translocation to 3 homolog (Drosophila)
ILMN_2953596	0.66	**E2f5**	E2F transcription factor 5
ILMN_2959292	0.66	**Upp1**	uridine phosphorylase 1 (Upp1),
ILMN_1216469	0.66	**Kcnab1**	potassium voltage-gated channel, shaker-related subfamily, beta member 1
ILMN_2516157	0.66	**Zc3hav1**	zinc finger CCCH type, antiviral 1
ILMN_2857086	0.66	**Tra2a**	transformer 2 alpha homolog (Drosophila)
ILMN_2650475	0.66	**Tmem178**	transmembrane protein 178
ILMN_1228710	0.66	**Sec24b**	Sec24 related gene family, member B (S. cerevisiae)
ILMN_2620030	0.66	**Capn2**	calpain 2
ILMN_1245731	0.67	**Hhex**	hematopoietically expressed homeobox
ILMN_2820383	0.67	**Rnf135**	ring finger protein 135
ILMN_1224768	0.67	**Ehd4**	EH-domain containing 4
ILMN_2721571	0.67	**Slamf1**	signaling lymphocytic activation molecule family member 1
ILMN_2833441	0.67	**Trafd1**	TRAF type zinc finger domain containing 1
ILMN_3008733	0.67	**AA960436**	expressed sequence AA960436
ILMN_1225528	0.67	**Trib3**	tribbles homolog 3 (Drosophila)
ILMN_2932787	0.67	**BC006779**	cDNA sequence BC006779

ILMN_2790097	0.67	**Rhoc**	ras homolog gene family, member C
ILMN_2777471	0.67	**H2-T23**	histocompatibility 2, T region locus 23
ILMN_2460662	0.67	**Tnfsf4**	tumor necrosis factor (ligand) superfamily, member 4
ILMN_1256359	0.67	**Smox**	spermine oxidase (Smox),
ILMN_2492500	0.67	**Zeb1**	zinc finger E-box binding homeobox 1
ILMN_2834370	0.67	**Cutc**	cutC copper transporter homolog (E.coli)
ILMN_2878548	0.67	**Mthfd2**	methylenetetrahydrofolate dehydrogenase (NAD+ dependent), cyclohydrolase
ILMN_1248696	0.67	**Lrrc8c**	leucine rich repeat containing 8 family, member C
ILMN_2811737	0.67	**Casp4**	caspase 4, apoptosis-related cysteine peptidase
ILMN_1221288	0.67	**Lgals8**	lectin, galactose binding, soluble 8
ILMN_2734028	0.67	**Tank**	TRAF family member-associated Nf-kappa B activator
ILMN_1244513	0.67	**Gbp3**	guanylate binding protein 3
ILMN_2589790	0.67	**Stat3**	signal transducer and activator of transcription 3
ILMN_1215305	0.67	**Pcaf**	
ILMN_2766469	0.67	**Smox**	spermine oxidase (Smox),
ILMN_2937735	0.68	**Irak2**	interleukin-1 receptor-associated kinase 2
ILMN_2726047	0.68	**Rfc3**	replication factor C (activator 1) 3
ILMN_2915671	0.68	**Kcnab1**	potassium voltage-gated channel, shaker-related subfamily, beta member 1
ILMN_2926480	0.68	**Diras2**	DIRAS family, GTP-binding RAS-like 2
ILMN_1214731	0.68	**LOC100044190**	hypothetical protein LOC100044190
ILMN_1223176	0.68	**Magohb**	mago-nashi homolog B (Drosophila)
ILMN_2790373	0.68	**Snn**	stannin
ILMN_1236517	0.68	**Il18**	interleukin 18
ILMN_2695149	0.68	**Smc5**	structural maintenance of chromosomes 5
ILMN_2680398	0.68	**Zc3h12d**	zinc finger CCCH type containing 12D
ILMN_1218617	0.68	**Skiv2l2**	superkiller viralicidic activity 2-like 2 (S. cerevisiae)
ILMN_2863437	0.68	**1110038F14Rik**	RIKEN cDNA 1110038F14 gene
ILMN_2773699	0.68	**Hgsnat**	heparan-alpha-glucosaminide N-acetyltransferase
ILMN_1257520	0.68	**Hist1h2bn**	histone cluster 1, H2bn
ILMN_2767605	0.68	**Lmo2**	LIM domain only 2
ILMN_2640789	0.68	**Sgk3**	serum/glucocorticoid regulated kinase 3
ILMN_1236702	0.68	**Lilrb4**	leukocyte immunoglobulin-like receptor, subfamily B, member 4
ILMN_2590917	0.68	**Aim1**	absent in melanoma 1
ILMN_1250421	0.68	**Mmp12**	matrix metallopeptidase 12
ILMN_2988143	0.68	**Plac8**	placenta-specific 8
ILMN_1260175	0.69	**Golga3**	golgi autoantigen, golgin subfamily a, 3
ILMN_2617478	0.69	**Psip1**	PC4 and SFRS1 interacting protein 1
ILMN_1216662	0.69	**Kif5c**	kinesin family member 5C
ILMN_2652482	0.69	**Dfna5**	deafness, autosomal dominant 5 (human)
ILMN_3107377	0.69	**Dnajb6**	DnaJ (Hsp40) homolog, subfamily B, member 6
ILMN_1240074	0.69	**Trim26**	tripartite motif-containing 26
ILMN_2600113	0.69	**Gtpbp2**	GTP binding protein 2
ILMN_2652857	0.69	**Ifi47**	interferon gamma inducible protein 47
ILMN_1234453	0.69	**Gm15453**	predicted gene 15453
ILMN_2731949	0.69	**Klf6**	Kruppel-like factor 6
ILMN_2718330	0.69	**Cish**	cytokine inducible SH2-containing protein
ILMN_2746766	0.69	**Ppp2r5a**	protein phosphatase 2, regulatory subunit B (B56), alpha isoform
ILMN_2783010	0.69	**Snx2**	sorting nexin 2

ILMN_3117714	0.69	**Rkhd2**	mex3 homolog C (C. elegans) (Mex3c)
ILMN_1237736	0.69	**Plekhf2**	pleckstrin homology domain containing, family F (with FYVE domain) member 2
ILMN_1228031	0.69	**Dusp8**	dual specificity phosphatase 8
ILMN_2708477	0.69	**Spink3**	serine peptidase inhibitor, Kazal type 3
ILMN_2680136	0.70	**A430056A10Rik**	interferon-induced protein 44 (Ifi44)
ILMN_1254962	0.70	**Mov10**	Moloney leukemia virus 10
ILMN_2950044	0.70	**F8**	coagulation factor VIII
ILMN_3133448	0.70	**Mfge8**	milk fat globule-EGF factor 8 protein
ILMN_3107114	0.70	**Stx3**	syntaxin 3
ILMN_2665359	0.70	**Sgk3**	serum/glucocorticoid regulated kinase 3
ILMN_2847115	0.70	**Gpr109a**	G protein-coupled receptor 109A
ILMN_2667346	0.70	**Npn3**	sulfiredoxin 1 homolog (S. cerevisiae) (Srxn1)
ILMN_1244891	0.70	**Cst7**	cystatin F (leukocystatin)
ILMN_2620583	0.70	**6720425G15Rik**	
ILMN_1224997	0.70	**Mad**	MAX dimerization protein 1
ILMN_2711948	0.70	**Slc7a5**	solute carrier family 7 (cationic amino acid transporter, y+ system), member 5
ILMN_2918002	0.70	**Gbp4**	guanylate nucleotide binding protein 3 (Gbp3)
ILMN_2614563	0.70	**2210421G13Rik**	RIKEN cDNA 2210421G13 gene
ILMN_1221736	0.70	**Samhd1**	SAM domain and HD domain, 1
ILMN_1250450	0.70	**Ogfr**	opioid growth factor receptor
ILMN_2595387	0.70	**Rnf31**	ring finger protein 31
ILMN_1221937	0.70	**F8**	coagulation factor VIII
ILMN_2601471	0.70	**Ccnd1**	cyclin D1
ILMN_1248657	0.70	**2810004A10Rik**	
ILMN_1229042	0.70	**Eef1b2**	eukaryotic translation elongation factor 1 beta 2
ILMN_1238505	0.70	**Il10**	interleukin 10
ILMN_2717127	0.70	**Ddx58**	DEAD (Asp-Glu-Ala-Asp) box polypeptide 58
ILMN_1224129	0.70	**E030003N15Rik**	
ILMN_2654682	0.70	**Hspa1l**	
ILMN_1242622	0.70	**Crem**	cAMP responsive element modulator
ILMN_1244272	0.70	**Epb4.1l3**	erythrocyte protein band 4.1-like 3
ILMN_1229994	0.70	**Npn3**	sulfiredoxin 1 homolog (S. cerevisiae) (Srxn1)
ILMN_2705119	0.70	**Btg1**	B-cell translocation gene 1, anti-proliferative
ILMN_1251449	0.71	**Gstm2**	glutathione S-transferase, mu 2
ILMN_2615901	0.71	**Ptk2**	PTK2 protein tyrosine kinase 2
ILMN_2760001	0.71	**Ppfibp2**	protein tyrosine phosphatase, receptor-type, F interacting protein, binding protein 2
ILMN_2636755	0.71	**Asns**	asparagine synthetase
ILMN_2719202	0.71	**Hist1h2bf**	histone cluster 1, H2bf
ILMN_1226086	0.71	**Ptpro**	
ILMN_1224619	0.71	**Siat4a**	
ILMN_2996904	0.71	**Obfc2a**	oligonucleotide/oligosaccharide-binding fold containing 2A
ILMN_2606295	0.71	**Gch1**	GTP cyclohydrolase 1
ILMN_2978574	0.71	**Prpf38a**	PRP38 pre- processing factor 38 (yeast) domain containing A
ILMN_2846812	0.71	**Sp100**	nuclear antigen Sp100
ILMN_2806549	0.71	**Prm1**	protamine 1
ILMN_2752873	0.71	**Lgals9**	lectin, galactose binding, soluble 9
ILMN_2621596	0.71	**Psme2b**	
ILMN_2642007	0.71	**A130072J07**	torsin A interacting protein 2 (Tor1aip2)

ILMN_2943135	0.71	**Fmo3**	flavin containing monooxygenase 3
ILMN_2751539	0.71	**Sdcbp**	syndecan binding protein
ILMN_1214762	0.71	**Sgk3**	serum/glucocorticoid regulated kinase 3
ILMN_2954881	0.71	**Tcirg1**	T-cell, immune regulator 1, ATPase, H+ transporting, lysosomal V0 protein A3
ILMN_3162879	0.71	**Stx3**	syntaxin 3
ILMN_2697002	0.71	**Tlr3**	toll-like receptor 3
ILMN_2604922	0.71	**Rnf34**	ring finger protein 34
ILMN_2504397	0.71	**9130019I15Rik**	
ILMN_2611755	0.72	**Serpinb6b**	serine (or cysteine) peptidase inhibitor, clade B, member 6b
ILMN_2599164	0.72	**Prpf38a**	PRP38 pre- processing factor 38 (yeast) domain containing A
ILMN_2862470	0.72	**Gstm2**	glutathione S-transferase, mu 2
ILMN_1250213	0.72	**Sh3glb1**	SH3-domain GRB2-like B1
ILMN_2588737	0.72	**Rab3d**	RAB3D, member RAS oncogene family
ILMN_2716497	0.72	**Ccne1**	
ILMN_2733567	0.72	**B430306N03Rik**	RIKEN cDNA B430306N03 gene
ILMN_2599154	0.72	**Oasl2**	2'-5' oligoadenylate synthetase-like 2
ILMN_2624622	0.72	**Akap12**	A kinase (PRKA) anchor protein (gravin) 12
ILMN_2659408	0.72	**Rel**	reticuloendotheliosis oncogene
ILMN_2657478	0.72	**Cd53**	CD53 antigen
ILMN_2618714	0.72	**Pdgfb**	platelet derived growth factor, B
ILMN_2844996	0.72	**Actn1**	actinin, alpha 1
ILMN_2674367	0.72	**Agrn**	agrin
ILMN_3161105	0.72	**AI450948**	AHNAK nucleoprotein 2 (Ahnak2)
ILMN_2598877	0.72	**Slc7a8**	solute carrier family 7 (cationic amino acid transporter, y+ system), member 8
ILMN_1240615	0.72	**Olfm1**	olfactomedin 1
ILMN_2724595	0.72	**Spata6**	spermatogenesis associated 6
ILMN_1233455	0.72	**Olfml3**	olfactomedin-like 3
ILMN_3145213	0.72	**H3f3a**	H3 histone, family 3A
ILMN_2722383	0.72	**Lhx2**	LIM homeobox protein 2
ILMN_2657822	0.72	**Stat2**	signal transducer and activator of transcription 2
ILMN_1259252	0.72	**Anxa1**	annexin A1
ILMN_1220799	0.73	**Tank**	TRAF family member-associated Nf-kappa B activator
ILMN_2697433	0.73	**4732495E13Rik**	
ILMN_3093622	0.73	**Adar**	adenosine deaminase, RNA-specific
ILMN_2676606	0.73	**Optn**	optineurin
ILMN_2754364	0.73	**Ltf**	lactotransferrin
ILMN_2694960	0.73	**Msn**	moesin
ILMN_2603834	0.73	**Htatip2**	HIV-1 tat interactive protein 2, homolog (human)
ILMN_1250774	0.73	**Mdm2**	transformed mouse 3T3 cell double minute 2
ILMN_2655034	0.73	**Rnf135**	ring finger protein 135
ILMN_2891646	0.73	**Hist1h2bm**	histone cluster 1, H2bm
ILMN_3123195	0.73	**Slc1a2**	solute carrier family 1 (glial high affinity glutamate transporter), member 2
ILMN_1227240	0.73	**Cdkn2b**	cyclin-dependent kinase inhibitor 2B
ILMN_2808485	0.73	**LOC626578**	macrophage activation 2 like LOC626578
ILMN_2983525	0.73	**D12Ertd553e**	DNA segment, Chr 12, expressed (D12Ertd553e)
ILMN_1217948	0.73	**Csf3**	colony stimulating factor 3 (granulocyte)
ILMN_2825446	0.73	**Sdcbp2**	syndecan binding protein (syntenin) 2
ILMN_2681670	0.73	**BC026744**	vacuolar protein sorting 37B (yeast) (Vps37b)

ILMN_1257505	0.73	**Samhd1**	SAM domain and HD domain, 1
ILMN_1228330	0.73	**Plcl2**	
ILMN_2683698	0.73	**Fzd1**	frizzled homolog 1 (Drosophila)
ILMN_3154419	0.73	**P2ry14**	purinergic receptor P2Y G-protein coupled, 14
ILMN_2606072	0.73	**Hrb**	HIV-1 Rev binding protein
ILMN_3005441	0.73	**Ppa1**	pyrophosphatase (inorganic) 1
ILMN_2971721	0.73	**2410025L10Rik**	RIKEN cDNA 2410025L10 gene (2410025L10Rik)
ILMN_2710705	0.73	**Sqstm1**	sequestosome 1
ILMN_1259564	0.73	**AI481100**	interferon inducible GTPase 2 (Iigp2)
ILMN_2944011	0.73	**LOC547343**	similar to H-2 class I histocompatibility antigen, L-D alpha chain precursor
ILMN_2866856	0.74	**H2-DMa**	histocompatibility 2, class II, locus Dma
ILMN_1240868	0.74	**2310015N21Rik**	
ILMN_2663930	0.74	**Slfn1**	schlafen 1
ILMN_2422743	0.74	**Tor3a**	torsin family 3, member A
ILMN_2663555	0.74	**Asb3**	ankyrin repeat and SOCS box-containing 3
ILMN_2713714	0.74	**Slc6a4**	solute carrier family 6 (neurotransmitter transporter, serotonin), member 4
ILMN_2684413	0.74	**3230401D17Rik**	RIKEN cDNA 3230401D17 gene (3230401D17Rik)
ILMN_2839745	0.74	**A230050P20Rik**	RIKEN cDNA A230050P20 gene (A230050P20Rik)
ILMN_3104094	0.74	**2610208M17Rik**	RIKEN cDNA 2610208M17 gene (2610208M17Rik)
ILMN_1235908	0.74	**Fabp5**	fatty acid binding protein 5
ILMN_2621752	0.74	**Irf5**	interferon regulatory factor 5
ILMN_1257855	0.74	**Stard8**	START domain containing 8
ILMN_1235735	0.74	**Slco3a1**	
ILMN_2711075	0.74	**Mmp9**	matrix metallopeptidase 9
ILMN_2623451	0.74	**Ift172**	intraflagellar transport 172 homolog (Chlamydomonas)
ILMN_2670987	0.74	**A430056A10Rik**	interferon-induced protein 44 (Ifi44)
ILMN_3099470	0.74	**Sox12**	SRY-box containing gene 12
ILMN_2749412	0.74	**Csf2**	colony stimulating factor 2
ILMN_1242399	0.74	**Hist1h2bc**	
ILMN_2605602	0.74	**Gbp2**	guanylate nucleotide binding protein 2
ILMN_3099751	0.74	**Prmt2**	protein arginine N-methyltransferase 2
ILMN_3013874	0.74	**LOC434858**	predicted gene, EG434858 (EG434858) on chromosome X
ILMN_2600004	0.74	**Plk4**	
ILMN_3101732	0.74	**Syngr1**	synaptogyrin 1
ILMN_1253808	0.74	**Oas1g**	2'-5' oligoadenylate synthetase 1G
ILMN_3082580	0.75	**Azi2**	5-azacytidine induced gene 2
ILMN_2798694	0.75	**Plekhf2**	pleckstrin homology domain containing, family F (with FYVE domain) member 2
ILMN_1226639	0.75	**BC006779**	
ILMN_1238547	0.75	**Areg**	amphiregulin
ILMN_2678211	0.75	**C2ta**	class II transactivator
ILMN_2629289	0.75	**Hist3h2a**	
ILMN_2604548	0.75	**Rgs14**	regulator of G-protein signaling 14
ILMN_2946520	0.75	**Npy**	neuropeptide Y
ILMN_2716527	0.75	**Mapk9**	mitogen activated protein kinase 9
ILMN_3143483	0.75	**Wbscr5**	
ILMN_2704637	0.75	**Kdt1**	
ILMN_2613140	0.75	**Oas1b**	2'-5' oligoadenylate synthetase 1B
ILMN_1213978	0.75	**Ptpro**	

ILMN_2709267	0.75	**Gm1960**	gene model 1960, (NCBI) (Gm1960)
ILMN_1227573	0.75	**Irf7**	interferon regulatory factor 7
ILMN_1219188	0.75	**Akr1b8**	aldo-keto reductase family 1, member B8
ILMN_2763245	0.75	**Cxcl1**	chemokine (C-X-C motif) ligand 1
ILMN_1215639	0.75	**Commd1**	COMM domain containing 1
ILMN_2860649	0.75	**Gbp6**	guanylate binding protein 6
ILMN_2941280	0.75	**Artn**	artemin
ILMN_2672708	0.75	**Lrp11**	low density lipoprotein receptor-related protein 11
ILMN_1250690	0.75	**Olfr110**	olfactory receptor 110
ILMN_3157764	0.75	**Golga7**	golgi autoantigen, golgin subfamily a, 7
ILMN_2615145	0.75	**Fbxw17**	F-box and WD-40 domain protein 17
ILMN_1258636	0.75	**Cadps**	carbonic anhydrase 11
ILMN_3159435	0.75	**Mid1**	midline 1
ILMN_1225565	0.75	**Igf1**	insulin-like growth factor 1
ILMN_2754220	0.75	**A130072J07**	torsin A interacting protein 2
ILMN_3068754	0.76	**Akr1a4**	aldo-keto reductase family 1, member A4 (aldehyde reductase)
ILMN_1231686	0.76	**Pcaf**	
ILMN_1238346	0.76	**BC022145**	
ILMN_2732576	0.76	**Pml**	
ILMN_1227664	0.76	**Dck**	deoxycytidine kinase
ILMN_2833243	0.76	**C330023M02Rik**	RIKEN cDNA C330023M02 gene (C330023M02Rik)
ILMN_2627441	0.76	**Peli1**	pellino 1
ILMN_2677859	0.76	**Insl6**	insulin-like 6
ILMN_2815479	0.76	**L3mbtl3**	l(3)mbt-like 3 (Drosophila)
ILMN_2592629	0.76	**Nipsnap3b**	nipsnap homolog 3A (C. elegans)
ILMN_2656422	0.76	**BC028528**	cDNA sequence BC028528 (BC028528)
ILMN_2975377	0.76	**1110061O04Rik**	myotubularin related protein 14 (Mtmr14)
ILMN_2995688	0.76	**EG433016**	predicted gene, EG433016 (EG433016)
ILMN_3161936	0.76	**Mpp1**	membrane protein, palmitoylated
ILMN_2725414	0.76	**Cd9**	CD9 antigen
ILMN_2866185	0.76	**Btg1**	B-cell translocation gene 1, anti-proliferative
ILMN_2749448	0.76	**AI840980**	pleckstrin homology domain containing, family Q member 1
ILMN_2694998	0.76	**Chmp2a**	chromatin modifying protein 2A
ILMN_3067068	0.76	**Tmsb10**	thymosin, beta 10
ILMN_2486267	0.76	**Ube2l6**	ubiquitin-conjugating enzyme E2L
ILMN_2730514	0.76	**5031400M07Rik**	HERPUD family member 2 (Herpud2)
ILMN_2519677	0.76	**Triobp**	TRIO and F-actin binding protein
ILMN_1232627	0.76	**6330442E10Rik**	RIKEN cDNA 6330442E10 gene (6330442E10Rik)
ILMN_1235365	0.76	**Ralgps1**	Ral GEF with PH domain and SH3 binding motif 1
ILMN_2618549	0.76	**Rab7**	RAB7, member RAS oncogene family
ILMN_2972478	0.76	**Nlgn2**	neuroligin 2
ILMN_2924419	0.76	**H2-Q7**	histocompatibility 2, Q region locus 7
ILMN_2726931	0.76	**Blnk**	B-cell linker
ILMN_1221048	0.76	**Psat1**	phosphoserine aminotransferase 1
ILMN_2796429	0.76	**Psip1**	PC4 and SFRS1 interacting protein 1
ILMN_2798993	0.76	**Nr1d2**	nuclear receptor subfamily 1, group D, member 2
ILMN_2677046	0.76	**Gstp1**	glutathione S-transferase, pi 1
ILMN_2841593	0.76	**Fgfbp3**	fibroblast growth factor binding protein 3

ILMN_2671204	0.76	**Psme1**	proteasome (prosome, macropain) 28 subunit, alpha
ILMN_1228557	0.76	**Id2**	inhibitor of DNA binding 2
ILMN_2701815	0.77	**Plxna2**	
ILMN_2866189	0.77	**Btg1**	B-cell translocation gene 1, anti-proliferative
ILMN_1236911	0.77	**Inpp5b**	inositol polyphosphate-5-phosphatase B
ILMN_2818678	0.77	**Tdrd7**	tudor domain containing 7
ILMN_2628178	0.77	**Socs2**	suppressor of cytokine signaling 2
ILMN_2934120	0.77	**Hist2h3b**	histone cluster 2, H3b
ILMN_1250410	0.77	**Prkr**	eukaryotic translation initiation factor 2-alpha kinase 2
ILMN_1244851	0.77	**Usp15**	ubiquitin specific peptidase 15
ILMN_2927373	0.77	**Ddit3**	DNA-damage inducible transcript 3
ILMN_2917540	0.77	**Atp5o**	ATP synthase, H+ transporting, mitochondrial F1 complex, O subunit
ILMN_2625085	0.77	**1700112C13Rik**	
ILMN_1257485	0.77	**2610029G23Rik**	RIKEN cDNA 2610029G23 gene (2610029G23Rik)
ILMN_1235962	0.77	**Hook2**	hook homolog 2
ILMN_2711163	0.77	**Ctsk**	cathepsin K
ILMN_1214318	0.77	**Rasgrp1**	RAS guanyl releasing protein 1
ILMN_2728034	0.77	**Caml**	calcium modulating ligand
ILMN_1256219	0.77	**Sat1**	spermidine/spermine N1-acetyl transferase 1
ILMN_2673917	0.77	**2810022L02Rik**	RIKEN cDNA 2810022L02 gene (2810022L02Rik)
ILMN_2674602	0.77	**Rapgef5**	Rap guanine nucleotide exchange factor (GEF) 5
ILMN_1254655	0.77	**Casp4**	caspase 4, apoptosis-related cysteine peptidase
ILMN_1223600	0.77	**Indo**	indoleamine-pyrrole 2,3 dioxygenase
ILMN_2659739	0.77	**Il7r**	interleukin 7 receptor
ILMN_3111334	0.77	**Rsrc2**	arginine/serine-rich coiled-coil 2
ILMN_2689401	0.77	**Mcoln2**	mucolipin 2
ILMN_1243876	0.77	**Casp8**	
ILMN_2620122	0.77	**P2rx4**	purinergic receptor P2X
ILMN_2715304	0.77	**Necap1**	NECAP endocytosis associated 1
ILMN_2742861	0.77	**BC049975**	
ILMN_2727921	0.77	**Tspo**	translocator protein
ILMN_2694964	0.77	**Hook3**	
ILMN_2687586	0.77	**Cxcl16**	chemokine (C-X-C motif) ligand 16
ILMN_3042783	0.77	**Setdb2**	SET domain, bifurcated 2
ILMN_3107690	0.77	**1700047I17Rik**	RIKEN cDNA 1700047I17 gene 1 (1700047I17Rik1)
ILMN_2777498	0.77	**Il1b**	interleukin-1beta
ILMN_2771034	0.78	**Mfge8**	
ILMN_2685088	0.78	**9930111J21Rik**	RIKEN cDNA 9930111J21 gene (9930111J21Rik)
ILMN_3136867	0.78	**Josd3**	Josephin domain containing 3
ILMN_1254173	0.78	**Laptm4a**	lysosomal-associated protein transmembrane 4A
ILMN_2606990	0.78	**Asph**	aspartate-beta-hydroxylase
ILMN_3008406	0.78	**Odc1**	ornithine decarboxylase, structural 1
ILMN_1220109	0.78	**Trim36**	tripartite motif-containing 36
ILMN_2437513	0.78	**Tor3a**	torsin family 3
ILMN_1223230	0.78	**Gstp1**	glutathione S-transferase, pi 1
ILMN_2756943	0.78	**Sdc1**	syndecan 1
ILMN_2733778	0.78	**Il4i1**	interleukin 4 induced 1
ILMN_2944870	0.78	**Klhl5**	kelch-like 5 (Drosophila)

ILMN_2756008	0.78	**Nasp**	nuclear autoantigenic sperm protein
ILMN_1231396	0.78	**Sertad3**	SERTA domain containing 3
ILMN_2658786	0.78	**Cxcr3**	chemokine (C-X-C motif) receptor 3
ILMN_2445848	0.78	**Zfp238**	
ILMN_1246905	0.78	**Rasgrp1**	RAS guanyl releasing protein 1
ILMN_1232121	0.78	**Zeb2**	zinc finger E-box binding homeobox 2
ILMN_2641669	0.78	**Fem1c**	fem-1 homolog c (C.elegans)
ILMN_2718600	0.78	**Nfyb**	
ILMN_2693940	0.78	**Psmb8**	proteasome (prosome, macropain) subunit
ILMN_1244134	0.78	**Lrp4**	low density lipoprotein receptor-related protein 4
ILMN_2674475	0.78	**9930022N03Rik**	RIKEN cDNA 9930022N03 gene (9930022N03Rik)
ILMN_2696360	0.78	**2310010B21Rik**	
ILMN_2993314	0.78	**Clec4n**	C-type lectin domain family 4, member n
ILMN_2727799	0.78	**Trafd1**	TRAF type zinc finger domain containing 1
ILMN_1249242	0.78	**Zrf2**	DnaJ (Hsp40) homolog, subfamily C, member 2
ILMN_1225035	0.78	**Carhsp1**	calcium regulated heat stable protein 1
ILMN_2828916	0.78	**Frmd6**	FERM domain containing 6
ILMN_2704372	0.78	**Adar**	adenosine deaminase, RNA-specific
ILMN_1219946	0.78	**Il10ra**	interleukin 10 receptor, alpha
ILMN_2622997	0.78	**Sesn3**	
ILMN_2758545	0.78	**Cldn23**	claudin 23
ILMN_2689651	0.78	**A530023O14Rik**	RIKEN cDNA A530023O14 gene (A530023O14Rik)
ILMN_2987995	0.78	**Bfar**	bifunctional apoptosis regulator
ILMN_2669343	0.78	**2810453L12Rik**	
ILMN_2751492	0.78	**Frag1**	FGF receptor activating protein 1
ILMN_2695412	0.78	**LOC209387**	expressed sequence AI451617 (AI451617)
ILMN_2998807	0.78	**Stard8**	START domain containing 8
ILMN_2642525	0.79	**Rwdd1**	RWD domain containing 1
ILMN_2914843	0.79	**Psmb10**	proteasome (prosome, macropain) subunit, beta type 10
ILMN_2774486	0.79	**Bcdo2**	beta-carotene 9', 10'-dioxygenase 2
ILMN_2611450	0.79	**Ift172**	intraflagellar transport 172 homolog (Chlamydomonas)
ILMN_2625279	0.79	**Pacrg**	Park2 co-regulated
ILMN_2689785	0.79	**Cd68**	CD68 antigen
ILMN_3080300	0.79	**Rin2**	Ras and Rab interactor 2
ILMN_1244135	0.79	**Arpc5**	actin related protein 2/3 complex, subunit 5
ILMN_2761109	0.79	**Clic4**	chloride intracellular channel 4
ILMN_2643513	0.79	**Asns**	asparagine synthetase
ILMN_2735080	0.79	**Armc8**	armadillo repeat containing 8
ILMN_3073899	0.79	**Pira11**	paired-Ig-like receptor A11
ILMN_3159149	0.79	**Rusc2**	RUN and SH3 domain containing 2
ILMN_3068231	0.79	**Max**	Max protein
ILMN_1240683	0.79	**Chmp2a**	chromatin modifying protein 2A
ILMN_2836654	0.79	**Hist1h2ao**	histone cluster 1, H2ao
ILMN_2687905	0.79	**Msi2h**	Musashi homolog 2
ILMN_2867382	0.79	**Psd4**	pleckstrin and Sec7 domain containing 4
ILMN_2593196	0.79	**Stat1**	signal transducer and activator of transcription 1
ILMN_1258125	0.79	**Rab9**	RAB9, member RAS oncogene family
ILMN_2944988	0.79	**Lipn**	lipase, family member N (Lipn) XM_972783

ILMN_1250409	0.79	**Tap1**	transporter 1, ATP-binding cassette, sub-family B (MDR/TAP)
ILMN_2603898	0.79	**1810046I24Rik**	C-type lectin domain family 4, member b1 (Clec4b1)
ILMN_3078327	0.79	**Bcl2l11**	BCL2-like 11 (apoptosis facilitator)
ILMN_2650106	0.79	**1700001A24Rik**	
ILMN_2634796	0.79	**Socs1**	suppressor of cytokine signaling 1
ILMN_2715042	0.79	**Sdc3**	syndecan 3
ILMN_3160212	0.79	**AU021838**	expressed sequence AU021838 (AU021838)
ILMN_2895862	0.79	**Psmb6**	proteasome (prosome, macropain) subunit, beta type 6
ILMN_1244526	0.79	**Blnk**	
ILMN_2779636	0.79	**5730589K01Rik**	RIKEN cDNA 5730589K01 gene (5730589K01Rik)
ILMN_2744337	0.79	**Cd47**	CD47 antigen (Rh-related antigen, integrin-associated signal transducer)
ILMN_2727920	0.79	**Tspo**	translocator protein
ILMN_2767113	0.79	**Tgif**	TG interacting factor 1
ILMN_2931853	0.80	**OTTMUSG00000000990**	predicted gene, OTTMUSG00000000990
ILMN_2753029	0.80	**Gch1**	
ILMN_1239770	0.80	**Peli1**	pellino 1
ILMN_1220034	0.80	**Junb**	Jun-B oncogene
ILMN_2946088	0.80	**Panx1**	pannexin 1
ILMN_2718843	0.80	**4632417K18Rik**	RIKEN cDNA 4632417K18 gene (4632417K18Rik)
ILMN_2749955	0.80	**2400003C14Rik**	RIKEN cDNA 2400003C14 gene (2400003C14Rik)
ILMN_1228479	0.80	**Kremen**	kringle containing transmembrane protein 1
ILMN_2739123	0.80	**Pex7**	peroxisome biogenesis factor 7
ILMN_1238676	0.80	**Phr1**	pam, highwire, rpm 1
ILMN_1248812	0.80	**Srd5a2l**	steroid 5 alpha-reductase 2-like
ILMN_2894678	0.80	**H2-T10**	histocompatibility 2, T region locus 10
ILMN_3104025	0.80	**Asb13**	ankyrin repeat and SOCS box-containing protein 13
ILMN_2642886	0.81	**D130054N24Rik**	
ILMN_2846775	0.81	**Cdkn1a**	cyclin-dependent kinase inhibitor 1A (P21)
ILMN_2681984	0.81	**1300018I05Rik**	RIKEN cDNA 1300018I05 gene (1300018I05Rik)
ILMN_2509737	0.82	**Trex1**	
ILMN_2936671	1.50	**Skap2**	src family associated phosphoprotein 2
ILMN_1237132	1.50	**AW549877**	expressed sequence AW549877
ILMN_2781030	1.50	**Napsa**	napsin A aspartic peptidase
ILMN_2627895	1.50	**Etfb**	electron transferring flavoprotein, beta polypeptide
ILMN_2744693	1.50	**Ufc1**	ubiquitin-fold modifier conjugating enzyme 1
ILMN_3096361	1.50	**Bclaf1**	BCL2-associated transcription factor 1
ILMN_2716567	1.50	**Bnip3l**	BCL2/adenovirus E1B interacting protein 3-like
ILMN_1245815	1.50	**Ube2o**	ubiquitin-conjugating enzyme E2O
ILMN_1239578	1.50	**Man2a1**	mannosidase 2, alpha 1
ILMN_1215147	1.51	**LOC100044829**	rRNA 2'-O-methyltransferase fibrillarin-like
ILMN_1225360	1.51	**Ythdf2**	YTH domain family 2
ILMN_2965669	1.51	**Xlr4a**	X-linked lymphocyte-regulated 4A
ILMN_2721357	1.51	**Lhfpl2**	lipoma HMGIC fusion partner-like 2
ILMN_2599110	1.51	**Uspl1**	ubiquitin specific peptidase like 1
ILMN_2617835	1.51	**Myo9b**	myosin IXb
ILMN_1226126	1.51	**Dolk**	dolichol kinase
ILMN_2878060	1.51	**Anxa6**	annexin A6
ILMN_1226970	1.51	**Wwp2**	WW domain containing E3 ubiquitin protein ligase 2

ILMN_2516266	1.51	**Ccar1**	cell division cycle and apoptosis regulator 1
ILMN_1234425	1.51	**Iscu**	IscU iron-sulfur cluster scaffold homolog (E. coli)
ILMN_2690061	1.51	**Hnrpdl**	heterogeneous nuclear ribonucleoprotein D-like
ILMN_2955214	1.51	**1110032A13Rik**	RIKEN cDNA 1110032A13 gene
ILMN_2700448	1.51	**Cytsa**	cytospin A
ILMN_2741114	1.51	**Gusb**	glucuronidase, beta
ILMN_2816180	1.51	**Lbh**	limb-bud and heart
ILMN_1251771	1.51	**Cyc1**	cytochrome c-1
ILMN_1259561	1.51	**Prep**	prolyl endopeptidase
ILMN_2696610	1.51	**Slc25a37**	solute carrier family 25, member 37
ILMN_2888181	1.51	**Echs1**	enoyl Coenzyme A hydratase, short chain, 1, mitochondrial
ILMN_2829457	1.52	**Ncf1**	neutrophil cytosolic factor 1
ILMN_1228287	1.52	**Calu**	calumenin
ILMN_2817151	1.52	**Chchd8**	coiled-coil-helix-coiled-coil-helix domain containing 8
ILMN_2987339	1.52	**Mybbp1a**	MYB binding protein (P160) 1a
ILMN_2603953	1.52	**Stip1**	stress-induced phosphoprotein 1
ILMN_3151345	1.52	**Eif5**	eukaryotic translation initiation factor 5
ILMN_2744138	1.52	**Cttnbp2nl**	CTTNBP2 N-terminal like
ILMN_2631098	1.52	**Msh6**	mutS homolog 6 (E. coli)
ILMN_2925974	1.52	**Zcchc8**	zinc finger, CCHC domain containing 8
ILMN_3109360	1.52	**Plec**	plectin
ILMN_1230302	1.52	**Napsa**	napsin A aspartic peptidase
ILMN_2795792	1.52	**Tmem38b**	transmembrane protein 38B
ILMN_1239857	1.52	**Extl3**	exostoses (multiple)-like 3
ILMN_1243370	1.52	**Cyb5r1**	cytochrome b5 reductase 1
ILMN_2718284	1.52	**Mfsd1**	major facilitator superfamily domain containing 1
ILMN_2983686	1.52	**Trub2**	TruB pseudouridine (psi) synthase homolog 2 (E. coli)
ILMN_2800881	1.52	**A430005L14Rik**	RIKEN cDNA A430005L14 gene
ILMN_2929952	1.52	**Sacm1l**	SAC1 (suppressor of actin mutations 1, homolog)-like (S. cerevisiae)
ILMN_1254256	1.52	**Actl6a**	actin-like 6A
ILMN_2700425	1.52	**Atp9b**	ATPase, class II, type 9B
ILMN_1229056	1.52	**Fam3c**	family with sequence similarity 3, member C
ILMN_2789208	1.52	**Tollip**	toll interacting protein
ILMN_1214358	1.52	**Akt1s1**	AKT1 substrate 1 (proline-rich)
ILMN_2760263	1.52	**Poldip2**	polymerase (DNA-directed), delta interacting protein 2
ILMN_2636490	1.52	**Htatsf1**	HIV TAT specific factor 1
ILMN_2863965	1.52	**Pfn1**	profilin 1
ILMN_2883961	1.52	**Vamp7**	vesicle-associated membrane protein 7
ILMN_2749958	1.52	**Cerk**	similar to Ceramide kinase (Acylsphingosine kinase) (mCERK)
ILMN_2593208	1.52	**Imp3**	IMP3, U3 small nucleolar ribonucleoprotein, homolog (yeast)
ILMN_2679532	1.52	**Lage3**	L antigen family, member 3
ILMN_1244188	1.52	**H6pd**	hexose-6-phosphate dehydrogenase (glucose 1-dehydrogenase)
ILMN_1214054	1.52	**Zdhhc7**	zinc finger, DHHC domain containing 7
ILMN_2616000	1.52	**Tsen15**	tRNA splicing endonuclease 15 homolog (S. cerevisiae)
ILMN_2936427	1.52	**Mcm4**	minichromosome maintenance deficient 4 homolog (S. cerevisiae)
ILMN_1233076	1.53	**Prkcsh**	protein kinase C substrate 80K-H
ILMN_2658208	1.53	**Setd8**	SET domain containing (lysine methyltransferase) 8
ILMN_1254540	1.53	**Crbn**	cereblon

ILMN_1215647	1.53	**Mum1**	melanoma associated antigen (mutated) 1
ILMN_2846255	1.53	**Pgpep1**	pyroglutamyl-peptidase I
ILMN_2751228	1.53	**Nudcd2**	NudC domain containing 2
ILMN_2786164	1.53	**Arhgap1**	Rho GTPase activating protein 1
ILMN_2931411	1.53	**Cct3**	chaperonin containing Tcp1, subunit 3 (gamma)
ILMN_2747897	1.53	**Ndufs3**	NADH dehydrogenase (ubiquinone) Fe-S protein 3
ILMN_2978163	1.53	**Nfs1**	nitrogen fixation gene 1 (S. cerevisiae)
ILMN_1221251	1.53	**1110012D08Rik**	RIKEN cDNA 1110012D08 gene
ILMN_2635633	1.53	**Smu1**	smu-1 suppressor of mec-8 and unc-52 homolog (C. elegans)
ILMN_2751354	1.53	**Pde4dip**	phosphodiesterase 4D interacting protein (myomegalin)
ILMN_1250750	1.53	**Rnf113a2**	ring finger protein 113A2
ILMN_2696247	1.53	**Arih2**	ariadne homolog 2 (Drosophila)
ILMN_2915861	1.53	**Psmd1**	proteasome (prosome, macropain) 26S subunit, non-ATPase, 1
ILMN_1213645	1.53	**AI467606**	expressed sequence AI467606
ILMN_2588832	1.53	**Thap11**	THAP domain containing 11
ILMN_2665870	1.53	**Dhx36**	DEAH (Asp-Glu-Ala-His) box polypeptide 36
ILMN_1227463	1.53	**LOC100047834**	similar to translin associated protein X
ILMN_2615207	1.53	**Dci**	dodecenoyl-Coenzyme A delta isomerase (3,2 trans-enoyl-Coenyme A isomerase)
ILMN_2650439	1.53	**Galnt1**	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase 1
ILMN_2718612	1.53	**Mto1**	mitochondrial translation optimization 1 homolog (S. cerevisiae)
ILMN_2658392	1.53	**Atp2c1**	ATPase, Ca++-sequestering
ILMN_1236796	1.53	**Smn1**	survival motor neuron 1
ILMN_2749717	1.53	**Bcl3**	B-cell leukemia/lymphoma 3
ILMN_2643067	1.53	**Rnf185**	ring finger protein 185
ILMN_1224868	1.53	**Phb2**	prohibitin 2
ILMN_1239143	1.53	**Sdhd**	succinate dehydrogenase complex, subunit D, integral membrane protein
ILMN_3116330	1.53	**Cuta**	cutA divalent cation tolerance homolog (E. coli)
ILMN_2771074	1.53	**Hnrnpa2b1**	heterogeneous nuclear ribonucleoprotein A2/B1
ILMN_2703023	1.53	**Fcho1**	FCH domain only 1
ILMN_2693991	1.53	**Gpr65**	G-protein coupled receptor 65
ILMN_2652572	1.53	**Ing4**	inhibitor of growth family, member 4
ILMN_2835723	1.53	**Manba**	mannosidase, beta A, lysosomal
ILMN_2688075	1.53	**Cyp51**	cytochrome P450, family 51
ILMN_2780876	1.53	**Gpr137**	G protein-coupled receptor 137
ILMN_2757445	1.53	**Ccdc41**	coiled-coil domain containing 41
ILMN_1249581	1.54	**Gtf3c2**	general transcription factor IIIC, polypeptide 2, beta
ILMN_2795791	1.54	**Tmem38b**	transmembrane protein 38B
ILMN_2776952	1.54	**Tmem55b**	transmembrane protein 55b
ILMN_1216231	1.54	**Scoc**	short coiled-coil protein
ILMN_1260033	1.54	**Map1lc3b**	microtubule-associated protein 1 light chain 3 beta
ILMN_2609568	1.54	**Pygo2**	pygopus 2
ILMN_2723190	1.54	**Guca1a**	guanylate cyclase activator 1a (retina)
ILMN_1246740	1.54	**Slc35b2**	solute carrier family 35, member B2
ILMN_2831579	1.54	**Kctd5**	potassium channel tetramerisation domain containing 5
ILMN_2697270	1.54	**Scamp4**	secretory carrier membrane protein 4
ILMN_2739398	1.54	**Prickle3**	prickle homolog 3 (Drosophila)
ILMN_2634264	1.54	**Gde1**	glycerophosphodiester phosphodiesterase 1
ILMN_2754148	1.54	**Dusp16**	dual specificity phosphatase 16

ILMN_1255697	1.54	**1110049F12Rik**	RIKEN cDNA 1110049F12 gene
ILMN_2880536	1.54	**Uck2**	uridine-cytidine kinase 2
ILMN_2602140	1.54	**Eif2b5**	eukaryotic translation initiation factor 2B, subunit 5 epsilon
ILMN_1229971	1.54	**Vezf1**	vascular endothelial zinc finger 1
ILMN_2674752	1.54	**Snx11**	sorting nexin 11
ILMN_2934532	1.54	**Prpf19**	PRP19/PSO4 pre- processing factor 19 homolog (S. cerevisiae)
ILMN_2649810	1.54	**Rpl3l**	ribosomal protein L3-like
ILMN_2676481	1.54	**Gde1**	glycerophosphodiester phosphodiesterase 1
ILMN_2675249	1.54	**Slc35c1**	solute carrier family 35, member C1
ILMN_1257876	1.54	**B3gnt1**	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 1
ILMN_2723931	1.54	**E2f6**	E2F transcription factor 6
ILMN_2903698	1.54	**Snapc3**	small nuclear RNA activating complex, polypeptide 3
ILMN_2727432	1.54	**Stab1**	stabilin 1
ILMN_2611993	1.54	**Tbc1d17**	TBC1 domain family, member 17
ILMN_2807665	1.54	**Gatc**	glutamyl-tRNA(Gln) amidotransferase, subunit C homolog (bacterial)
ILMN_1242239	1.54	**Srrt**	serrate RNA effector molecule homolog (Arabidopsis)
ILMN_1237963	1.55	**Alg8**	asparagine-linked glycosylation 8 homolog (yeast, alpha-1,3-glucosyltransferase)
ILMN_1235281	1.55	**1810063B05Rik**	RIKEN cDNA 1810063B05 gene
ILMN_1239294	1.55	**Cdc42ep2**	CDC42 effector protein (Rho GTPase binding) 2
ILMN_2665008	1.55	**Rab31**	RAB31, member RAS oncogene family
ILMN_1238583	1.55	**Aagab**	alpha- and gamma-adaptin binding protein
ILMN_3134607	1.55	**Trim3**	tripartite motif-containing 3
ILMN_2693124	1.55	**Rab1b**	RAB1B, member RAS oncogene family
ILMN_1252210	1.55	**2700097O09Rik**	RIKEN cDNA 2700097O09 gene
ILMN_2732565	1.55	**Mrps31**	mitochondrial ribosomal protein S31
ILMN_2667551	1.55	**Exosc4**	exosome component 4
ILMN_1232272	1.55	**Gmppa**	GDP-mannose pyrophosphorylase A
ILMN_2822071	1.55	**Slc25a16**	solute carrier family 25 (mitochondrial carrier, Graves disease autoantigen), member 16
ILMN_2646322	1.55	**Samsn1**	SAM domain, SH3 domain and nuclear localization signals, 1
ILMN_2643832	1.55	**Ppm1g**	protein phosphatase 1G (formerly 2C), magnesium-dependent, gamma isoform
ILMN_1224651	1.55	**Fam98a**	family with sequence similarity 98, member A
ILMN_3000318	1.55	**Adrbk1**	adrenergic receptor kinase, beta 1
ILMN_3134598	1.55	**Pdp2**	pyruvate dehyrogenase phosphatase catalytic subunit 2
ILMN_1241675	1.55	**Ascc2**	activating signal cointegrator 1 complex subunit 2
ILMN_2712668	1.55	**Pfkfb4**	6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 4
ILMN_1251761	1.55	**Phf5a**	PHD finger protein 5A
ILMN_2949275	1.55	**Zfp637**	zinc finger protein 637
ILMN_1238520	1.55	**Clk2**	CDC-like kinase 2
ILMN_2823778	1.55	**Sc4mol**	sterol-C4-methyl oxidase-like
ILMN_1258738	1.55	**Sidt2**	SID1 transmembrane family, member 2
ILMN_2457585	1.55	**Trp53inp2**	transformation related protein 53 inducible nuclear protein 2
ILMN_1224658	1.55	**Spast**	spastin
ILMN_2733120	1.56	**Lbr**	lamin B receptor
ILMN_1231868	1.56	**Arl16**	ADP-ribosylation factor-like 16
ILMN_1221983	1.56	**1810030N24Rik**	RIKEN cDNA 1810030N24 gene
ILMN_2640883	1.56	**Nde1**	nuclear distribution gene E homolog 1 (A nidulans)
ILMN_2826816	1.56	**Ppox**	protoporphyrinogen oxidase
ILMN_2619491	1.56	**Arfip2**	ADP-ribosylation factor interacting protein 2

ILMN_1242352	1.56	**Acp6**	acid phosphatase 6, lysophosphatidic
ILMN_1247245	1.56	**BC003266**	cDNA sequence BC003266
ILMN_2761188	1.56	**Ibtk**	inhibitor of Bruton agammaglobulinemia tyrosine kinase
ILMN_2808939	1.56	**0610007P14Rik**	RIKEN cDNA 0610007P14 gene
ILMN_2671708	1.56	**Dnajc5**	DnaJ (Hsp40) homolog, subfamily C, member 5
ILMN_2650275	1.56	**1810055G02Rik**	RIKEN cDNA 1810055G02 gene
ILMN_2748837	1.56	**Aco2**	aconitase 2, mitochondrial
ILMN_2699003	1.56	**Siva1**	SIVA1, apoptosis-inducing factor
ILMN_1225674	1.56	**Eps15l1**	epidermal growth factor receptor pathway substrate 15-like 1
ILMN_2639373	1.56	**Mrpl17**	mitochondrial ribosomal protein L17
ILMN_3158909	1.56	**Banf1**	barrier to autointegration factor 1
ILMN_1237371	1.56	**LOC100046891**	similar to Smad5
ILMN_2844370	1.56	**Ilvbl**	ilvB (bacterial acetolactate synthase)-like
ILMN_2844097	1.56	**Foxn3**	forkhead box N3
ILMN_3102467	1.56	**Rab34**	RAB34, member of RAS oncogene family
ILMN_2453209	1.56	**Abhd11**	abhydrolase domain containing 11
ILMN_2656511	1.56	**Bbs7**	Bardet-Biedl syndrome 7 (human)
ILMN_2653284	1.56	**Ctns**	cystinosis, nephropathic
ILMN_1236312	1.56	**Snx14**	sorting nexin 14
ILMN_2765015	1.57	**Eed**	embryonic ectoderm development
ILMN_2709397	1.57	**Eif2ak1**	eukaryotic translation initiation factor 2 alpha kinase 1
ILMN_2806676	1.57	**Acads**	acyl-Coenzyme A dehydrogenase, short chain
ILMN_2601884	1.57	**Gpcpd1**	glycerophosphocholine phosphodiesterase GDE1 homolog (S. cerevisiae)
ILMN_2994108	1.57	**Spsb3**	splA/ryanodine receptor domain and SOCS box containing 3
ILMN_2847024	1.57	**Dph2**	DPH2 homolog (S. cerevisiae)
ILMN_2733887	1.57	**Mknk2**	MAP kinase-interacting serine/threonine kinase 2
ILMN_3005828	1.57	**Mrps26**	mitochondrial ribosomal protein S26
ILMN_1258372	1.57	**Pex11b**	peroxisomal biogenesis factor 11 beta
ILMN_2659467	1.57	**Pitpnb**	phosphatidylinositol transfer protein, beta
ILMN_2755492	1.57	**Fam3c**	family with sequence similarity 3, member C
ILMN_2473348	1.57	**Ttc13**	tetratricopeptide repeat domain 13
ILMN_3095462	1.57	**Mfap3**	microfibrillar-associated protein 3
ILMN_2724191	1.57	**Naa10**	N(alpha)-acetyltransferase 10, NatA catalytic subunitNalpha acetyltransferase 10
ILMN_1228762	1.57	**Dvl1**	dishevelled, dsh homolog 1 (Drosophila)
ILMN_2588398	1.57	**Impdh2**	inosine 5'-phosphate dehydrogenase 2
ILMN_2621882	1.57	**0910001L09Rik**	RIKEN cDNA 0910001L09 gene
ILMN_1249578	1.57	**Sorl1**	sortilin-related receptor, LDLR class A repeats-containing
ILMN_2635801	1.57	**2310079N02Rik**	RIKEN cDNA 2310079N02 gene
ILMN_2971946	1.57	**Lsm5**	LSM5 homolog, U6 small nuclear RNA associated (S. cerevisiae)
ILMN_2660082	1.57	**1110007A13Rik**	RIKEN cDNA 1110007A13 gene
ILMN_2706051	1.57	**Ccdc47**	coiled-coil domain containing 47
ILMN_2943476	1.57	**Lcmt1**	leucine carboxyl methyltransferase 1
ILMN_1244991	1.57	**Fbxo21**	F-box protein 21
ILMN_2899787	1.57	**Rgl2**	ral guanine nucleotide dissociation stimulator-like 2
ILMN_2654568	1.58	**Trub1**	TruB pseudouridine (psi) synthase homolog 1 (E. coli)
ILMN_1254705	1.58	**Atp5d**	ATP synthase, H+ transporting, mitochondrial F1 complex, delta subunit
ILMN_2716511	1.58	**Slc12a6**	solute carrier family 12, member 6
ILMN_2998548	1.58	**Pycr2**	pyrroline-5-carboxylate reductase family, member 2

ILMN_2681492	1.58	**Lztr1**	leucine-zipper-like transcriptional regulator, 1
ILMN_1216072	1.58	**Gtpbp4**	GTP binding protein 4
ILMN_2700059	1.58	**Slc12a2**	solute carrier family 12, member 2
ILMN_1217061	1.58	**Casp9**	caspase 9
ILMN_2751925	1.58	**Dpp3**	dipeptidylpeptidase 3
ILMN_2735157	1.58	**Eif3a**	eukaryotic translation initiation factor 3, subunit A
ILMN_2614778	1.58	**Slc30a5**	solute carrier family 30 (zinc transporter), member 5
ILMN_2662283	1.58	**2010007H12Rik**	RIKEN cDNA 2010007H12 gene
ILMN_2742293	1.58	**Fam58b**	family with sequence similarity 58, member B
ILMN_1232762	1.58	**Atox1**	ATX1 (antioxidant protein 1) homolog 1 (yeast)
ILMN_2962511	1.58	**Gorasp1**	golgi reassembly stacking protein 1
ILMN_2513849	1.58	**Cul5**	cullin 5
ILMN_2627350	1.58	**Magoh**	mago-nashi homolog, proliferation-associated (Drosophila)
ILMN_2981821	1.58	**Mrps7**	mitchondrial ribosomal protein S7
ILMN_2882820	1.59	**Oraov1**	oral cancer overexpressed 1
ILMN_2960308	1.59	**Hspe1**	heat shock protein 1 (chaperonin 10)
ILMN_2755782	1.59	**Nob1**	NIN1/RPN12 binding protein 1 homolog (S. cerevisiae)
ILMN_2669441	1.59	**Eftud2**	elongation factor Tu GTP binding domain containing 2
ILMN_2986899	1.59	**Adk**	adenosine kinase
ILMN_1237846	1.59	**LOC100044087**	similar to brain protein 44
ILMN_1252919	1.59	**Lman2**	lectin, mannose-binding 2
ILMN_2685487	1.59	**Edc4**	enhancer of decapping 4
ILMN_2607786	1.59	**Fads1**	fatty acid desaturase 1
ILMN_3161021	1.59	**Prkra**	protein kinase, interferon inducible double stranded RNA dependent activator
ILMN_1243499	1.59	**Ide**	insulin degrading enzyme
ILMN_1219067	1.59	**A830007P12Rik**	RIKEN cDNA A830007P12 gene
ILMN_3162431	1.59	**AI846148**	expressed sequence AI846148
ILMN_1229993	1.59	**Dnajc12**	DnaJ (Hsp40) homolog, subfamily C, member 12
ILMN_1237891	1.59	**Ap2a2**	adaptor protein complex AP-2, alpha 2 subunit
ILMN_2611728	1.59	**Srsf6**	serine/arginine-rich splicing factor 6
ILMN_2734511	1.59	**Ndufb3**	NADH dehydrogenase (ubiquinone) 1 beta subcomplex 3
ILMN_2720763	1.59	**Ftsjd1**	FtsJ methyltransferase domain containing 1
ILMN_1238227	1.59	**Rpl23**	ribosomal protein L23
ILMN_2769696	1.59	**Nap1l4**	nucleosome assembly protein 1-like 4
ILMN_2617335	1.59	**Ndufb5**	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 5
ILMN_1229082	1.59	**Klhl21**	kelch-like 21 (Drosophila)
ILMN_2679513	1.59	**Rab40c**	Rab40c, member RAS oncogene family
ILMN_2804622	1.59	**Med25**	mediator of RNA polymerase II transcription, subunit 25 homolog (yeast)
ILMN_3084818	1.59	**Nr2c2ap**	nuclear receptor 2C2-associated protein
ILMN_1225264	1.59	**0610007C21RIK**	
ILMN_1225056	1.59	**Slc5a6**	solute carrier family 5 (sodium-dependent vitamin transporter), member 6
ILMN_2608238	1.59	**Dnaja3**	DnaJ (Hsp40) homolog, subfamily A, member 3
ILMN_2630730	1.59	**Sf3a1**	splicing factor 3a, subunit 1
ILMN_1213531	1.59	**Adipor1**	adiponectin receptor 1
ILMN_1239742	1.59	**Atp2a2**	ATPase, Ca++ transporting, cardiac muscle, slow twitch 2
ILMN_2899318	1.60	**Rdh11**	retinol dehydrogenase 11
ILMN_2438771	1.60	**Fubp3**	far upstream element (FUSE) binding protein 3
ILMN_2691345	1.60	**Bcs1l**	BCS1-like (yeast)

ILMN_3112011	1.60	**Dusp16**	dual specificity phosphatase 16
ILMN_3136809	1.60	**Git2**	G protein-coupled receptor kinase-interactor 2
ILMN_2864497	1.60	**Ncdn**	neurochondrin
ILMN_3049650	1.60	**Kcnk6**	potassium inwardly-rectifying channel, subfamily K, member 6
ILMN_2908874	1.60	**Ccdc132**	coiled-coil domain containing 132
ILMN_2638721	1.60	**Csrnp2**	cysteine-serine-rich nuclear protein 2
ILMN_2852217	1.60	**Gnpda1**	glucosamine-6-phosphate deaminase 1
ILMN_1247636	1.60	**Ndfip2**	Nedd4 family interacting protein 2
ILMN_2907878	1.60	**H2afx**	H2A histone family, member X
ILMN_2925570	1.60	**Nubp2**	nucleotide binding protein 2
ILMN_2868482	1.60	**Nadk**	NAD kinase
ILMN_2709820	1.60	**Dtx2**	deltex 2 homolog (Drosophila)
ILMN_1257060	1.60	**Pla2g15**	phospholipase A2, group XV
ILMN_3160107	1.60	**Pik3r6**	phosphoinositide-3-kinase, regulatory subunit 6
ILMN_2683128	1.60	**Cmas**	cytidine monophospho-N-acetylneuraminic acid synthetase
ILMN_1221703	1.60	**Abca7**	ATP-binding cassette, sub-family A (ABC1), member 7
ILMN_1258449	1.60	**Zfp672**	zinc finger protein 672
ILMN_2666483	1.60	**Ruvbl1**	RuvB-like protein 1
ILMN_1235979	1.60	**Nop58**	NOP58 ribonucleoprotein homolog (yeast)
ILMN_2523256	1.60	**1500001M20Rik**	RIKEN cDNA 1500001M20 gene
ILMN_2722488	1.60	**Thumpd1**	THUMP domain containing 1
ILMN_2715289	1.60	**Exosc7**	exosome component 7
ILMN_3014965	1.60	**2610507B11Rik**	RIKEN cDNA 2610507B11 gene
ILMN_1246694	1.60	**Dus1l**	dihydrouridine synthase 1-like (S. cerevisiae)
ILMN_2842930	1.60	**Polr3k**	polymerase (RNA) III (DNA directed) polypeptide K
ILMN_2833378	1.60	**Prkaca**	protein kinase, cAMP dependent, catalytic, alpha
ILMN_1219168	1.60	**Gpn1**	GPN-loop GTPase 1
ILMN_1218384	1.61	**Nfic**	nuclear factor I/C
ILMN_1227458	1.61	**Nuak1**	NUAK family, SNF1-like kinase, 1
ILMN_2968676	1.61	**Timm44**	translocase of inner mitochondrial membrane 44
ILMN_2781798	1.61	**Gm561**	predicted gene 561
ILMN_2689259	1.61	**Pi4kb**	phosphatidylinositol 4-kinase, catalytic, beta polypeptide
ILMN_1257078	1.61	**Btbd1**	BTB (POZ) domain containing 1
ILMN_2949605	1.61	**Ubac2**	ubiquitin associated domain containing 2
ILMN_2749972	1.61	**Phax**	phosphorylated adaptor for RNA export
ILMN_2709047	1.61	**Polr1e**	polymerase (RNA) I polypeptide E
ILMN_2958076	1.61	**Fmc1**	formation of mitochondrial complexes 1 homolog (S. cerevisiae)
ILMN_2711570	1.61	**Ints3**	integrator complex subunit 3
ILMN_2613546	1.61	**Evi5**	ecotropic viral integration site 5
ILMN_2602938	1.61	**Smpdl3b**	sphingomyelin phosphodiesterase, acid-like 3B
ILMN_1221920	1.61	**Plekhg3**	pleckstrin homology domain containing, family G (with RhoGef domain) member 3
ILMN_2600348	1.61	**Sqle**	squalene epoxidase
ILMN_1224546	1.61	**Cul3**	cullin 3
ILMN_3154222	1.61	**Ash2l**	ash2 (absent, small, or homeotic)-like (Drosophila)
ILMN_2723438	1.61	**Nubp2**	nucleotide binding protein 2
ILMN_1219208	1.61	**Nol6**	nucleolar protein family 6 (RNA-associated)
ILMN_2599412	1.61	**Kti12**	KTI12 homolog, chromatin associated (S. cerevisiae)
ILMN_3138743	1.61	**Acsl3**	acyl-CoA synthetase long-chain family member 3

ILMN_2781938	1.61	**Tram1**	translocating chain-associating membrane protein 1
ILMN_1215644	1.61	**LOC100047634**	similar to Eukaryotic translation initiation factor 2 alpha kinase 3
ILMN_1223285	1.61	**Hspa2**	heat shock protein 2
ILMN_1214036	1.61	**Heatr1**	HEAT repeat containing 1
ILMN_2865239	1.61	**Mrps18b**	mitochondrial ribosomal protein S18B
ILMN_2870623	1.62	**Zfp251**	zinc finger protein 251
ILMN_2788263	1.62	**Ncbp2**	nuclear cap binding protein subunit 2
ILMN_2755215	1.62	**Mtmr12**	myotubularin related protein 12
ILMN_2896601	1.62	**Icam1**	intercellular adhesion molecule 1
ILMN_1231439	1.62	**Aatk**	apoptosis-associated tyrosine kinase
ILMN_2672597	1.62	**Gng10**	guanine nucleotide binding protein (G protein), gamma 10
ILMN_2685769	1.62	**AW555464**	Protein KIAA0284
ILMN_1221611	1.62	**Pitpna**	phosphatidylinositol transfer protein, alpha
ILMN_2418426	1.62	**Zmat3**	zinc finger matrin type 3
ILMN_2625047	1.62	**Tprn**	taperin
ILMN_2940559	1.62	**Gbf1**	golgi-specific brefeldin A-resistance factor 1
ILMN_1229827	1.62	**St7**	suppression of tumorigenicity 7
ILMN_2760514	1.62	**Agps**	alkylglycerone phosphate synthase
ILMN_2612448	1.62	**Nfat5**	nuclear factor of activated T-cells 5
ILMN_1244147	1.62	**Ak3**	adenylate kinase 3
ILMN_1243564	1.62	**Plekha1**	pleckstrin homology domain containing, family A (phosphoinositide binding specific) member 1
ILMN_2988299	1.62	**Srf**	serum response factor
ILMN_2845208	1.62	**Lrpprc**	leucine-rich PPR-motif containing
ILMN_2655429	1.62	**Zfp12**	zinc finger protein 12
ILMN_2954858	1.62	**Kifap3**	kinesin-associated protein 3
ILMN_2649654	1.62	**Mrm1**	mitochondrial rRNA methyltransferase 1 homolog (S. cerevisiae)
ILMN_1213456	1.62	**Dhrs7**	dehydrogenase/reductase (SDR family) member 7
ILMN_1240471	1.62	**Retsat**	retinol saturase (all trans retinol 13,14 reductase)
ILMN_3113639	1.62	**Cant1**	calcium activated nucleotidase 1
ILMN_1254488	1.63	**Mgrn1**	mahogunin, ring finger 1
ILMN_2428963	1.63	**Xpnpep1**	X-prolyl aminopeptidase (aminopeptidase P) 1, soluble
ILMN_2770759	1.63	**Cdk2**	cyclin-dependent kinase 2
ILMN_2855334	1.63	**Gusb**	glucuronidase, beta
ILMN_2911760	1.63	**Ubac1**	ubiquitin associated domain containing 1
ILMN_2631994	1.63	**Hexim1**	hexamethylene bis-acetamide inducible 1
ILMN_2766780	1.63	**Lyz2**	lysozyme 2
ILMN_3139668	1.63	**Cpsf1**	cleavage and polyadenylation specific factor 1
ILMN_2746924	1.63	**Cherp**	calcium homeostasis endoplasmic reticulum protein
ILMN_1259132	1.63	**Osbpl2**	oxysterol binding protein-like 2
ILMN_2619861	1.63	**Nipsnap1**	4-nitrophenylphosphatase domain and non-neuronal SNAP25-like protein homolog 1 (C. elegans)
ILMN_2417316	1.63	**LOC100044322**	hypothetical LOC100044322
ILMN_1222829	1.63	**Ints1**	integrator complex subunit 1
ILMN_2831491	1.63	**Pwp2**	PWP2 periodic tryptophan protein homolog (yeast)
ILMN_2900944	1.63	**Nek9**	NIMA (never in mitosis gene a)-related expressed kinase 9
ILMN_2711651	1.63	**Tmco1**	transmembrane and coiled-coil domains 1
ILMN_2777598	1.63	**Nr2f6**	nuclear receptor subfamily 2, group F, member 6
ILMN_1229378	1.63	**Hbs1l**	Hbs1-like (S. cerevisiae)
ILMN_3088934	1.63	**2700094K13Rik**	RIKEN cDNA 2700094K13 gene

ILMN_2605417	1.63	**4933411K20Rik**	RIKEN cDNA 4933411K20 gene
ILMN_2769680	1.63	**Retsat**	retinol saturase (all trans retinol 13,14 reductase)
ILMN_3162081	1.63	**Wdr6**	WD repeat domain 6
ILMN_2701501	1.63	**Ncaph2**	non-SMC condensin II complex, subunit H2
ILMN_1251870	1.64	**Smarcad1**	SWI/SNF-related, matrix-associated actin-dependent regulator of chromatin, subf. a, cont. DEAD/H
ILMN_2756686	1.64	**1110057K04Rik**	RIKEN cDNA 1110057K04 gene
ILMN_1237197	1.64	**Nrp1**	neuropilin 1
ILMN_2791121	1.64	**Ak3**	adenylate kinase 3
ILMN_2476139	1.64	**Tuba1C**	tubulin, alpha 1C
ILMN_2925567	1.64	**Nubp2**	nucleotide binding protein 2
ILMN_2944601	1.64	**Pisd-ps1**	phosphatidylserine decarboxylase, pseudogene 1
ILMN_3160361	1.64	**Pik3r6**	phosphoinositide-3-kinase, regulatory subunit 6
ILMN_1254437	1.64	**Slc31a1**	solute carrier family 31, member 1
ILMN_2701851	1.64	**Ncapd3**	non-SMC condensin II complex, subunit D3
ILMN_2742849	1.64	**Mcm5**	minichromosome maintenance deficient 5, cell division cycle 46 (S. cerevisiae)
ILMN_1231228	1.64	**Ralbp1**	ralA binding protein 1
ILMN_1223551	1.64	**Rrp9**	RRP9, small subunit (SSU) processome component, homolog (yeast)
ILMN_2679447	1.64	**Agxt2l2**	alanine-glyoxylate aminotransferase 2-like 2
ILMN_2616215	1.64	**Letmd1**	LETM1 domain containing 1
ILMN_2680665	1.64	**1810049H13Rik**	RIKEN cDNA 1810049H13 gene
ILMN_2612255	1.64	**Lyl1**	lymphoblastomic leukemia 1
ILMN_2899788	1.64	**Rgl2**	ral guanine nucleotide dissociation stimulator-like 2
ILMN_2957589	1.64	**Toe1**	target of EGR1, member 1 (nuclear)
ILMN_2671738	1.64	**Il16**	interleukin 16
ILMN_1232170	1.64	**Creld1**	cysteine-rich with EGF-like domains 1
ILMN_2771396	1.64	**Prkag1**	protein kinase, AMP-activated, gamma 1 non-catalytic subunit
ILMN_1236906	1.65	**Cdkn2aipnl**	CDKN2A interacting protein N-terminal like
ILMN_2805339	1.65	**Hspb6**	heat shock protein, alpha-crystallin-related, B6
ILMN_1219088	1.65	**Anapc16**	anaphase promoting complex subunit 16
ILMN_1254179	1.65	**Rap2b**	RAP2B, member of RAS oncogene family
ILMN_2725370	1.65	**Map3k12**	mitogen-activated protein kinase kinase kinase 12
ILMN_2697693	1.65	**Grhpr**	glyoxylate reductase/hydroxypyruvate reductase
ILMN_2691493	1.65	**Sssca1**	Sjogren's syndrome/scleroderma autoantigen 1 homolog (human)
ILMN_2707694	1.65	**D10Wsu102e**	DNA segment, Chr 10, Wayne State University 102, expressed
ILMN_2912111	1.65	**D10627**	cDNA sequence D10627
ILMN_2959372	1.65	**Clec4b1**	C-type lectin domain family 4, member b1
ILMN_2862567	1.65	**Fndc3b**	fibronectin type III domain containing 3B
ILMN_2608613	1.65	**D10Wsu52e**	DNA segment, Chr 10, Wayne State University 52, expressed
ILMN_2695793	1.65	**Fes**	feline sarcoma oncogene
ILMN_2604070	1.65	**Celsr3**	cadherin, EGF LAG seven-pass G-type receptor 3 (flamingo homolog, Drosophila)
ILMN_2972371	1.65	**Paf1**	Paf1, RNA polymerase II associated factor, homolog (S. cerevisiae)
ILMN_1259277	1.65	**Ddx28**	DEAD (Asp-Glu-Ala-Asp) box polypeptide 28
ILMN_2848090	1.65	**Naa15**	N(alpha)-acetyltransferase 15, NatA auxiliary subunit
ILMN_2958484	1.65	**Nlrx1**	NLR family member X1
ILMN_1235751	1.65	**Dus1l**	dihydrouridine synthase 1-like (S. cerevisiae)
ILMN_2596522	1.65	**Mt1**	metallothionein 1
ILMN_2706014	1.65	**2010002N04Rik**	RIKEN cDNA 2010002N04 gene
ILMN_2677567	1.65	**Galt**	galactose-1-phosphate uridyl transferase

ILMN_2800256	1.65	**Heatr1**	HEAT repeat containing 1
ILMN_2720836	1.66	**Rbm47**	RNA binding motif protein 47
ILMN_2626389	1.66	**Nomo1**	nodal modulator 1
ILMN_3163211	1.66	**Tmem107**	transmembrane protein 107
ILMN_2965417	1.66	**Npm3-ps1**	nucleoplasmin 3, pseudogene 1
ILMN_2679937	1.66	**LOC100046056**	similar to Pre-B-cell leukemia transcription factor interacting protein 1
ILMN_2889274	1.66	**Snx14**	sorting nexin 14
ILMN_1242881	1.66	**Cnpy2**	canopy 2 homolog (zebrafish)
ILMN_1237507	1.66	**Dlst**	dihydrolipoamide S-succinyltransferase (E2 component of 2-oxo-glutarate complex)
ILMN_2833936	1.66	**Cryl1**	crystallin, lambda 1
ILMN_1213026	1.66	**Cnst**	consortin, connexin sorting protein
ILMN_1250771	1.66	**Prdxdd1**	PrdX-deacylase domain 1
ILMN_2655144	1.66	**Lmf1**	lipase maturation factor 1
ILMN_2985053	1.66	**Ndufv2**	NADH dehydrogenase (ubiquinone) flavoprotein 2
ILMN_1234604	1.66	**2610036D13Rik**	RIKEN cDNA 2610036D13 gene
ILMN_2787844	1.66	**Serinc3**	serine incorporator 3
ILMN_2617305	1.66	**Nudt8**	nudix (nucleoside diphosphate linked moiety X)-type motif 8
ILMN_2808355	1.66	**Coq5**	coenzyme Q5 homolog, methyltransferase (yeast)
ILMN_2624749	1.66	**Ankrd10**	ankyrin repeat domain 10
ILMN_2973925	1.66	**Pop5**	processing of precursor 5, ribonuclease P/MRP family (S. cerevisiae)
ILMN_2795698	1.66	**Paox**	polyamine oxidase (exo-N4-amino)
ILMN_1220275	1.66	**Nrg4**	neuregulin 4
ILMN_2885532	1.67	**Cpt2**	carnitine palmitoyltransferase 2
ILMN_1225226	1.67	**Gart**	phosphoribosylglycinamide formyltransferase
ILMN_2612369	1.67	**Prpf8**	pre- processing factor 8
ILMN_2713841	1.67	**Hspd1**	heat shock protein 1 (chaperonin)
ILMN_2500276	1.67	**Ccng1**	cyclin G1
ILMN_1231996	1.67	**Pip4k2b**	phosphatidylinositol-5-phosphate 4-kinase, type II, beta
ILMN_2739843	1.67	**Metrn**	meteorin, glial cell differentiation regulator
ILMN_1222492	1.67	**Mipep**	mitochondrial intermediate peptidase
ILMN_2930067	1.67	**Eif2b5**	eukaryotic translation initiation factor 2B, subunit 5 epsilon
ILMN_2686393	1.67	**Gna12**	guanine nucleotide binding protein, alpha 12
ILMN_1244291	1.67	**Gja1**	gap junction protein, alpha 1
ILMN_2592810	1.67	**Map3k3**	mitogen-activated protein kinase kinase kinase 3
ILMN_2717777	1.67	**Polrmt**	polymerase (RNA) mitochondrial (DNA directed)
ILMN_2803334	1.67	**Alg2**	asparagine-linked glycosylation 2 homolog (yeast, alpha-1,3-mannosyltransferase)
ILMN_2915166	1.67	**Ino80b**	INO80 complex subunit B
ILMN_2910221	1.67	**Mmgt1**	membrane magnesium transporter 1
ILMN_1220440	1.67	**Ppil3**	peptidylprolyl isomerase (cyclophilin)-like 3
ILMN_2744414	1.67	**Nme3**	non-metastatic cells 3, protein expressed in
ILMN_2769656	1.67	**Picalm**	phosphatidylinositol binding clathrin assembly protein
ILMN_2973928	1.67	**Pop5**	processing of precursor 5, ribonuclease P/MRP family (S. cerevisiae)
ILMN_1228470	1.67	**Pdxp**	pyridoxal (pyridoxine, vitamin B6) phosphatase
ILMN_2771956	1.67	**Calu**	calumenin
ILMN_2714874	1.67	**Gm9897**	predicted gene 9897
ILMN_2798674	1.67	**2810046L04Rik**	RIKEN cDNA 2810046L04 gene
ILMN_2593496	1.67	**Got2**	glutamate oxaloacetate transaminase 2, mitochondrial
ILMN_2590950	1.67	**Agtrap**	angiotensin II, type I receptor-associated protein

ILMN_1253677	1.67	**Eml4**	echinoderm microtubule associated protein like 4
ILMN_2605453	1.67	**Ranbp10**	RAN binding protein 10
ILMN_2613558	1.67	**Lass5**	LAG1 homolog, ceramide synthase 5
ILMN_2769261	1.67	**Ercc5**	excision repair cross-complementing rodent repair deficiency, complementation group 5
ILMN_2592266	1.67	**Pqlc1**	PQ loop repeat containing 1
ILMN_2660028	1.67	**Ccdc101**	coiled-coil domain containing 101
ILMN_2614853	1.68	**Trmt61a**	tRNA methyltransferase 61 homolog A (S. cerevisiae)
ILMN_2692315	1.68	**Dpep2**	dipeptidase 2
ILMN_1253970	1.68	**Sirt7**	sirtuin 7 (silent mating type information regulation 2, homolog) 7
ILMN_2636335	1.68	**Srsf2**	serine/arginine-rich splicing factor 2
ILMN_2791963	1.68	**E2f6**	E2F transcription factor 6
ILMN_2908780	1.68	**Fam128b**	family with sequence similarity 128, member B
ILMN_2665422	1.68	**Afg3l1**	AFG3(ATPase family gene 3)-like 1 (yeast)
ILMN_2746425	1.68	**Slc35b4**	solute carrier family 35, member B4
ILMN_2722513	1.68	**Pstpip2**	proline-serine-threonine phosphatase-interacting protein 2
ILMN_1218799	1.68	**Emb**	embigin
ILMN_2911344	1.69	**Plscr1**	phospholipid scramblase 1
ILMN_1228937	1.69	**Cyhr1**	cysteine and histidine rich 1
ILMN_2702016	1.69	**2010011I20Rik**	RIKEN cDNA 2010011I20 gene
ILMN_2908546	1.69	**Arfgap1**	ADP-ribosylation factor GTPase activating protein 1
ILMN_3151840	1.69	**Ppm1m**	protein phosphatase 1M
ILMN_2944657	1.69	**4930506M07Rik**	RIKEN cDNA 4930506M07 gene
ILMN_1259473	1.69	**Fen1**	flap structure specific endonuclease 1
ILMN_2716085	1.69	**Pex6**	peroxisomal biogenesis factor 6
ILMN_1249606	1.69	**Rpl7l1**	ribosomal protein L7-like 1
ILMN_2749747	1.69	**Haus8**	4HAUS augmin-like complex, subunit 8
ILMN_2605630	1.69	**AA881470**	EST AA881470
ILMN_2730758	1.69	**Ubr7**	ubiquitin protein ligase E3 component n-recognin 7 (putative)
ILMN_3020829	1.69	**Npm3**	nucleoplasmin 3
ILMN_2933756	1.69	**Mycbp**	c-myc binding protein
ILMN_2665387	1.69	**Coro1c**	coronin, actin binding protein 1C
ILMN_1250767	1.69	**Tpd52l2**	tumor protein D52-like 2
ILMN_2736347	1.69	**Prmt7**	protein arginine N-methyltransferase 7
ILMN_2787085	1.69	**Spcs3**	signal peptidase complex subunit 3 homolog (S. cerevisiae)
ILMN_2667614	1.69	**Josd2**	Josephin domain containing 2
ILMN_2816547	1.69	**0610007P08Rik**	RIKEN cDNA 0610007P08 gene
ILMN_2775751	1.69	**Tmem147**	transmembrane protein 147
ILMN_1242769	1.69	**Akap8l**	A kinase (PRKA) anchor protein 8-like
ILMN_2901284	1.69	**Add3**	adducin 3 (gamma)
ILMN_2989955	1.69	**Bmp1**	bone morphogenetic protein 1
ILMN_2742426	1.69	**LOC100044204**	hypothetical protein LOC100044204
ILMN_2735996	1.69	**P4hb**	prolyl 4-hydroxylase, beta polypeptide
ILMN_2685464	1.69	**Wwc2**	WW, C2 and coiled-coil domain containing 2
ILMN_1245918	1.70	**Tab1**	TGF-beta activated kinase 1/MAP3K7 binding protein 1
ILMN_2462448	1.70	**Tufm**	Tu translation elongation factor, mitochondrial
ILMN_2749037	1.70	**Chchd10**	coiled-coil-helix-coiled-coil-helix domain containing 10
ILMN_1248079	1.70	**Zmpste24**	zinc metallopeptidase, STE24 homolog (S. cerevisiae)
ILMN_3140158	1.70	**2700007P21Rik**	RIKEN cDNA 2700007P21 gene

ILMN_2931779	1.70	**Wdr45l**	Wdr45 like
ILMN_2909105	1.70	**Fam57a**	family with sequence similarity 57, member A
ILMN_2913326	1.70	**2610039C10Rik**	RIKEN cDNA 2610039C10 gene
ILMN_1218891	1.70	**Fahd1**	fumarylacetoacetate hydrolase domain containing 1
ILMN_2744193	1.70	**Lrrc8a**	leucine rich repeat containing 8A
ILMN_2669540	1.70	**Cuta**	cutA divalent cation tolerance homolog (E. coli)
ILMN_3098120	1.70	**Frrs1**	ferric-chelate reductase 1
ILMN_1231705	1.70	**Tmem48**	transmembrane protein 48
ILMN_2625167	1.70	**Eif4g2**	eukaryotic translation initiation factor 4, gamma 2
ILMN_2472504	1.70	**Pcyox1**	prenylcysteine oxidase 1
ILMN_2810047	1.71	**Iars**	isoleucine-tRNA synthetase
ILMN_2934533	1.71	**Prpf19**	PRP19/PSO4 pre- processing factor 19 homolog (S. cerevisiae)
ILMN_1254927	1.71	**Ly6c1**	lymphocyte antigen 6 complex, locus C1
ILMN_1230991	1.71	**Gm10039**	ATP synthase, H+ transporting, mitochondrial F0 complex, subunit c, isoform 1
ILMN_2989257	1.71	**Qars**	glutaminyl-tRNA synthetase
ILMN_2718974	1.71	**Rpusd4**	RNA pseudouridylate synthase domain containing 4
ILMN_2874443	1.71	**Polr2h**	polymerase (RNA) II (DNA directed) polypeptide H
ILMN_2963974	1.71	**Gemin4**	gem (nuclear organelle) associated protein 4
ILMN_1259368	1.71	**Apobec3**	apolipoprotein B editing enzyme, catalytic polypeptide 3
ILMN_2594768	1.71	**Tha1**	threonine aldolase 1
ILMN_1249417	1.71	**Pdrg1**	p53 and DNA damage regulated 1
ILMN_2597886	1.71	**Snx18**	sorting nexin 18
ILMN_2648089	1.71	**Snx25**	sorting nexin 25
ILMN_2788574	1.71	**Gmip**	Gem-interacting protein
ILMN_1255834	1.71	**Stk17b**	serine/threonine kinase 17b (apoptosis-inducing)
ILMN_2867427	1.71	**Rad50**	RAD50 homolog (S. cerevisiae)
ILMN_1238733	1.71	**Ttc27**	tetratricopeptide repeat domain 27
ILMN_2769393	1.71	**Mib2**	mindbomb homolog 2 (Drosophila)
ILMN_1257772	1.71	**BC026590**	cDNA sequence BC026590
ILMN_1226366	1.71	**Uck1**	uridine-cytidine kinase 1
ILMN_1218993	1.71	**Polr3h**	polymerase (RNA) III (DNA directed) polypeptide H
ILMN_2738156	1.71	**Zfp362**	zinc finger protein 362
ILMN_1225995	1.71	**Morc2a**	microrchidia 2A
ILMN_2707245	1.72	**Rfwd2**	ring finger and WD repeat domain 2
ILMN_2915059	1.72	**Dgkz**	diacylglycerol kinase zeta
ILMN_2892904	1.72	**Aagab**	alpha- and gamma-adaptin binding protein
ILMN_2724322	1.72	**Cirh1a**	cirrhosis, autosomal recessive 1A (human)
ILMN_2652518	1.72	**Atg2b**	ATG2 autophagy related 2 homolog B (S. cerevisiae)
ILMN_1236232	1.72	**Acap3**	ArfGAP with coiled-coil, ankyrin repeat and PH domains 3
ILMN_1219667	1.72	**Pfdn2**	prefoldin 2
ILMN_2610973	1.72	**Clock**	circadian locomotor output cycles kaput
ILMN_2685133	1.72	**1700034H14Rik**	RIKEN cDNA 1700034H14 gene
ILMN_1221363	1.72	**Orc5l**	origin recognition complex, subunit 5-like (S. cerevisiae)
ILMN_2669699	1.72	**Gm15431**	predicted gene 15431
ILMN_2983093	1.72	**Prmt5**	protein arginine N-methyltransferase 5
ILMN_2507286	1.72	**Tnfsf13b**	tumor necrosis factor (ligand) superfamily, member 13b
ILMN_1227012	1.72	**Ndufb4**	NADH dehydrogenase (ubiquinone) 1 beta subcomplex 4
ILMN_1224336	1.72	**Spsb1**	splA/ryanodine receptor domain and SOCS box containing 1

ILMN_1238928	1.73	**Mlst8**	MTOR associated protein, LST8 homolog (S. cerevisiae)
ILMN_2607196	1.73	**Fam49b**	family with sequence similarity 49, member B
ILMN_2701741	1.73	**Dph2**	DPH2 homolog (S. cerevisiae)
ILMN_2720180	1.73	**Cyb5b**	cytochrome b5 type B
ILMN_1231471	1.73	**Zfp94**	zinc finger protein 94
ILMN_2907322	1.73	**Dtx2**	deltex 2 homolog (Drosophila)
ILMN_2895177	1.73	**Epm2aip1**	EPM2A (laforin) interacting protein 1
ILMN_2712075	1.73	**Lcn2**	lipocalin 2
ILMN_1246018	1.73	**Klhl22**	kelch-like 22 (Drosophila)
ILMN_2769285	1.73	**Sema6B**	sema domain, transmembrane domain (TM), and cytoplasmic domain, (semaphorin) 6B
ILMN_1219106	1.73	**Rrad**	Ras-related associated with diabetes
ILMN_2705361	1.73	**Hsd17b11**	hydroxysteroid (17-beta) dehydrogenase 11
ILMN_2875251	1.73	**Ang**	angiogenin, ribonuclease, RNase A family, 5
ILMN_2912318	1.73	**Terf2**	telomeric repeat binding factor 2
ILMN_3006931	1.73	**Mospd1**	motile sperm domain containing 1
ILMN_2702039	1.74	**Cblb**	Casitas B-lineage lymphoma b
ILMN_2592486	1.74	**Pglyrp1**	peptidoglycan recognition protein 1
ILMN_2623064	1.74	**Snx24**	sorting nexing 24
ILMN_3060168	1.74	**Ift140**	intraflagellar transport 140 homolog (Chlamydomonas)
ILMN_2740348	1.74	**Rhot2**	ras homolog gene family, member T2
ILMN_2991545	1.74	**D10Jhu81e**	DNA segment, Chr 10, Johns Hopkins University 81 expressed
ILMN_3163340	1.74	**Rbm45**	RNA binding motif protein 45
ILMN_2436489	1.74	**Vapb**	vesicle-associated membrane protein, associated protein B and C
ILMN_2798340	1.74	**Tmem63a**	transmembrane protein 63a
ILMN_2745005	1.74	**Gpn3**	GPN-loop GTPase 3
ILMN_1256518	1.74	**Akr7a5**	aldo-keto reductase family 7, member A5 (aflatoxin aldehyde reductase)
ILMN_2706853	1.74	**Scamp1**	secretory carrier membrane protein 1
ILMN_2929553	1.74	**Prpf38b**	PRP38 pre- processing factor 38 (yeast) domain containing B
ILMN_1249999	1.74	**Kdelc1**	KDEL (Lys-Asp-Glu-Leu) containing 1
ILMN_1227277	1.74	**Ccpg1**	cell cycle progression 1
ILMN_1260420	1.75	**Suv420h2**	suppressor of variegation 4-20 homolog 2 (Drosophila)
ILMN_1254715	1.75	**Mrpl37**	mitochondrial ribosomal protein L37
ILMN_3006644	1.75	**Abi2**	abl-interactor 2
ILMN_1225544	1.75	**Slc19a1**	solute carrier family 19 (sodium/hydrogen exchanger), member 1
ILMN_2627690	1.75	**Hnrnpl**	heterogeneous nuclear ribonucleoprotein L
ILMN_1257102	1.75	**Cecr5**	cat eye syndrome chromosome region, candidate 5 homolog (human)
ILMN_1260593	1.75	**1700052N19Rik**	RIKEN cDNA 1700052N19 gene
ILMN_1226514	1.75	**Gab3**	growth factor receptor bound protein 2-associated protein 3
ILMN_1259299	1.75	**3110056O03Rik**	RIKEN cDNA 3110056O03 gene
ILMN_3123836	1.75	**Nudt7**	nudix (nucleoside diphosphate linked moiety X)-type motif 7
ILMN_2936476	1.75	**Pycard**	PYD and CARD domain containing
ILMN_2473122	1.75	**Wrb**	tryptophan rich basic protein
ILMN_2987863	1.75	**Per2**	period homolog 2 (Drosophila)
ILMN_2679851	1.75	**Pdha1**	pyruvate dehydrogenase E1 alpha 1
ILMN_1226935	1.75	**Orm1**	orosomucoid 1
ILMN_2653927	1.75	**Limk1**	LIM-domain containing, protein kinase
ILMN_1224250	1.76	**N4bp2l1**	NEDD4 binding protein 2-like 1
ILMN_1217767	1.76	**Glrx5**	glutaredoxin 5 homolog (S. cerevisiae)

ILMN_2745433	1.76	**Ergic1**	endoplasmic reticulum-golgi intermediate compartment (ERGIC) 1
ILMN_2895084	1.76	**Zfp715**	zinc finger protein 715
ILMN_2671689	1.76	**Cox7b**	cytochrome c oxidase subunit VIIb
ILMN_2975718	1.76	**Rps6ka1**	ribosomal protein S6 kinase polypeptide 1
ILMN_1225712	1.76	**Iap**	intracisternal A particles
ILMN_1235909	1.77	**Ak2**	adenylate kinase 2
ILMN_2614161	1.77	**Lss**	lanosterol synthase
ILMN_3141048	1.77	**Sepp1**	selenoprotein P, plasma, 1
ILMN_1258830	1.77	**Ppap2a**	phosphatidic acid phosphatase type 2A
ILMN_1259339	1.77	**Cdk5r1**	cyclin-dependent kinase 5, regulatory subunit 1 (p35)
ILMN_2969172	1.77	**Tmem87a**	transmembrane protein 87A
ILMN_1214150	1.77	**Gng2**	guanine nucleotide binding protein (G protein), gamma 2
ILMN_1253844	1.77	**Orc5l**	origin recognition complex, subunit 5-like (S. cerevisiae)
ILMN_2716014	1.77	**OTTMUSG00000011448**	predicted gene, OTTMUSG00000011448
ILMN_2466845	1.77	**Trp53**	transformation related protein 53
ILMN_1221199	1.77	**Ppm1f**	protein phosphatase 1F (PP2C domain containing)
ILMN_2755981	1.77	**Fam178a**	family with sequence similarity 178, member A
ILMN_2735961	1.77	**Tlr13**	toll-like receptor 13
ILMN_2589312	1.77	**Entpd4**	ectonucleoside triphosphate diphosphohydrolase 4
ILMN_1213855	1.78	**Extl2**	exostoses (multiple)-like 2
ILMN_2508745	1.78	**Zfyve21**	zinc finger, FYVE domain containing 21
ILMN_2864290	1.78	**Fam126b**	family with sequence similarity 126, member B
ILMN_3090207	1.78	**Cyp4f18**	cytochrome P450, family 4, subfamily f, polypeptide 18
ILMN_2977535	1.78	**D930015E06Rik**	RIKEN cDNA D930015E06 gene
ILMN_2597899	1.78	**Zfc3h1**	zinc finger, C3H1-type containing
ILMN_2737296	1.78	**Lars2**	leucyl-tRNA synthetase, mitochondrial
ILMN_2821916	1.78	**Nicn1**	nicolin 1
ILMN_2721929	1.78	**Havcr2**	hepatitis A virus cellular receptor 2
ILMN_1257624	1.78	**Txn2**	thioredoxin 2
ILMN_1238479	1.78	**Mgst3**	microsomal glutathione S-transferase 3
ILMN_2747031	1.79	**DHCR24**	24-dehydrocholesterol reductase
ILMN_2615035	1.79	**Mgst3**	microsomal glutathione S-transferase 3
ILMN_2671253	1.79	**Gspt2**	G1 to S phase transition 2
ILMN_3007898	1.79	**Kdm1b**	lysine (K)-specific demethylase 1B
ILMN_2721385	1.79	**Dst**	dystonin
ILMN_1222794	1.79	**Ankrd46**	ankyrin repeat domain 46
ILMN_1257428	1.79	**Fkbp4**	FK506 binding protein 4
ILMN_2714638	1.80	**Mertk**	c-mer proto-oncogene tyrosine kinase
ILMN_2795412	1.80	**Tmem176a**	transmembrane protein 176A
ILMN_1217590	1.80	**Sephs2**	selenophosphate synthetase 2
ILMN_2691492	1.80	**Sssca1**	Sjogren's syndrome/scleroderma autoantigen 1 homolog (human)
ILMN_2595732	1.80	**LOC100046232**	similar to NFIL3/E4BP4 transcription factor
ILMN_1233064	1.80	**Cdk2**	cyclin-dependent kinase 2
ILMN_2838492	1.80	**Styx**	serine/threonine/tyrosine interaction protein
ILMN_2667352	1.80	**Glo1**	glyoxalase 1
ILMN_2859847	1.80	**Pygl**	liver glycogen phosphorylase
ILMN_1253601	1.80	**Aacs**	acetoacetyl-CoA synthetase
ILMN_2962737	1.80	**Aoah**	acyloxyacyl hydrolase

ILMN_2825020	1.80	**Rassf5**	Ras association (RalGDS/AF-6) domain family member 5
ILMN_3009334	1.80	**Ncaph2**	non-SMC condensin II complex, subunit H2
ILMN_2752506	1.81	**Sec22c**	SEC22 vesicle trafficking protein homolog C (S. cerevisiae)
ILMN_2915060	1.81	**Dgkz**	diacylglycerol kinase zeta
ILMN_2702704	1.81	**Ndufv1**	NADH dehydrogenase (ubiquinone) flavoprotein 1
ILMN_2835346	1.81	**Prpf18**	PRP18 pre- processing factor 18 homolog (yeast)
ILMN_2728118	1.81	**Rrp12**	ribosomal RNA processing 12 homolog (S. cerevisiae)
ILMN_2868280	1.81	**Dcxr**	dicarbonyl L-xylulose reductase
ILMN_2587859	1.81	**EG668837**	predicted gene, EG668837
ILMN_2719296	1.82	**Mfn1**	mitofusin 1
ILMN_1253008	1.82	**Acat2**	acetyl-Coenzyme A acetyltransferase 2
ILMN_1236828	1.82	**Usp20**	ubiquitin specific peptidase 20
ILMN_2647820	1.82	**Apoc2**	apolipoprotein C-II
ILMN_1225654	1.82	**LOC100046775**	similar to CMP-sialic acid transporter
ILMN_1260412	1.82	**Tigd2**	tigger transposable element derived 2
ILMN_2948143	1.82	**Slc7a11**	solute carrier family 7 (cationic amino acid transporter, y+ system), member 11
ILMN_2599935	1.82	**2610024G14Rik**	RIKEN cDNA 2610024G14 gene
ILMN_1218206	1.82	**Klf13**	Kruppel-like factor 13
ILMN_2501489	1.83	**Was**	Wiskott-Aldrich syndrome homolog (human)
ILMN_2728385	1.83	**Smc6**	structural maintenance of chromosomes 6
ILMN_1259904	1.83	**Ercc4**	excision repair cross-complementing rodent repair deficiency, complementation group 4
ILMN_2709279	1.83	**Tmem180**	transmembrane protein 180
ILMN_1257019	1.84	**BC037034**	cDNA sequence BC037034
ILMN_1224487	1.84	**Ddx26b**	DEAD/H (Asp-Glu-Ala-Asp/His) box polypeptide 26B
ILMN_2805829	1.84	**Exosc2**	exosome component 2
ILMN_2475864	1.84	**Ubp1**	upstream binding protein 1
ILMN_2724795	1.84	**Ppp5c**	protein phosphatase 5, catalytic subunit
ILMN_2645662	1.84	**Tmem86a**	transmembrane protein 86A
ILMN_1242246	1.84	**Scamp5**	secretory carrier membrane protein 5
ILMN_2953411	1.84	**Ppp3r1**	protein phosphatase 3, regulatory subunit B, alpha isoform (calcineurin B, type I)
ILMN_2780424	1.84	**Zfp36l1**	zinc finger protein 36, C3H type-like 1
ILMN_2682362	1.84	**Gemin4**	gem (nuclear organelle) associated protein 4
ILMN_2794608	1.84	**Bcat2**	branched chain aminotransferase 2, mitochondrial
ILMN_1246999	1.84	**DDX18**	similar to DEAD (Asp-Glu-Ala-Asp) box polypeptide 18
ILMN_1214179	1.84	**LOC100045551**	similar to Protein phosphatase 1D magnesium-dependent, delta
ILMN_1222991	1.85	**Ppap2a**	phosphatidic acid phosphatase type 2A
ILMN_1252745	1.85	**Gtf2h2**	general transcription factor II H, polypeptide 2
ILMN_3121522	1.85	**Clec5a**	C-type lectin domain family 5, member a
ILMN_2668462	1.85	**Emilin1**	elastin microfibril interfacer 1
ILMN_1233889	1.85	**Pno1**	partner of NOB1 homolog (S. cerevisiae)
ILMN_2768026	1.85	**Gusb**	glucuronidase, beta
ILMN_2647856	1.85	**D330045A20Rik**	RIKEN cDNA D330045A20 gene
ILMN_1217408	1.85	**Prkacb**	protein kinase, cAMP dependent, catalytic, beta
ILMN_2605819	1.85	**Egln3**	EGL nine homolog 3 (C. elegans)
ILMN_1251206	1.85	**Yme1l1**	YME1-like 1 (S. cerevisiae)
ILMN_1258376	1.85	**Kcnk6**	potassium inwardly-rectifying channel, subfamily K, member 6
ILMN_1250001	1.86	**4930583H14Rik**	RIKEN cDNA 4930583H14 gene
ILMN_1254692	1.86	**Ms4a6b**	membrane-spanning 4-domains, subfamily A, member 6B

ILMN_2824723	1.86	**Fxc1**	fractured callus expressed transcript 1
ILMN_2709051	1.86	**Fam126b**	family with sequence similarity 126, member B
ILMN_3105343	1.86	**Adarb1**	adenosine deaminase, RNA-specific, B1
ILMN_1233402	1.86	**LOC100045981**	similar to synaptotagmin XI
ILMN_2794526	1.86	**Cnr2**	cannabinoid receptor 2 (macrophage)
ILMN_2681232	1.87	**Ifi27l1**	interferon, alpha-inducible protein 27 like 1
ILMN_2709166	1.87	**Susd2**	sushi domain containing 2
ILMN_2981363	1.87	**Emilin2**	elastin microfibril interfacer 2
ILMN_2689056	1.87	**Cd2bp2**	CD2 antigen (cytoplasmic tail) binding protein 2
ILMN_2721809	1.87	**Mapk14**	mitogen-activated protein kinase 14
ILMN_1230411	1.87	**Kpnb1**	karyopherin (importin) beta 1
ILMN_2593787	1.87	**Kcnk13**	potassium channel, subfamily K, member 13
ILMN_2965132	1.88	**Tspyl3**	TSPY-like 3
ILMN_2939303	1.88	**Pcyt2**	phosphate cytidylyltransferase 2, ethanolamine
ILMN_3043669	1.88	**Sla**	src-like adaptor
ILMN_2699307	1.88	**Hebp1**	heme binding protein 1
ILMN_1234086	1.89	**Dhdh**	dihydrodiol dehydrogenase (dimeric)
ILMN_2733733	1.89	**Tlr2**	toll-like receptor 2
ILMN_2640348	1.89	**Tmem110**	transmembrane protein 110
ILMN_2624544	1.89	**Helb**	helicase (DNA) B
ILMN_1237089	1.89	**Ganab**	alpha glucosidase 2 alpha neutral subunit
ILMN_1250538	1.90	**Reep3**	receptor accessory protein 3
ILMN_2600389	1.90	**Slc7a6**	solute carrier family 7 (cationic amino acid transporter, y+ system), member 6
ILMN_2847869	1.90	**B230219D22Rik**	RIKEN cDNA B230219D22 gene
ILMN_2852672	1.92	**Tspan32**	tetraspanin 32
ILMN_2928160	1.92	**Vars**	valyl-tRNA synthetase
ILMN_3150233	1.92	**Abca3**	ATP-binding cassette, sub-family A (ABC1), member 3
ILMN_2633229	1.92	**Atp5a1**	ATP synthase, H+ transporting, mitochondrial F1 complex, alpha subunit 1
ILMN_2960822	1.92	**BC085271**	cDNA sequence BC085271
ILMN_3151722	1.92	**Net1**	neuroepithelial cell transforming gene 1
ILMN_2845849	1.93	**Xpr1**	xenotropic and polytropic retrovirus receptor 1
ILMN_2687403	1.93	**Fcgr3**	Fc receptor, IgG, low affinity III
ILMN_2971479	1.93	**Trp53inp1**	transformation related protein 53 inducible nuclear protein 1
ILMN_1247553	1.94	**Sepp1**	selenoprotein P, plasma, 1
ILMN_1250704	1.94	**Rcsd1**	RCSD domain containing 1
ILMN_1217794	1.94	**Timm9**	translocase of inner mitochondrial membrane 9 homolog (yeast)
ILMN_1247853	1.94	**Zfp36l1**	zinc finger protein 36, C3H type-like 1
ILMN_2809611	1.94	**Srm**	spermidine synthase
ILMN_3065373	1.94	**4930572J05Rik**	RIKEN cDNA 4930572J05 gene
ILMN_3131063	1.94	**Ccnd3**	cyclin D3
ILMN_1248714	1.94	**Cd55**	CD55 antigen
ILMN_2708877	1.95	**Plekha1**	pleckstrin homology domain containing, family A (phosphoinositide binding specific) member 1
ILMN_2734661	1.96	**Hagh**	hydroxyacyl glutathione hydrolase
ILMN_3083163	1.96	**Cp**	ceruloplasmin
ILMN_2648661	1.96	**Cap1**	CAP, adenylate cyclase-associated protein 1 (yeast)
ILMN_2753021	1.96	**Rnf166**	ring finger protein 166
ILMN_2614889	1.97	**B3gnt8**	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase 8
ILMN_3121784	1.97	**Fam53b**	family with sequence similarity 53, member B

ILMN_1254929	1.97	**Rcl1**	RNA terminal phosphate cyclase-like 1
ILMN_1240445	1.98	**Stard4**	StAR-related lipid transfer (START) domain containing 4
ILMN_2652757	1.98	**Elovl5**	ELOVL family member 5, elongation of long chain fatty acids (yeast)
ILMN_2589768	1.98	**Htr2b**	5-hydroxytryptamine (serotonin) receptor 2B
ILMN_1216337	1.98	**Sla**	src-like adaptor
ILMN_2820948	1.98	**Dbt**	dihydrolipoamide branched chain transacylase E2
ILMN_2835461	1.99	**2610024G14Rik**	RIKEN cDNA 2610024G14 gene
ILMN_2790382	1.99	**Gfi1**	growth factor independent 1
ILMN_3125606	1.99	**Ifi27l1**	interferon, alpha-inducible protein 27 like 1
ILMN_2668197	2.00	**Stau1**	staufen (RNA binding protein) homolog 1 (Drosophila)
ILMN_1229529	2.00	**Hsd17b7**	hydroxysteroid (17-beta) dehydrogenase 7
ILMN_3005212	2.00	**Paip2b**	poly(A) binding protein interacting protein 2B
ILMN_2729718	2.00	**Psme3**	proteaseome (prosome, macropain) 28 subunit, 3
ILMN_2638147	2.01	**Klhdc10**	kelch domain containing 10
ILMN_2906473	2.01	**Mlst8**	MTOR associated protein, LST8 homolog (S. cerevisiae)
ILMN_2770066	2.01	**LOC100044439**	similar to cytochrome P450 CYP4F18
ILMN_2895908	2.01	**Txlng**	taxilin gamma
ILMN_2836501	2.01	**Rdh12**	retinol dehydrogenase 12
ILMN_2672528	2.01	**Pabpn1**	poly(A) binding protein, nuclear 1
ILMN_2980532	2.01	**Tgfbr1**	transforming growth factor, beta receptor I
ILMN_2611000	2.02	**Il1r2**	interleukin 1 receptor, type II
ILMN_1235657	2.02	**Rnase4**	ribonuclease, RNase A family 4
ILMN_2980177	2.02	**Fhod1**	formin homology 2 domain containing 1
ILMN_2674247	2.03	**Cd38**	CD38 antigen
ILMN_1240979	2.03	**Rbm38**	RNA binding motif protein 38
ILMN_2679723	2.03	**Tm2d2**	TM2 domain containing 2
ILMN_1258552	2.03	**2610024G14Rik**	RIKEN cDNA 2610024G14 gene
ILMN_1222036	2.03	**Paqr7**	progestin and adipoQ receptor family member VII
ILMN_2868013	2.04	**Pank1**	pantothenate kinase 1
ILMN_2825144	2.04	**Fndc7**	fibronectin type III domain containing 7
ILMN_2850402	2.05	**Brp16**	brain protein 16
ILMN_2610771	2.05	**Net1**	neuroepithelial cell transforming gene 1
ILMN_2801683	2.05	**Dstn**	destrin
ILMN_1259470	2.06	**Tmem176b**	transmembrane protein 176B
ILMN_1245425	2.06	**Atp2a2**	ATPase, Ca++ transporting, cardiac muscle, slow twitch 2
ILMN_2737163	2.07	**Sqle**	squalene epoxidase
ILMN_2728729	2.07	**Sdc4**	syndecan 4
ILMN_2759079	2.07	**Ppap2a**	phosphatidic acid phosphatase type 2A
ILMN_2888144	2.08	**Slc29a1**	solute carrier family 29 (nucleoside transporters), member 1
ILMN_2685157	2.09	**Abcc3**	ATP-binding cassette, sub-family C (CFTR/MRP), member 3
ILMN_2745614	2.10	**Fam134b**	family with sequence similarity 134, member B
ILMN_2734142	2.10	**Snta1**	syntrophin, acidic 1
ILMN_1214810	2.11	**Arf2**	ADP-ribosylation factor 2
ILMN_1250531	2.12	**Slc19a2**	solute carrier family 19 (thiamine transporter), member 2
ILMN_2987862	2.12	**Per2**	period homolog 2 (Drosophila)
ILMN_2667369	2.12	**B4galt1**	UDP-Gal:betaGlcNAc beta 1,4- galactosyltransferase, polypeptide 1
ILMN_2752569	2.13	**Paip1**	polyadenylate binding protein-interacting protein 1
ILMN_2721149	2.13	**Arl11**	ADP-ribosylation factor-like 11

ILMN_2665545	2.13	**Rin3**	Ras and Rab interactor 3
ILMN_1250947	2.15	**Txndc5**	thioredoxin domain containing 5
ILMN_1231138	2.16	**E2f1**	E2F transcription factor 1
ILMN_1238032	2.17	**Fbxl5**	F-box and leucine-rich repeat protein 5
ILMN_2480682	2.18	**Sgms1**	sphingomyelin synthase 1
ILMN_2875169	2.18	**6330416G13Rik**	RIKEN cDNA 6330416G13 gene
ILMN_2473531	2.18	**Pik3r1**	phosphatidylinositol 3-kinase, regulatory subunit, polypeptide 1 (p85 alpha)
ILMN_1241378	2.19	**Mmp8**	matrix metallopeptidase 8
ILMN_1260233	2.20	**Klhl6**	kelch-like 6 (Drosophila)
ILMN_2790246	2.20	**Herpud1**	homocysteine-inducible, endoplasmic reticulum stress-inducible, ubiquitin-like domain member 1
ILMN_2985282	2.21	**Peci**	peroxisomal delta3, delta2-enoyl-Coenzyme A isomerase
ILMN_3132898	2.21	**Ypel3**	yippee-like 3 (Drosophila)
ILMN_2645275	2.21	**Mvd**	mevalonate (diphospho) decarboxylase
ILMN_2618526	2.21	**Napepld**	N-acyl phosphatidylethanolamine phospholipase D
ILMN_2730797	2.21	**Slc25a10**	solute carrier family 25 (mitochondrial carrier, dicarboxylate transporter), member 10
ILMN_3114641	2.22	**Pik3r1**	phosphatidylinositol 3-kinase, regulatory subunit, polypeptide 1 (p85 alpha)
ILMN_1225594	2.23	**1110008P14Rik**	RIKEN cDNA 1110008P14 gene
ILMN_2602711	2.24	**Tgfbr1**	transforming growth factor, beta receptor I
ILMN_1215212	2.24	**Rhob**	ras homolog gene family, member B
ILMN_2649502	2.25	**Adam9**	a disintegrin and metallopeptidase domain 9 (meltrin gamma)
ILMN_2966104	2.25	**Htra1**	HtrA serine peptidase 1
ILMN_2771709	2.26	**Ppargc1b**	peroxisome proliferative activated receptor, gamma, coactivator 1 beta
ILMN_2947292	2.28	**Map3k6**	mitogen-activated protein kinase kinase kinase 6
ILMN_1234702	2.28	**Gpt2**	glutamic pyruvate transaminase (alanine aminotransferase) 2
ILMN_1246695	2.28	**Cd3eap**	CD3E antigen, epsilon polypeptide associated protein
ILMN_1260073	2.28	**D16Ertd472e**	DNA segment, Chr 16, ERATO Doi 472, expressed
ILMN_3118707	2.28	**Sla**	src-like adaptor
ILMN_1226099	2.28	**Tnfsf13b**	tumor necrosis factor (ligand) superfamily, member 13b
ILMN_3086136	2.29	**Agap1**	ArfGAP with GTPase domain, ankyrin repeat and PH domain 1
ILMN_3005873	2.32	**Sort1**	sortilin 1
ILMN_2862619	2.33	**Xrcc6**	X-ray repair complementing defective repair in Chinese hamster cells 6
ILMN_1219915	2.35	**Dgat2**	diacylglycerol O-acyltransferase 2
ILMN_3011353	2.37	**Mbp**	myelin basic protein
ILMN_2902492	2.38	**Napepld**	N-acyl phosphatidylethanolamine phospholipase D
ILMN_2790241	2.39	**Herpud1**	homocysteine-inducible, endoplasmic reticulum stress-inducible, ubiquitin-like domain member 1
ILMN_1231096	2.43	**Tmem106b**	transmembrane protein 106B
ILMN_3162570	2.43	**Gnptab**	N-acetylglucosamine-1-phosphate transferase, alpha and beta subunits
ILMN_1230587	2.47	**Lpxn**	leupaxin
ILMN_2746738	2.48	**Htra1**	HtrA serine peptidase 1
ILMN_2601453	2.49	**Fam78a**	family with sequence similarity 78, member A
ILMN_2781520	2.49	**D330045A20Rik**	RIKEN cDNA D330045A20 gene
ILMN_2963320	2.51	**Cd33**	CD33 antigen
ILMN_2675223	2.53	**Cd33**	CD33 antigen
ILMN_1260061	2.53	**D17H6S56E-5**	DNA segment, Chr 17, human D6S56E 5
ILMN_1219717	2.56	**Sort1**	sortilin 1
ILMN_2612774	2.57	**Agfg2**	ArfGAP with FG repeats 2
ILMN_2834677	2.62	**Wipi1**	WD repeat domain, phosphoinositide interacting 1
ILMN_2459899	2.64	**Adamtsl4**	ADAMTS-like 4

ILMN_2588682	2.71	**Aph1b**	anterior pharynx defective 1b homolog (C. elegans)
ILMN_2622983	2.82	**Dusp1**	dual specificity phosphatase 1
ILMN_2706677	2.98	**D330045A20Rik**	RIKEN cDNA D330045A20 gene
ILMN_3043036	2.98	**Chi3l3**	chitinase 3-like 3
ILMN_2663585	3.04	**Jdp2**	Jun dimerization protein 2
ILMN_2891688	3.10	**Sdhaf1**	succinate dehydrogenase complex assembly factor 1
ILMN_1212645	3.11	**Slc6a13**	solute carrier family 6 (neurotransmitter transporter, GABA), member 13
ILMN_2813487	3.13	**Per1**	period homolog 1 (Drosophila)
ILMN_2648346	3.16	**Bst1**	bone marrow stromal cell antigen 1
ILMN_3009860	3.17	**Sell**	selectin, lymphocyte
ILMN_1377923	3.18	**Actb**	actin, beta
ILMN_2759058	3.25	**Rnf103**	ring finger protein 103
ILMN_2813484	3.31	**Per1**	period homolog 1 (Drosophila)
ILMN_2712986	3.34	**Chi3l3**	chitinase 3-like 3
ILMN_3117876	3.36	**Chi3l3**	chitinase 3-like 3
ILMN_2745370	3.37	**Sult1a1**	sulfotransferase family 1A, phenol-preferring, member 1
ILMN_1256644	3.48	**Slc6a12**	solute carrier family 6 (neurotransmitter transporter, betaine/GABA), member 12
ILMN_1226997	3.57	**Rassf2**	Ras association (RalGDS/AF-6) domain family member 2
ILMN_2871945	3.62	**Trem1**	triggering receptor expressed on myeloid cells 1
ILMN_2591264	3.92	**Orm2**	orosomucoid 2
ILMN_2701664	4.04	**Tsc22d3**	TSC22 domain family, member 3
ILMN_2593774	4.11	**1190002H23Rik**	RIKEN cDNA 1190002H23 gene
ILMN_1254031	4.22	**Klf9**	Kruppel-like factor 9
ILMN_1241610	4.40	**Adrb2**	adrenergic receptor, beta 2
ILMN_2944824	4.40	**Hp**	haptoglobin
ILMN_2668509	4.95	**Hp**	haptoglobin
ILMN_2662803	4.98	**Ptx3**	pentraxin related gene
ILMN_2718266	5.06	**Fkbp5**	FK506 binding protein 5
ILMN_2668510	5.39	**Hp**	haptoglobin
ILMN_2914938	6.08	**F13a1**	coagulation factor XIII, A1 subunit
ILMN_2662802	7.27	**Ptx3**	pentraxin related gene
ILMN_3150811	9.32	**Tsc22d3**	TSC22 domain family, member 3
ILMN_2619528	9.35	**Klhl6**	kelch-like 6 (Drosophila)
ILMN_2840514	9.70	**Klhl6**	kelch-like 6 (Drosophila)

Table S2B:

Functional categories of differentially expressed genes in macrophages treated with LPS + Dex

GO accession	GO term	p-value
GO:0050896 | GO:0051869	response to stimulus	3.69E-09
GO:0006955	immune response	3.46E-19
GO:0002376	immune system process	5.61E-16
GO:0006950	response to stress	7.44E-07
GO:0006952 | GO:0002217 | GO:0042829	defense response	2.25E-07
GO:0005125	cytokine activity	3.83E-08
GO:0007242	intracellular signaling cascade	2.01E-05
GO:0009611 | GO:0002245	response to wounding	8.61E-05
GO:0006954	inflammatory response	1.03E-05
GO:0043067	regulation of programmed cell death	2.38E-05
GO:0042981	regulation of apoptosis	2.02E-05

Table S3, Uhlenhaut et al.

ChIP-sequencing raw reads

ChIP sample	# reads processed	# reads with at least one reported alignment
GR Dex	35332284	14820522 (41.95%)
GR LPS+Dex	32091119	13972760 (43.54%)
GR LPS+Dex 2	60383798	28662755 (47.47%)
c-Jun LPS	26222756	11690492 (44.58%)
c-Jun LPS+Dex	19831176	8329632 (42.00%)
p65 LPS	34011023	14028618 (41.25%)
p65 LPS+Dex	30141999	13146974 (43.62%)
GRIP1 LPS	37365123	16560079 (44.32%)
GRIP1 LPS+Dex	39043026	19132931 (49.00%)
IRF3 LPS	69350089	31229197 (45.03%)
IRF3 LPS+Dex	56555295	26853053 (47.48%)
AcH3K9	38830049	18586254 (47.87%)
AcH3K9 LPS	26439678	14077637 (53.24%)
AcH3K9 Dex	40046499	18974267 (47.38%)
AcH3K9 LPS+Dex	38673234	19750147 (51.07%)
c-Jun LPS+Dex 2	169465538	76177354 (44.95%)
c-Jun LPS+Dex 3	180389509	79938678 (44.31%)
p65 LPS+Dex 2	182395230	79728446 (43.71%)
p65 LPS+Dex 3	171189812	75260143 (43.96%)

Supplemental Experimental Procedures, Uhlenhaut et al.

ChIP-Seq Data Analysis

Data analysis was essentially performed as previously described (Barish et al., 2010). Short DNA reads were aligned against the mouse mm9 reference genome using the Illumina Pipeline Suite v1.7. Reads were aligned using the Bowtie aligner (Langmead et al., 2009) that allows up to 2 mismatches in the read. Only tags that map uniquely to the genome were considered for further analysis. Subsequent peak calling and motif analysis were conducted using HOMER, a software suite for ChIP-Seq analysis. The methods for HOMER, which are described below, have been implemented and are freely available at http://biowhat.ucsd.edu/homer/ (Heinz et al., 2010). One tag from each unique position was considered to eliminate peaks resulting from clonal amplification of fragments during the ChIP-Seq protocol. Peaks were identified by searching for clusters of tags within a sliding 200 bp window, requiring adjacent clusters to be at least 1 kb away from each other. The threshold for the number of tags that determine a valid peak was selected for a false discovery rate of <0.01, as empirically determined by repeating the peak finding procedure using randomized tag positions. Peaks are required to have at least 4-fold more tags (normalized to total count) than input or IgG control samples and 4-fold more tags relative to the local background region (10 kb) to avoid identifying regions with genomic duplications or non-localized binding. Peaks are annotated to gene products by identifying the nearest RefSeq transcriptional start site. Visualization of ChIP-Seq results was achieved by uploading custom tracks onto the UCSC genome browser. Pathway analysis was performed using GREAT (Genomic Regions Enrichment of Annotations Tool) at http://great.stanford.edu/ (McLean et al., 2010).

Microarray Data Analysis

Total RNA from primary macrophages was isolated using the RNeasy mini kit (Qiagen) according to standard protocols. RNA integrity and quality was assessed using the Agilent Bioanalyzer. Feature extraction was performed using the Illumina BeadStudio software with default settings. Normalization and identification of differentially expressed genes from biological duplicates were identified using VAMPIRE at http://sasquatch.ucsd.edu/vampire/ ((Hsiao et al., 2005) and GeneSpring GX (Agilent) with a 1.5 fold cutoff. ChIP-Seq peaks were matched to differentially expressed genes based on gene symbols.

GRE motif count

We scanned different binding event categories (entire GR cistrome, GR binding with c- Jun, GR binding with p65, GR binding with cJun and p65, activation, repression) with the GR PWM (full length and half-site) using nmscan (Down and Hubbard, 2005) and a cutoff of -11 and -5 respectively. The cutoffs correspond to a similar level of background motif matches (~0.5). We calculated the fraction of binding events that contained at least one complete GR motif match, the fraction that included at least a half-site GR motif when the complete one was not present, and the fraction that did not contain any GR motif matches. We estimated the background motif content by randomly choosing genomic regions of the same size as bound regions from the genomic space determined by the coordinates of binding events (for each chromosome, first and last binding event determined the space and two largest “binding gaps” were excluded). We included the median motif content in the randomly chosen regions as an estimate of the overall background level.

EMSAs

Biotinylated, GRE-containing oligos were ordered from Eurofins MWG Operon. Human recombinant GR protein was obtained from Sigma. Binding reactions were performed in 20mM HEPES pH 7.9, 60mM KCl, 5mM MgCl2, 2mM DTT, 10% glycerol, 0.1ug/ul Poly(dIdC) and 0.1mg/ul BSA, run on a 5% polyacrylamide TBE gel and detected using the Chemiluminescent Nucleic Acid Detection Module (Pierce) according to manufacturer’s instructions.

SiRNA Experiments

Knockdown of IRF3, GR and GRIP-1 expression in RAW264.7 cells was carried out in 24 well plates using Dharmacon mouse SiGENOME SMARTpool siRNAs (M-041095-01-0005, M-045970-01, M-040667-01, Thermo Scientific) and the HiPerFect transfection reagent (Qiagen) according to the manufacturer's instructions. 50 hours post transfection, cells were treated with 1uM Dex over night and LPS for 3 hours before measuring gene expression levels by qRT-PCR (SYBR Green). Knockdown was confirmed by the same method.

Primers used

Name	**Sequence**
qRT-PCR	
mIL-1a-F	GCACCTTACACCTACCAGAGT
mIL-1a-R	AAACTTCTGCCTGACGAGCTT
mIL-6-F	TAGTCCTTCCTACCCCAATTTCC
mIL-6-R	TTGGTCCTTAGCCACTCCTTC
mNos2-F	GTTCTCAGCCCAACAATACAAGA
mNos2-R	GTGGACGGGTCGATGTCAC
mMmp13-F	ACCTCCACAGTTGACAGGCT
mMmp13-R	AGGCACTCCACATCTTGGTTT
mTnfsf10-F	ATGGTGATTTGCATAGTGCTCC
mTnfsf10-R	GCAAGCAGGGTCTGTTCAAGA
mGilz-F	ACCACCTGATGTACGCTGTG
mGilz-R	TCTGCTCCTTTAGGACCTCCA
Cloning (pGL4.23)	
Ccnd1-XhoI-EcoRV	cgctcgaggatatcGAAGGGCTCGTTGCCATTCC
Ccnd1-HindIII-EcoRV	cgaagcttgatatcAGCATCAGGTCAAGCCATGC
Cd86-XhoI-EcoRV	cgctcgaggatatcGTCAGCCTAAATGGTTAAAGG
Cd86-HindIII-EcoRV	cgaagcttgatatcATGGGTGTTTTGCTCACATGG
Btg1-XhoI-EcoRV	cgctcgaggatatcAGCCCAGCACAGCATAAACG
Btg1-HindIII-EcoRV	cgaagcttgatatcTTAAACAGTTGACCATGACG
Ccl2-XhoI-EcoRV	cgctcgaggatatcTTACTATGTCTTGGTGCTCC
Ccl2-HindIII-EcoRV	cgaagcttgatatcCTAACTCAGTCTCTGAATCC
Il6-XhoI-EcoRV	cgctcgaggatatcACAGGCTATCTCTTCAGTGG
Il6-HindIII-EcoRV	cgaagcttgatatcGCAAACCAGAGGTTTAGCAC
Tnfsf10-XhoI-EcoRV	cgctcgaggatatcATGTGTACCTACACACATGC
Tnfsf10-HindIII-EcoRV	cgaagcttgatatcCAGAGAAAGGCCATCACTGG
Il1r2-XhoI-EcoRV	cgctcgaggatatcTGTGTCTCTGTCTTTCAGTG
Il1r2-HindIII-EcoRV	cgaagcttgatatcTCCAGCTAACATAACGGAGC
Lcn2-XhoI-EcoRV	cgctcgaggatatcAGTTCAGCTGCTGCCCTGTC
Lcn2-HindIII-EcoRV	cgaagcttgatatcAGGTCTGATGTGTGCTGGAG
Tlr2-XhoI-EcoRV	cgctcgaggatatcGTCTATAAATTGCACAGAGG
Tlr2-HindIII-EcoRV	cgaagcttgatatcTGTACTAGAAGAGCCAATCC
Ccnd3-XhoI-EcoRV	cgctcgaggatatcGTGAAGTGTATGAATAATGC
Ccnd3-HindIII-EcoRV	cgaagcttgatatcTTGACAGCTCTTTGAAACGC
Map3k6-XhoI-EcoRV	cgctcgaggatatcCTCTGAGGAAAGCGCTTGTC
Map3k6-HindIII-EcoRV	cgaagcttgatatcCACAGGTCACAGAAGAGTCC
Per1-XhoI-EcoRV	cgctcgaggatatcAGAACCAGGCATGGGGGCGG
Per1-HindIII-EcoRV	cgaagcttgatatcGGAGAAGCGGGGGCAGGAGAG
QuickChange	**Mutagenesis**
Ccnd1_QCMut-F	CCAGTCAGAGGCTGCAGAATTTGCAGGACCTTTTGAAAG
Ccnd1_QCMut-R	CTTTCAAAAGGTCCTGCAAATTCTGCAGCCTCTGACTGG

Il6_QCMut-F	GCACATCATTCTCTTGGCATGGGCCAAGATCATTATAGGAG
Il6_QCMut-R	CTCCTATAATGATCTTGGCCCATGCCAAGAGAATGATGTGC
Tnfsf10_QCMut-F	GCACCAGGACCAGTGCTTCATTCTGTGAACAGGAGGCAC
Tnfsf10_QCMut-R	GTGCCTCCTGTTCACAGAATGAAGCACTGGTCCTGGTGC
Cd86_QCMut-F	GAAAGTAACATTTTAATAATGGAACATGACACA AGACCATG
Cd86_QCMut-R	CATGGTCTTGTGTCATGTTCCATTATTAAAATGTTACTTTC
Ccl2_QCMut-F	GTTGCGACAGCAGATTGCTCTAAGACCTGAATCCCTAAGTCCCC
Ccl2_QCMut-R	GGGGACTTAGGGATTCAGGTCTTAGAGCAATCTGCTGTCGCAAC
Btg1_QCMut-F	GAAAGAAAATTAACAATAGGATGACAAAAGAGATGTGTGTGTG
Btg1_QCMut-R	CACACACACATCTCTTTTGTCATCCTATTGTTAATTTTCTTTC
EMSA	
Ccnd1-F	CCAGTCAGAGGCTGCAGAACATGCAGGACC
Ccnd1-R	GGTCCTGCATGTTCTGCAGCCTCTGACTGG
Ccl2-F	GCAGATTGCACAATGTCCTGAATCC
Ccl2-R	GGATTCAGGACATTGTGCAATCTGC
Il6-F	GGCTTCCTGTTCCTCAAAGT
Il6-R	ACTTTGAGGAACAGGAAGCC
Per1-F	AGAGAACACGATGTTCCCTA
Per1-R	TAGGGAACATCGTGTTCTCT
Neg.Ctrl.	GATCGATCGATCGATCGATC
ChIP-qPCR	
mCcl2-F	GATCTGGCTGGAGAAAACGG
mCcl2-R	TCTGCTGTCGCAACACTCGT
mIl1a-F	TTGGGAAAACACCCTTGGTTC
mIl1a-R	GAGCTGGACTGGCTGTTGC
mIl6-F	GCAATCCTGTCTATTGCACGG
mIl6-R	TGCATCAGATACTGAAGAGGAACTG
mNos2-F	TGCCAAGAGATGCAGTTGAGG
mNos2-R	GCTTGGGTTCGAGGCCTAC
mMmp13-F	TGCACAAACACATCAAACTTTCTG
mMmp13-R	CTTAGTAACTAGGGCAAACCCCC
mTnfsf10-F	AGGAAGAAGGAGGACAGGCC
mTnfsf10-R	CGTGTGAGTGACTTGCGCTC
mGilz-F	GGAGTTGGGTTCTGCCTGAG
mGilz-R	CCTGACCCTGTCTTTCCAGTG
mPer1-F	TGGAACATCCTGTTCTCAGCG
mPer1-R	AAGGAAGGCTGTGGCCAAC
mDusp1-F	ACAGACAGAATGGTGGTTTTTACTCC
mDusp1-R	CCCCTTGCTTTCAAATGTTACAC
mTlr2-F	CACCCATTTGTGCGTGACTG
mTlr2-R	GAGCTAACACCATGCCCTGG

Supplemental References

Barish, G.D., Yu, R.T., Karunasiri, M., Ocampo, C.B., Dixon, J., Benner, C., Dent, A.L., Tangirala, R.K., and Evans, R.M. (2010). Bcl-6 and NF-kappaB cistromes mediate opposing regulation of the innate immune response. Genes Dev *24*, 2760-2765.

Down, T.A., and Hubbard, T.J. (2005). NestedMICA: sensitive inference of over-represented motifs in nucleic acid sequence. In Nucleic Acids Res (England), pp. 1445-1453.

Heinz, S., Benner, C., Spann, N., Bertolino, E., Lin, Y.C., Laslo, P., Cheng, J.X., Murre, C., Singh, H., and Glass, C.K. (2010). Simple combinations of lineage-determining transcription factors prime cis-regulatory elements required for macrophage and B cell identities. Mol Cell *38*, 576-589.

Hsiao, A., Ideker, T., Olefsky, J.M., and Subramaniam, S. (2005). VAMPIRE microarray suite: a web-based platform for the interpretation of gene expression data. Nucleic Acids Res *33*, W627-632.

Langmead, B., Trapnell, C., Pop, M., and Salzberg, S.L. (2009). Ultrafast and memory-efficient alignment of short DNA sequences to the human genome. Genome Biol *10*, R25.

McLean, C.Y., Bristor, D., Hiller, M., Clarke, S.L., Schaar, B.T., Lowe, C.B., Wenger, A.M., and Bejerano, G. (2010). GREAT improves functional interpretation of cis-regulatory regions. Nat Biotechnol *28*, 495-501.