

Supplementary Table S1. Class identifier (Top 100 for each cluster)

GeneSymbol	Probe ID	Accession	Cluster	Mean (cls 1)	Std (cls 1)	Mean (cls 2)	Std (cls 2)	SNR	1% level*	5% level*	Significant level
Ndg1	1455423_at	BG067959	1	9.85	1.28	0.43	1.44	11.96	13.78	7.33	5%
Fgf4	1420085_at	BB709552	1	11.56	0.55	1.03	3.42	8.18	6.75	5.27	1%
---	1447678_at	BB399925	1	6.91	2.76	0	0	7.49	5.01	4.74	1%
2610018I03Rik	1453577_at	BB399635	1	6.2	2.54	0	0	7.31	4.97	4.51	1%
1810010N17Rik	1452937_s_at	BQ031123	1	7.99	1.17	1.22	2.76	6.85	4.7	4.37	1%
1810021J13Rik	1417174_at	NM_025464	1	8.33	1.57	1.31	2.92	6.74	4.56	4.2	1%
3830408G10Rik	1453345_at	AK014427	1	9.3	1.1	1.93	3.05	6.64	4.43	4.09	1%
4933413B09Rik	1438298_a_at	AI326328	1	9.31	0.68	1.81	3.5	6.12	4.31	4.01	1%
2410118P20Rik	1429396_at	AK010773	1	9.71	0.47	2.09	3.69	5.92	4.28	3.9	1%
Lcp1	1415983_at	NM_008879	1	7.7	2.23	0.88	2.93	5.9	4.13	3.86	1%
Hap1	1416997_a_at	NM_010404	1	7.76	1.13	2.88	2.3	5.64	4.11	3.8	1%
Trio	1454711_at	BB080177	1	9.17	0.81	2.08	3.66	5.63	4.06	3.78	1%
Mtm1	1416934_at	NM_019926	1	7.08	2.91	0.71	2.37	5.27	4.04	3.76	1%
BC043301	1439181_at	AV020760	1	5.91	2.39	0.61	2.04	5.26	3.96	3.75	1%
Bcl7a	1428207_at	AK014498	1	6.06	1.25	1.27	2.7	5.23	3.93	3.68	1%
---	1434164_s_at	BG082186	1	6.4	3.44	0.26	0.86	5.23	3.9	3.67	1%
Milt2h	1425640_at	BB586268	1	5.99	3.51	0	0	5.11	3.88	3.61	1%
---	1456242_at	AV101904	1	9.45	0.81	2.81	3.93	4.95	3.85	3.59	1%
Gm592	1436181_at	AV077160	1	8.08	1.61	2.95	2.97	4.91	3.84	3.57	1%
Bcl2l14	1429347_at	AK016670	1	8.12	1.04	2.44	3.44	4.86	3.82	3.46	1%
Al256711	1449163_at	NM_023059	1	7.09	0.94	1.9	3.26	4.75	3.78	3.43	1%
Slc12a6	1449878_a_at	NM_133648	1	8.3	3.18	1.46	3.25	4.75	3.74	3.41	1%
Tmem19	1416261_at	AK018383	1	8.16	1.17	2.2	3.78	4.71	3.68	3.37	1%
Epb4.111	1434575_at	BB794965	1	7.53	1.02	3.21	2.57	4.67	3.66	3.36	1%
5730537H01Rik	1430150_at	AK017809	1	7.49	2.86	1.35	3.01	4.66	3.66	3.35	1%
BC054822	1460234_at	NM_138950	1	8.07	1.45	2.86	3.27	4.64	3.66	3.34	1%
Ubx4	1425020_at	AV174556	1	10.56	0.57	3.68	4.33	4.64	3.65	3.31	1%
Nrip2	1452456_at	BE653335	1	7.75	0.46	2.14	3.67	4.59	3.59	3.27	1%

Igf2bp3	1453957_a_at	AK011797	1	6.98	2.79	1.25	2.79	4.56	3.56	3.26	1%
9330186A19Rik	1456480_at	BB527078	1	6.47	2.77	1.02	2.53	4.55	3.55	3.25	1%
Dedd2	1452070_at	AK010701	1	7.17	2.99	1.25	2.83	4.51	3.51	3.24	1%
Aurkc	1449364_at	NM_020572	1	8.08	2.21	2.67	3.31	4.36	3.48	3.2	1%
Slc7a3	1417022_at	NM_007515	1	8.51	2.86	2.39	3.49	4.3	3.45	3.19	1%
---	1447156_at	AI746579	1	6.21	3.65	0.73	1.27	4.29	3.43	3.18	1%
Grb7	1448227_at	NM_010346	1	7.22	1.89	4.04	2.76	3.04	2.48	2.42	1%
Rbks	1424841_s_at	BC023339	1	6.33	2.05	1.56	2.99	4.22	3.42	3.18	1%
1110061N23Rik	1435105_at	BG066986	1	7.79	1.27	2.31	3.97	4.21	3.39	3.12	1%
Nanog	1429388_at	AK010332	1	12.19	0.2	7.67	4.15	3.03	2.47	2.4	1%
1300010F03Rik	1455376_at	BQ176060	1	5.64	3.36	0.53	1.76	4.12	3.39	3.11	1%
Centd2	1428064_at	BI248650	1	6.94	2.69	1.73	2.99	4.1	3.38	3.11	1%
Pard6b	1423174_a_at	BE953582	1	7.53	2.89	1.6	3.6	4.08	3.34	3.08	1%
BC053994	1455750_at	BE852799	1	6.44	3.7	0.71	2.37	4.02	3.26	3.06	1%
Prdm14	1444390_at	BB283625	1	8.52	3.39	2.32	3.49	4.02	3.25	3.05	1%
1500005A01Rik	1418474_at	NM_033146	1	6.98	1.2	2.35	3.5	4.02	3.24	3.05	1%
A230102O09Rik	1455331_at	BB182930	1	7.77	1.16	4.86	1.68	4.01	3.24	3.04	1%
Msc	1418417_at	NM_010827	1	7.39	3.63	1.34	2.99	4.01	3.23	3.03	1%
Rhebl1	1447818_x_at	AV271831	1	9.01	1.03	3.79	3.83	4.01	3.22	3.01	1%
Lck	1425396_a_at	BC011474	1	9.51	1.21	4.28	3.8	4	3.21	3	1%
Gm764	1437228_at	AV303824	1	5.52	4.14	0	0	4	3.18	3	1%
Dlgh3	1416918_at	NM_016747	1	5.33	4.03	0	0	3.97	3.18	2.98	1%
Gababrbp	1441317_x_at	BB316060	1	5.53	4.18	0	0	3.97	3.17	2.96	1%
Slc28a3	1419571_at	NM_022317	1	8.23	1.58	3.15	3.84	3.96	3.16	2.95	1%
Slc4a11	1434867_at	AI503023	1	9.7	0.31	3.44	4.78	3.96	3.11	2.94	1%
4933431N12Rik	1455015_at	BE853276	1	5.85	4.43	0	0	3.96	3.11	2.93	1%
Nup210	1417585_at	NM_018815	1	8.97	1.25	3.79	3.88	3.95	3.09	2.93	1%
C030013E06Rik	1439881_at	BB283519	1	5.24	3.98	0	0	3.95	3.09	2.92	1%
Spic	1449134_s_at	NM_011461	1	10.56	1.1	4.79	4.27	3.93	3.07	2.92	1%
Top3a	1418597_at	NM_009410	1	7	0.79	2.45	3.52	3.92	3.07	2.91	1%
Klf2	1448890_at	NM_008452	1	11.31	0.37	4.87	4.86	3.91	3.06	2.91	1%

Rab22a	1451379_at	BC006596	1	8.25	0.57	3.26	3.85	3.88	3.06	2.9	1%
A030007L17Rik	1435695_a_at	AA673177	1	8.11	3.2	2.09	3.76	3.87	3.05	2.89	1%
9030617O03Rik	1424226_at	BC021385	1	8.95	1.48	3.6	4.16	3.85	3.03	2.88	1%
BC004728	1425108_a_at	BC004728	1	8.53	1.25	4.25	3.17	3.85	3.03	2.88	1%
1500031N24Rik	1441842_s_at	AV031885	1	7.97	0.97	2.88	4.02	3.85	3.03	2.85	1%
Cldn4	1418283_at	NM_009903	1	6.76	3.96	0.82	2.72	3.82	3.02	2.84	1%
---	1438516_at	BB208938	1	5.55	3.6	0.66	1.46	3.82	2.99	2.83	1%
Relb	1417856_at	NM_009046	1	6.51	3.29	1.36	2.6	3.82	2.99	2.82	1%
9030425E11Rik	1448250_at	BG072972	1	6.88	2.9	1.95	2.85	3.82	2.98	2.81	1%
2610510B01Rik	1428330_at	AK012087	1	6.51	3.2	1.44	2.64	3.81	2.98	2.8	1%
B230333C21Rik	1457265_at	BG063043	1	5.86	2.27	1.79	2.52	3.8	2.98	2.8	1%
E130306D19Rik	1436725_at	BM226118	1	9.34	0.72	3.81	4.38	3.79	2.97	2.8	1%
Csnk2a1	1419034_at	BB283759	1	7.3	2.9	1.95	3.44	3.78	2.95	2.79	1%
BC038881	1435913_at	AW909327	1	4.71	3.15	0.43	1.42	3.77	2.95	2.79	1%
Dhrs10	1429802_at	AK002831	1	4.49	3.57	0	0	3.76	2.92	2.78	1%
Def8	1415853_at	NM_054046	1	8.29	0.83	4.1	3.21	3.76	2.92	2.77	1%
BC032203	1435545_at	BB242234	1	8.01	3.01	3.12	3.83	3.2	2.57	2.5	1%
---	1441069_at	BG069709	1	8.22	3.22	2.27	3.89	3.75	2.92	2.77	1%
Liph	1457026_at	BB367422	1	4.97	3.06	0.59	1.94	3.73	2.9	2.76	1%
---	1436085_at	BB361974	1	9.94	0.96	4.09	4.76	3.7	2.9	2.76	1%
Rhpn2	1434628_a_at	BF228009	1	10.91	0.58	5.78	3.91	3.7	2.89	2.76	1%
Myo10	1454731_at	BB794772	1	8.31	0.77	5.67	1.5	3.7	2.89	2.74	1%
5330411J11Rik	1430262_at	BQ174849	1	6.99	2.87	1.63	3.63	3.69	2.89	2.73	1%
Tuft1	1416689_at	NM_011656	1	8.87	1.45	4.03	4.15	3.5	2.76	2.62	1%
Rab711	1451362_at	BC016133	1	8.83	1.97	3.77	4.02	3.67	2.88	2.73	1%
Clcn3	1438366_x_at	BB144743	1	6.66	2.79	1.8	3.13	3.66	2.87	2.73	1%
---	1459577_at	BG069895	1	6.06	3.46	1.02	2.5	3.66	2.87	2.72	1%
Aebp2	1437743_at	BM242614	1	8.74	0.49	3.94	3.9	3.66	2.86	2.71	1%
Csnk2a1	1419035_s_at	BB283759	1	6.77	2.68	2.07	3.1	3.64	2.86	2.71	1%
2610019A05Rik	1428188_at	AK011451	1	8.51	1.05	4.52	3.12	3.63	2.86	2.71	1%
2810457M08Rik	1424590_at	BC002300	1	7.66	1.14	3.49	3.45	3.6	2.85	2.71	1%

Anxa4	1421223_a_at	NM_013471	1	5.12	3.43	0.6	1.99	3.5	2.76	2.61	1%
S100a13	1418704_at	NM_009113	1	7.03	3.01	1.87	3.44	3.58	2.85	2.7	1%
Vps33a	1434816_at	BF467999	1	7.81	1.14	3.68	3.42	3.57	2.85	2.69	1%
4932418K24Rik	1455780_at	AI429241	1	7.97	1.53	3.93	3.32	3.57	2.84	2.68	1%
Usp25	1448939_at	NM_013918	1	8.58	1.54	4.62	3.16	3.56	2.81	2.68	1%
Sox11	1436790_a_at	BG072739	1	5.24	3.31	0.7	2.31	3.49	2.73	2.61	1%
Arhgef19	1437629_at	AV321315	1	4.95	3.16	0.77	1.73	3.55	2.81	2.67	1%
Zc3hav1	1428378_at	AK004770	1	8.24	3.14	2.44	4.18	3.54	2.8	2.67	1%
Plekha4	1426013_s_at	BC024961	1	8.56	1.17	3.74	4.09	3.54	2.8	2.67	1%
Phactr2	1452404_at	BB321846	1	5.28	3.38	0.94	1.62	3.54	2.8	2.67	1%
Soat1	1417695_a_at	BG064396	2	1.23	2.45	8.25	1.16	7.33	5.26	5.04	1%
BC017612	1419403_at	NM_133214	2	0	0	6.75	3.41	6.57	5.02	4.92	1%
Gata4	1418863_at	NM_008092	2	1.34	2.05	8.92	3.09	6.55	4.97	4.7	1%
Cpn1	1417745_at	NM_030703	2	1.35	2.77	8.12	1.52	6.48	4.84	4.57	1%
Sox17	1429177_x_at	AK004781	2	1.1	3.3	10.77	3.6	6.25	4.69	4.29	1%
Cubn	1452270_s_at	AF197159	2	1.11	3.34	9.85	3.43	5.74	4.23	4.11	1%
Phlda3	1449002_at	NM_013750	2	2.55	2.42	7.54	1.62	5.3	4.18	4.05	1%
Sdc4	1417654_at	BC005679	2	3.92	3.89	11.35	0.79	5.07	4.13	4	1%
Lpd	1422428_at	NM_053178	2	0	0	5.2	3.43	5.03	4.07	3.94	1%
Runx1	1427650_a_at	D13802	2	0	0	5.25	3.46	5.02	4.06	3.87	1%
2210016H18Rik	1430637_at	BB515259	2	0	0	6.41	4.23	5.02	4	3.83	1%
Stxbp1	1420505_a_at	AF326545	2	1.39	2.76	7.86	3.05	4.98	3.94	3.77	1%
Dnajc3	1449372_at	BE624323	2	0.2	0.59	5.24	3.42	4.8	3.81	3.69	1%
Slc1a3	1443749_x_at	BB085413	2	1.41	2.86	7.15	2.55	4.68	3.81	3.64	1%
Abcc1	1452233_at	BG071908	2	1.75	3.52	8.54	2.92	4.62	3.8	3.58	1%
1200003E16Rik	1452714_at	AK004560	2	0.84	2.51	6.95	3.59	4.46	3.73	3.46	1%
--	1438558_x_at	AV009267	2	0.33	1	5.86	3.97	4.45	3.69	3.46	1%
Pthr1	1417092_at	BC013446	2	2.58	3.16	8.89	3.19	4.43	3.67	3.44	1%
Akr1b8	1448894_at	NM_008012	2	3.11	4.04	9.54	1.11	4.39	3.66	3.44	1%
Acsl5	1428082_at	AK006541	2	0.54	1.62	6.94	4.53	4.36	3.65	3.43	1%
Lama1	1418153_at	NM_008480	2	4.5	4.36	11.51	0.91	4.35	3.61	3.42	1%

Slc35a2	1439433_a_at	BB228713	2	0.86	2.57	6.91	3.64	4.34	3.6	3.4	1%
Ccng1	1450017_at	BG065754	2	0.71	2.13	6.2	3.48	4.33	3.6	3.38	1%
Dusp4	1428834_at	AK012530	2	0.59	1.77	7.06	4.61	4.29	3.59	3.37	1%
Emb	1415856_at	BG064842	2	1.53	2.33	7.66	3.99	4.28	3.56	3.36	1%
Pkn3	1434525_at	BE447438	2	0.81	2.44	6.24	3.24	4.26	3.54	3.35	1%
---	1440490_at	BB521778	2	0	0	4.54	3.54	4.26	3.53	3.33	1%
Creb3l2	1452381_at	AV021105	2	0.96	2.87	7.41	3.91	4.25	3.49	3.31	1%
Gata6	1425464_at	BM214048	2	5.46	3.54	11.19	1.17	4.21	3.42	3.29	1%
Rap2c	1460430_at	AK008416	2	3.54	4.41	10.25	1.51	4.21	3.41	3.27	1%
B4galt6	1450913_at	BG066773	2	0.92	1.9	6.13	3.55	4.18	3.41	3.27	1%
Lhfp12	1434129_s_at	BG917242	2	3.55	4.29	10.02	1.26	4.17	3.4	3.23	1%
Dnmt3a	1423064_at	BB795491	2	0	0	5.31	4.23	4.16	3.4	3.21	1%
Pdgfra	1421917_at	AW537708	2	5.08	4.9	11.02	3.66	3.01	2.74	2.49	1%
1200006F02Rik	1451486_at	BC006902	2	1.7	3.39	7.63	2.9	4.15	3.39	3.21	1%
Hmga2	1446196_at	BB105328	2	0.84	1.66	5.35	3.12	4.14	3.39	3.2	1%
Lphn1	1428510_at	AA987131	2	1.11	2.43	6.48	3.36	4.14	3.38	3.17	1%
---	1455008_at	BF467143	2	2.9	3.44	8.05	1.01	4.14	3.37	3.15	1%
Tbc1d12	1435675_at	BF228251	2	0.31	0.86	5.23	3.89	4.07	3.37	3.14	1%
Sumf1	1424604_s_at	BC026981	2	2.35	3.65	7.61	1.24	4.05	3.35	3.13	1%
Pfkl	1439148_a_at	BE914497	2	1.71	2.78	7.83	3.95	4.05	3.33	3.13	1%
Ifnar2	1451462_a_at	AF013486	2	0.57	1.13	5.71	4.03	4.04	3.32	3.11	1%
Phlda1	1418835_at	NM_009344	2	4.19	4.04	10.12	1.26	4.02	3.32	3.11	1%
Snai1	1448742_at	NM_011427	2	1.99	2.44	6.57	2.65	4.02	3.32	3.1	1%
Flrt3	1453102_at	BE945486	2	0.72	2.17	6.8	4.43	4	3.32	3.09	1%
Zfp422-rs1	1434896_at	BM230211	2	2.15	3.27	7.64	2.77	4	3.31	3.08	1%
Cthrc1	1452968_at	AK003674	2	0	0	4.77	3.99	3.97	3.3	3.08	1%
Pi4k2b	1416489_at	NM_025951	2	2.27	3.74	8.29	2.95	3.93	3.28	3.06	1%
Zf	1452857_at	AW546339	2	0.08	0.23	4.72	3.95	3.9	3.24	3.06	1%
Fgfr2	1433489_s_at	BG873440	2	2.49	2.65	8.57	4.27	3.89	3.24	3.05	1%
---	1458279_at	BM201499	2	0	0	4.79	4.11	3.86	3.23	3.04	1%
Glipr2	1452803_at	BM208214	2	4.65	3.63	9.81	1.38	3.83	3.23	3.04	1%

B3galt3	1418736_at	BC003835	2	3.46	4.07	9.05	1.47	3.82	3.23	3.03	1%
Spred1	1423161_s_at	BQ044290	2	0.68	2.04	5.56	3.61	3.79	3.22	3.02	1%
---	1438489_at	BM068889	2	0.69	1.38	4.77	3.28	3.74	3.22	3.02	1%
Nme4	1416798_a_at	NM_019731	2	3.26	3.89	8.45	1.37	3.73	3.22	3.02	1%
Kdelr3	1418538_at	NM_134090	2	1.29	2.55	6.89	4.16	3.7	3.22	3.01	1%
2610305J24Rik	1428670_at	AW215497	2	1.41	3.07	6.21	2.66	3.69	3.21	2.99	1%
Pfkip	1416069_at	NM_019703	2	1.53	3.03	7.08	3.72	3.67	3.21	2.99	1%
---	1435835_at	BB033151	2	1.36	2.83	6.34	3.35	3.61	3.19	2.95	1%
Pla2g12b	1419614_at	BC021592	2	1.16	2.32	5.79	3.39	3.61	3.19	2.95	1%
Dkk1	1420360_at	NM_010051	2	1.93	3.19	8.09	4.44	3.6	3.18	2.95	1%
Dnmt3l	1425035_s_at	AF220524	2	5.39	4.39	10.72	1.08	3.33	2.96	2.69	1%
---	1446566_at	BB461266	2	0	0	3.29	3.03	3.6	3.17	2.92	1%
Serpinh1	1456733_x_at	BB329489	2	5.77	4.59	11.33	1.67	3.32	2.93	2.68	1%
Dnm2	1437938_x_at	BG066325	2	0.81	2.42	5.92	3.9	3.58	3.16	2.91	1%
Pik3r1	1438682_at	BB426164	2	1.2	2.4	5.44	2.96	3.54	3.15	2.91	1%
Ccne2	1422535_at	AF091432	2	1.38	2.34	5.58	2.99	3.52	3.15	2.9	1%
Gt(ROSA)26Sor	1452239_at	U83174	2	0.93	2.78	5.99	3.65	3.52	3.15	2.89	1%
B230104P22Rik	1438684_at	BF021001	2	5.5	3.84	10.5	1.12	3.51	3.15	2.89	1%
Icosl	1419212_at	NM_015790	2	3.07	3.65	7.61	1.11	3.5	3.15	2.87	1%
Ccl27	1434962_x_at	BQ174669	2	0.28	0.83	4.02	3.44	3.5	3.13	2.86	1%
---	1459618_at	BB486980	2	0	0	3.62	3.44	3.49	3.12	2.85	1%
2810021J22Rik	1453747_at	BB620330	2	0.3	0.89	4.69	4.09	3.46	3.12	2.85	1%
---	1420295_x_at	T25545	2	2.09	3.14	7.58	3.97	3.45	3.11	2.84	1%
1110012J17Rik	1442363_at	BB461471	2	4.25	4.14	9.39	0.8	3.45	3.1	2.83	1%
Col4a2	1424051_at	BC013560	2	5.98	3.83	10.93	0.78	3.44	3.09	2.83	1%
Plod2	1416686_at	BC021352	2	4.59	4.41	10.06	1.17	3.44	3.08	2.81	1%
Wac	1437426_at	BM240080	2	0.83	2.16	5.19	3.49	3.42	3.08	2.8	1%
Rhpn1	1450789_at	NM_008164	2	0	0	4.81	4.67	3.41	3.08	2.79	1%
Msx2	1449559_at	NM_013601	2	1.67	2.53	6.01	3.16	3.41	3.08	2.79	1%
2610528O22Rik	1440027_at	BB119857	2	0	0	4.35	4.23	3.41	3.07	2.78	1%
Pgam2	1418373_at	NM_018870	2	0	0	4.7	4.58	3.4	3.06	2.78	1%

B930006L02Rik	1434375_at	BB699417	2	0	0	4.35	4.26	3.39	3.04	2.77	1%
Pdlim7	1428319_at	AK010339	2	0	0	4.29	4.2	3.39	3.02	2.76	1%
---	1436805_at	BG076317	2	0.77	2.31	5.4	3.74	3.39	3.02	2.75	1%
Asns	1451095_at	BC005552	2	9.18	2.26	12.43	0.26	3.06	2.78	2.52	1%
Ctsz	1417868_a_at	NM_022325	2	0	0	4.33	4.24	3.39	3.02	2.75	1%
A930021C24Rik	1430977_at	AK020882	2	7.88	0.89	10.69	0.49	3.38	3	2.74	1%
Pdcd4	1418840_at	NM_011050	2	3.51	3.87	8.64	2.67	3.37	2.98	2.72	1%
4833415E20Rik	1426917_s_at	BM211317	2	1.1	3	5.78	3.19	3.37	2.97	2.71	1%
Aqp8	1417828_at	NM_007474	2	0.61	1.83	8.75	3.04	7.39	5.85	5.61	1%
Tfpi	1451790_a_at	AF004833	2	2.09	3.38	7.75	4.17	3.35	2.97	2.69	1%
1500032O14Rik	1433293_at	AK005350	2	0.2	0.6	3.48	3.18	3.35	2.96	2.69	1%
3021401C12Rik	1453782_at	BI737125	2	0	0	4.69	4.68	3.32	2.96	2.68	1%
Manea	1455403_at	BB035197	2	0	0	3.87	3.86	3.32	2.95	2.68	1%
---	1439857_at	BB206180	2	2.51	3.24	6.98	2.67	3.32	2.92	2.67	1%
Rpo2tc1	1422692_at	BE989104	2	1.61	3.26	6.53	3.35	3.32	2.92	2.66	1%
Tcf23	1421078_at	NM_053085	2	4.35	4.38	9.55	1.32	3.31	2.92	2.65	1%
Havcr1	1434716_at	BM211416	2	5.36	4.45	10.72	1.27	3.31	2.91	2.65	1%

*1%/5% levels were calculated for the signal-to-noise ratio (SNR) from the permuted class labels.