

Supplementary Materials and Methods

Enzyme-linked immunosorbent assay (ELISA)

Serum levels of pepsinogen A (PGA), pepsinogen C (PGC) and gastrin-17 (G17) were measured by ELISA kits (Shanghai Bluegene, Shanghai, China). The protein concentration was calculated using a standard curve obtained from measuring the absorbance of known concentrations of highly purified recombinant proteins. Briefly, 0.5 mL of conditioned medium was centrifuged at 12000 x g for 10 min at 4 °C and the supernatant was stored at -70 °C for 72 h. Thawed supernatant (100 µL) was used in the ELISA according to the manufacturer's instructions. The optical absorbance of the samples was measured at 450 nm.

Tissue collection and RNA extraction

Gastric tissues from mice were snap-frozen in liquid nitrogen immediately after resection and stored at -80 °C until use. Trizol reagent was used to extract total RNA from frozen samples, according to the manufacturer's protocols, which were then eluted with 100 µL of nuclease-free water. Total RNA was quantified using the NanoDrop ND-2000 spectrophotometer (Thermo Scientific, Wilmington, MA) and the RNA integrity was assessed using Agilent Bioanalyzer 2100 (Agilent Technologies, Santa Clara, CA).

LncRNA and mRNA microarray expression profiling

Microarray profiling was performed in the laboratory of OE Biotechnology Company (Shanghai, China). Sample labeling, microarray hybridization, and washing were performed based on the manufacturer's standard protocols. Briefly, mRNA was purified from total RNA after removal of rRNA by using an RNA Isolation Kit (Epicentre

Biotechnologies, Madison, WI). Then, each sample was transcribed to double-stranded cDNA, then synthesized into cRNA and labeled with Cyanine-3-CTP. The labeled cRNAs were hybridized onto the mouse lncRNA array (Agilent Mouse lncRNA 4*180K, Design ID: 049801), including the global profiling of 51,302 lncRNAs and 39,430 coding transcripts. After washing, the arrays were scanned with the Agilent Scanner G2505C (Agilent Technologies, Santa Clara, CA). Feature Extraction software (version 10.7.1.1, Agilent Technologies) was used to analyze the array images and extract the raw data. Genespring (Version 12.5, Agilent Technologies) was employed to complete the basic analysis of the raw data. To begin with, raw data was normalized using the quantile algorithm. The probes that had at least 1 condition out of 2 conditions flagged as “*P*”, were chosen for further data analysis. Differentially expressed lncRNAs and mRNAs were then identified through fold-change as well as *P* values, calculated using *t*-test. The threshold set for up- and down-regulated genes was fold change ≥ 2.0 and a *P* value < 0.05 . Then, Hierarchical Clustering was performed to display the distinguishable expression patterns of lncRNAs and mRNAs, among the samples.

Functional group analysis

KEGG analysis were performed to determine the biological roles of the differentially expressed mRNAs, based on the latest KEGG (Kyoto Encyclopedia of Genes and Genomes) database (<http://www.genome.jp/kegg/>). The KEGG enrichment of the differentially expressed mRNAs was implemented using the hypergeometric test, in which the *P* value was adjusted by multiple comparisons as *q*-value. KEGG terms with *q* < 0.05 were considered to be significantly enriched.

Co-expression of lncRNAs with mRNAs and functional prediction

Most of the lncRNAs in current databases have not yet been functionally annotated. Thus, the prediction of their functions is based on the functional annotations of their co-expressed mRNAs. This method was originally described by Guttman *et al.* [1]. For every dysregulated lncRNA, Pearson correlation coefficient (PCC) of its expression with that of each dysregulated mRNA was calculated to find its co-expressed mRNA, with a $PCC > 0.8$ or < -0.8 and a P value of $PCC < 0.01$ as being statistically significant. Then, a functional enrichment analysis of the co-expressed mRNAs was conducted using the hypergeometric cumulative distribution function, and the enriched GO/KEGG pathway annotations were assigned to the lncRNA as its predicted function. The threshold of statistical significance is set at a P value of < 0.05 and a false discovery rate of (FDR) < 0.01 (under the control of the Benjamini-Hochberg procedure [2]). Also, on the basis of co-expression, we further explored how these dysregulated lncRNAs might exert their functions through *cis*- and/or *trans*-regulating protein-coding genes. We defined *cis*-regulated genes as protein-coding genes co-expressed with one dysregulated lncRNA and within 100 kb in genomic distance in the same allele. We defined potentially *trans*-regulated protein-coding genes as co-expressed and beyond 100 kb in genomic distance from, or on the other allele of, differentially expressed lncRNAs. In other words, any protein-coding gene co-expressed with a lncRNA, which did not fit the criteria of *cis*-regulated, it was categorized as potentially *trans*-regulated.

References

1. Guttman M1, Amit , Garber M, French C, Lin MF, Feldser D, Huarte M, Zuk O, Carey

BW, Cassady JP, Cabili MN, Jaenisch R, Mikkelsen TS, Jacks T, Hacohen N, Bernstein BE, Kellis M, Regev A, Rinn JL, Lander ES. Chromatin signature reveals over a thousand highly conserved large non-coding RNAs in mammals. *Nature* 2009;458:223–7.

2. Storey JD. A direct approach to false discovery rates. *J R Stat Soc B* 2002;64:479–98.

Supplementary Table 1. Primers for real-time PCR analysis.

No.	Gene Symbol	Forward primer	Reverse primer
1	<i>Dbp</i>	CAGACTTACACCTGACTTCC	GTATTTGTCTGCATCATGACG
2	<i>Hbb-bt</i>	CTGGCTCACAAGTACCACTA	ATGCCCAAAGGTCTTCATC
3	<i>Fgl1</i>	AGAAGCAGTATGCAGATTGTT	AGGCTCTGAAGAGGTTTGA
4	<i>Hbb-b1</i>	CCTCACATTTGCTTCTGACATA	CTTCTCAGCATCAGTCAGG
5	<i>Rbm3</i>	TGACAAGAGTTGGATGGTTTTTC	ATTGTTACAGAAATATGAGGCT
6	<i>FR403608</i>	AAAGTCTGGTATTGGCAGC	CAGAGAACTGGAAGGAGC
7	<i>FR198137</i>	ACACACACACACACACTT	CCGGTTACAGGCAGTTAT
8	<i>A_30_P01024220</i>	GCTGTTCTTCCAAAGGTCC	AGGCATCCAATCTTGTTACG
9	<i>GAPDH</i>	TGCGACTTCAACAGCAACTC	ATGTAGGCAATGAGGTCCAC

Supplementary Table 2. Differentially expressed lncRNAs in irradiated gastric tissues of mice

No.	Probe name	Gene symbol	Fold-change (12 Gy Vs 0 Gy)	P-value (12 Gy Vs 0 Gy)	Fold-change (6 Gy Vs 0 Gy)	P-value (6 Gy Vs 0 Gy)	Regulation
1	A_30_P01024220		3.323	0.031	3.952	0.016	upregulation
2	A_55_P2067221		3.213	0.044	4.045	0.035	upregulation
3	A_30_P01017713		3.162	0.018	2.572	0.036	upregulation
4	mmu_34480_PI428960544	<i>XR_002334.2</i>	2.994	0.040	3.440	0.008	upregulation
5	mmu_22400_PI428960544	<i>FR228071</i>	2.962	0.009	2.547	0.047	upregulation
6	mmu_18739_PI428960544	<i>FR038700</i>	2.918	0.009	2.263	0.042	upregulation
7	mmu_31090_PI428960544	<i>FR041522</i>	2.715	0.022	2.349	0.040	upregulation
8	mmu_2149_PI428960544	<i>FR397717</i>	2.561	0.018	3.207	0.017	upregulation
9	mmu_5198_PI428960544	<i>FR122456</i>	2.409	0.024	2.635	0.014	upregulation
10	mmu_16588_PI428960544	<i>FR108977</i>	2.364	0.028	2.219	0.034	upregulation
11	mmu_35371_PI428960544	<i>XR_168490.1</i>	2.309	0.001	2.280	0.029	upregulation
12	mmu_23253_PI428960544	<i>FR307508</i>	2.137	0.015	2.133	0.039	upregulation
13	A_55_P2068406	<i>NONMMUT060277</i>	2.100	0.012	2.198	0.011	upregulation
14	mmu_16732_PI428960544	<i>FR112177</i>	4.305	0.039	3.518	0.041	downregulation
15	mmu_18118_PI428960544	<i>FR198137</i>	4.102	0.002	2.048	0.032	downregulation
16	A_30_P01033028		4.070	0.020	3.523	0.040	downregulation
17	mmu_18841_PI428960544	<i>FR186153</i>	4.027	0.009	3.669	0.035	downregulation
18	mmu_17827_PI428960544	<i>FR403608</i>	3.814	0.008	4.971	0.001	downregulation

19	mmu_6718_Pi428960544	FR265232	3.693	0.012	2.798	0.006	downregulation
20	A_30_P01028592		3.588	0.028	3.164	0.029	downregulation
21	mmu_33657_Pi428960544	NONMMUT069368	3.321	0.038	2.419	0.031	downregulation
22	A_30_P01020619		3.260	0.002	2.520	0.004	downregulation
23	A_30_P01026619		3.150	0.032	3.389	0.021	downregulation
24	A_30_P01027787	FR205430	3.100	0.002	2.330	0.017	downregulation
25	mmu_6950_Pi428960544	FR314888	3.097	0.008	2.741	0.011	downregulation
26	mmu_6687_Pi428960544	FR227185	3.069	0.038	2.999	0.009	downregulation
27	mmu_271_Pi428994341	uc.31+	2.972	0.015	2.396	0.031	downregulation
28	mmu_26632_Pi428960544	FR240598	2.850	0.040	2.413	0.024	downregulation
29	mmu_21031_Pi428960544	FR073896	2.843	0.001	2.475	0.017	downregulation
30	mmu_21001_Pi428960544	FR207562	2.818	0.024	2.494	0.011	downregulation
31	A_30_P01018853		2.782	0.028	2.964	0.030	downregulation
32	A_30_P01024968		2.776	0.007	2.241	0.024	downregulation
33	mmu_10674_Pi428960544	FR169085	2.758	0.032	2.022	0.008	downregulation
34	mmu_5293_Pi428980890	FR243114	2.751	0.019	2.665	0.016	downregulation
35	A_30_P01018499		2.705	0.020	2.499	0.027	downregulation
36	A_30_P01030511		2.689	0.003	2.371	0.019	downregulation
37	mmu_19457_Pi428960544	FR129957	2.651	0.008	2.623	0.013	downregulation
38	A_30_P01020229		2.626	0.016	2.043	0.031	downregulation
39	mmu_35819_Pi428960544	NR_028576.1	2.607	0.010	2.806	0.035	downregulation
40	A_30_P01026276		2.601	0.017	2.371	0.035	downregulation
41	mmu_4731_Pi428960544	FR005415	2.579	0.013	2.040	0.028	downregulation
42	mmu_30717_Pi428960544	FR241828	2.579	0.025	2.022	0.020	downregulation
43	mmu_5469_Pi428960544	FR222604	2.575	0.002	2.322	0.019	downregulation
44	mmu_19019_Pi428960544	FR316135	2.538	0.007	2.927	0.022	downregulation

45	A_30_P01030815		2.527	0.012	2.253	0.014	downregulation
46	mmu_12087_Pi428960544	FR149734	2.507	0.038	2.792	0.002	downregulation
47	A_30_P01021826		2.492	0.048	2.463	0.047	downregulation
48	mmu_17055_Pi428960544	FR386504	2.483	0.007	2.237	0.002	downregulation
49	mmu_2590_Pi428960544	FR322317	2.479	0.008	2.500	0.010	downregulation
50	mmu_19025_Pi428960544	FR090837	2.474	0.024	2.579	0.022	downregulation
51	A_30_P01031250		2.466	0.012	2.314	0.044	downregulation
52	mmu_34164_Pi428960544	NR_033786.1	2.465	0.013	2.148	0.034	downregulation
53	mmu_18998_Pi428960544	FR079873	2.451	0.034	2.507	0.003	downregulation
54	A_30_P01020154		2.430	0.014	2.337	0.006	downregulation
55	mmu_13409_Pi428960544	FR244650	2.414	0.030	2.723	0.001	downregulation
56	mmu_351_Pi428994341	uc.40+	2.411	0.039	2.521	0.015	downregulation
57	mmu_25941_Pi428960544	FR183608	2.395	0.016	2.891	0.003	downregulation
58	A_51_P455997	NONMMUT050508	2.390	0.002	2.446	0.029	downregulation
59	mmu_15597_Pi428960544	FR240669	2.388	0.037	2.450	0.026	downregulation
60	mmu_35515_Pi428960544	NR_045402.1	2.384	0.015	2.390	0.016	downregulation
61	mmu_26162_Pi428960544	FR128048	2.383	0.008	2.647	0.019	downregulation
62	A_30_P01021590		2.377	0.011	2.417	0.012	downregulation
63	mmu_25565_Pi428960544	FR277611	2.363	0.045	2.425	0.019	downregulation
64	mmu_1781_Pi428994341	uc.189+	2.349	0.028	2.660	0.015	downregulation
65	mmu_23057_Pi428960544	FR100086	2.330	0.030	2.616	0.038	downregulation
66	A_30_P01019037		2.323	0.034	3.066	0.012	downregulation
67	mmu_7140_Pi428960544	FR149605	2.323	0.003	2.026	0.029	downregulation
68	mmu_11100_Pi428960544	FR030513	2.312	0.047	2.318	0.003	downregulation
69	mmu_55_Pi428990136	FR228583	2.271	0.009	2.411	0.013	downregulation
70	mmu_8573_Pi428960544	FR098826	2.267	0.045	2.144	0.000	downregulation

71	mmu_6071_Pi428960544	FR347530	2.264	0.048	2.328	0.022	downregulation
72	mmu_30289_Pi428960544	FR046044	2.254	0.036	2.291	0.034	downregulation
73	mmu_21438_Pi428960544	FR199232	2.251	0.032	2.171	0.017	downregulation
74	A_30_P01030627		2.236	0.000	2.802	0.005	downregulation
75	mmu_13239_Pi428960544	FR037917	2.233	0.017	2.681	0.014	downregulation
76	mmu_10266_Pi428960544	FR024596	2.226	0.013	2.769	0.015	downregulation
77	A_30_P01020571		2.219	0.003	2.060	0.023	downregulation
78	mmu_20656_Pi428960544	FR001568	2.202	0.035	2.585	0.017	downregulation
79	mmu_11741_Pi428960544	FR263369	2.202	0.018	2.416	0.017	downregulation
80	mmu_16814_Pi428960544	FR228794	2.201	0.025	2.383	0.002	downregulation
81	A_55_P1989514	NR_003548	2.200	0.003	2.089	0.004	downregulation
82	mmu_6439_Pi428960544	FR200256	2.198	0.009	2.894	0.004	downregulation
83	mmu_22369_Pi428960544	FR031149	2.178	0.004	2.365	0.016	downregulation
84	mmu_21907_Pi428960544	FR377664	2.168	0.009	2.289	0.005	downregulation
85	mmu_27538_Pi428960544	FR174411	2.161	0.022	2.379	0.005	downregulation
86	mmu_26170_Pi428960544	FR001571	2.154	0.021	2.266	0.046	downregulation
87	mmu_26021_Pi428960544	FR062241	2.153	0.024	2.003	0.014	downregulation
88	mmu_3582_Pi428990136	FR118950	2.148	0.016	2.308	0.031	downregulation
89	A_30_P01027183		2.142	0.035	2.317	0.022	downregulation
90	mmu_64_Pi428960544	NR_040517	2.140	0.003	2.399	0.004	downregulation
91	mmu_23936_Pi428960544	FR136877	2.130	0.038	2.085	0.034	downregulation
92	A_30_P01026497		2.124	0.015	2.173	0.011	downregulation
93	mmu_27116_Pi428960544	FR163028	2.119	0.005	2.142	0.020	downregulation
94	mmu_24157_Pi428960544	FR130683	2.099	0.003	2.017	0.000	downregulation
95	mmu_20836_Pi428960544	FR133256	2.070	0.013	2.066	0.032	downregulation

96	mmu_732_Pi428960544	ENSMUST0000017482 9	2.070	0.021	2.452	0.017	downregulation
97	mmu_16954_Pi428960544	FR256022	2.069	0.028	2.069	0.009	downregulation
98	mmu_2101_Pi428960544	FR128951	2.049	0.019	2.259	0.021	downregulation
99	mmu_28484_Pi428960544	FR047387	2.042	0.011	2.278	0.034	downregulation
100	mmu_15222_Pi428960544	FR223697	2.037	0.001	2.066	0.007	downregulation
101	mmu_7970_Pi428960544	FR027026	2.024	0.005	2.251	0.014	downregulation
102	mmu_13449_Pi428960544	FR359193	2.023	0.037	2.723	0.012	downregulation
103	A_30_P01025798	NONMMUT108394	2.023	0.040	2.346	0.029	downregulation
104	mmu_16872_Pi428960544	FR264854	2.021	0.004	2.183	0.029	downregulation
105	mmu_14785_Pi428960544	FR066593	2.017	0.042	2.488	0.026	downregulation
106	mmu_1211_Pi428994341	uc.129+	2.011	0.010	2.265	0.032	downregulation
107	mmu_14155_Pi428960544	FR181605	2.010	0.000	2.215	0.008	downregulation
108	mmu_25169_Pi428960544	FR078664	2.010	0.001	3.010	0.011	downregulation
109	mmu_3679_Pi428960544	FR147911	2.009	0.019	2.123	0.007	downregulation

Supplementary Table 3. Transcriptional analysis of mRNA and lncRNA change of radiation-induced gastric injury.

Upregulated Genes				Downregulated genes			
No.	Transcriptional factors	pfm.base_id	Binding sites	No.	Transcriptional factors	pfm.base_id	Binding sites
1	ZNF263	MA0528	711	1	GSX2	MA0893	272
2	LMX1B	MA0703	571	2	GSX1	MA0892	268
3	THAP1	MA0597	550	3	Barhl1	MA0877	256
4	GSX2	MA0893	535	4	LMX1B	MA0703	246
5	GSX1	MA0892	501	5	Dlx1	MA0879	241
6	Dlx1	MA0879	479	6	VAX1	MA0722	228
7	Hoxd9	MA0913	473	7	FOXP3	MA0850	221
8	Barhl1	MA0877	473	8	UNCX	MA0721	215
9	VAX1	MA0722	437	9	MZF1	MA0056	210
10	NKX6-2	MA0675	427	10	TBX5	MA0807	210
11	LMX1A	MA0702	415	11	NFIX	MA0671	209
12	HOXB2	MA0902	403	12	ALX3	MA0634	208
13	HLTF	MA0109	403	13	ZNF263	MA0528	207
14	UNCX	MA0721	401	14	MIXL1	MA0662	204
15	ALX3	MA0634	399	15	HOXB2	MA0902	200
16	MEOX2	MA0706	398	16	RAX2	MA0717	200
17	SRY	MA0084	394	17	NKX6-2	MA0675	198
18	ESX1	MA0644	389	18	Prrx2	MA0075	198
19	Prrx2	MA0075	386	19	Hoxd9	MA0913	196
20	MIXL1	MA0662	385	20	LMX1A	MA0702	183
21	FOXP3	MA0850	383	21	VAX2	MA0723	181
22	Pax2	MA0067	379	22	ISL2	MA0914	180

23	Dlx3	MA0880	379	23	LHX9	MA0701	180
24	FOXD2	MA0847	378	24	SHOX	MA0630	179
25	ZNF384	MA1125	377	25	HOXB3	MA0903	175
26	SOX15	MA1152	377	26	Dlx3	MA0880	173
27	VAX2	MA0723	375	27	ESX1	MA0644	173
28	SHOX	MA0630	375	28	SRY	MA0084	171
29	LHX9	MA0701	370	29	Pparg::Rxra	MA0065	171
30	RAX2	MA0717	369	30	FOXD2	MA0847	170
31	NFIX	MA0671	366	31	FOSL1::JUND	MA1142	168
32	EMX1	MA0612	346	32	MEOX2	MA0706	167
33	FOSL1::JUND	MA1142	342	33	Pax2	MA0067	163
34	ISL2	MA0914	341	34	HOXA10	MA0899	163
35	HOXA10	MA0899	340	35	VSX1	MA0725	163
36	Dlx4	MA0881	335	36	RUNX1	MA0002	162
37	Neurog1	MA0623	333	37	THAP1	MA0597	162
38	HOXB3	MA0903	330	38	PRRX1	MA0716	162
39	NFATC1	MA0624	329	39	LBX2	MA0699	160
40	Lhx4	MA0704	325	40	RHOXF1	MA0719	155
41	LBX2	MA0699	324	41	GSC2	MA0891	153
42	Nkx2-5	MA0063	324	42	MNX1	MA0707	151
43	VSX1	MA0725	321	43	Dlx4	MA0881	151
44	PRRX1	MA0716	321	44	SPIB	MA0081	150
45	TBX5	MA0807	317	45	MEIS1	MA0498	149
46	NFAT5	MA0606	312	46	POU5F1	MA1115	144
47	Arid3b	MA0601	310	47	MAFG::NFE2L1	MA0089	142
48	EVX1	MA0887	309	48	Neurog1	MA0623	142

49	MNX1	MA0707	308	49	VDR	MA0693	141
50	RUNX1	MA0002	307	50	SOX15	MA1152	141
51	RHOXF1	MA0719	306	51	ZNF384	MA1125	140
52	SP3	MA0746	305	52	Hes2	MA0616	137
53	EVX2	MA0888	304	53	Pitx1	MA0682	137
54	NFATC3	MA0625	301	54	EMX1	MA0612	137
55	SOX9	MA0077	299	55	FOSL1::JUND(var.2)	MA1143	133
56	FOXC2	MA0846	297	56	HLTF	MA0109	132
57	VDR	MA0693	297	57	NRL	MA0842	132
58	Hes2	MA0616	296	58	FOXK2	MA1103	129
59	GSC2	MA0891	291	59	Nkx2-5	MA0063	129
60	SPIB	MA0081	289	60	NFAT5	MA0606	129
61	Hes1	MA1099	284	61	NOTO	MA0710	129
62	MEIS1	MA0498	283	62	Lhx4	MA0704	129
63	Dlx2	MA0885	282	63	HOXA2	MA0900	128
64	MAFG::NFE2L1	MA0089	280	64	VSX2	MA0726	127
65	MZF1	MA0056	279	65	Arid5a	MA0602	127
66	DLX6	MA0882	278	66	Arid3b	MA0601	126
67	POU5F1	MA1115	277	67	HOXA5	MA0158	126
68	FOXK2	MA1103	277	68	Hes1	MA1099	125
69	HOXA5	MA0158	275	69	FOXC2	MA0846	123
70	RAX	MA0718	274	70	BARHL2	MA0635	123
71	PBX3	MA1114	269	71	PAX4	MA0068	122
72	BARHL2	MA0635	268	72	Shox2	MA0720	122
73	Pparg::Rxra	MA0065	265	73	DLX6	MA0882	122
74	Hoxd8	MA0910	261	74	EVX1	MA0887	120

75	HOXA2	MA0900	261	75	RORB	MA1150	117
76	SOX10	MA0442	261	76	NFATC1	MA0624	117
77	NFATC2	MA0152	261	77	JUN::JUNB	MA1132	116
78	Pitx1	MA0682	258	78	FOXO4	MA0848	116
79	ZNF740	MA0753	258	79	CDX1	MA0878	116
80	Shox2	MA0720	258	80	Hoxd8	MA0910	116
81	HIC2	MA0738	254	81	EVX2	MA0888	115
82	FOSL1::JUND(var.2)	MA1143	251	82	FOXC1	MA0032	115
83	NKX2-8	MA0673	250	83	Dlx2	MA0885	114
84	Arid5a	MA0602	247	84	HIC2	MA0738	114
85	FOXC1	MA0032	245	85	MZF1(var.2)	MA0057	114
86	POU6F1	MA0628	244	86	MSX1	MA0666	110
87	MSX1	MA0666	241	87	POU5F1B	MA0792	110
88	NRL	MA0842	240	88	PITX3	MA0714	109
89	CDX1	MA0878	239	89	FO XK1	MA0852	108
90	Tcf15	MA0632	237	90	GATA5	MA0766	108
91	Foxd3	MA0041	235	91	NR4A2	MA0160	106
92	TEAD4	MA0809	233	92	RAX	MA0718	106
93	TBP	MA0108	229	93	TEAD4	MA0809	106
94	VSX2	MA0726	224	94	NFATC2	MA0152	106
95	GATA5	MA0766	224	95	TEAD1	MA0090	105
96	Hand1::Tcf3	MA0092	223	96	POU6F1	MA0628	102
97	FOXO4	MA0848	220	97	FOXP1	MA0481	102
98	PAX4	MA0068	219	98	SOX9	MA0077	101
99	NOTO	MA0710	219	99	PPARA::RXRA	MA1148	101
100	POU5F1B	MA0792	218	100	NFATC3	MA0625	101

101	ELF5	MA0136	218	101	NKX6-1	MA0674	101
102	Gfi1	MA0038	217	102	Tcf15	MA0632	101
103	FOSL1::JUNB	MA1137	216	103	Gfi1	MA0038	101
104	PITX3	MA0714	215	104	SOX10	MA0442	100
105	FO XK1	MA0852	213	105	POU3F1	MA0786	100
106	SNAI2	MA0745	210	106	FOSL1::JUNB	MA1137	99
107	SP8	MA0747	205	107	PHOX2A	MA0713	98
108	NKX6-1	MA0674	204	108	FOXB1	MA0845	98
109	TEAD1	MA0090	203	109	JUNB(var.2)	MA1140	97
110	EN1	MA0027	203	110	Nobox	MA0125	97
111	POU4F1	MA0790	200	111	PBX2	MA1113	96
112	FOXP1	MA0481	199	112	POU4F1	MA0790	95
113	ZNF354C	MA0130	197	113	BARX1	MA0875	95
114	TFAP2C	MA0524	197	114	SP3	MA0746	95
115	Nobox	MA0125	197	115	TBX2	MA0688	93
116	KLF4	MA0039	196	116	BSX	MA0876	93
117	SOX13	MA1120	195	117	MEIS3	MA0775	93
118	NR4A2	MA0160	195	118	OTX2	MA0712	92
119	TFAP2A(var.2)	MA0810	194	119	GATA6	MA1104	91
120	OTX2	MA0712	193	120	Ahr::Arnt	MA0006	89
121	POU3F1	MA0786	192	121	SOX13	MA1120	88
122	RORB	MA1150	191	122	NKX2-8	MA0673	87
123	EN2	MA0642	190	123	RORC	MA1151	87
124	KLF9	MA1107	185	124	PBX3	MA1114	86
125	FOXB1	MA0845	184	125	TBP	MA0108	86
126	Hic1	MA0739	184	126	EN2	MA0642	85

127	MEIS3	MA0775	184	127	Msx3	MA0709	84
128	TFAP2B	MA0811	180	128	ELF5	MA0136	83
129	Msx3	MA0709	179	129	Hic1	MA0739	83
130	GATA6	MA1104	178	130	Phox2b	MA0681	83
131	BARX1	MA0875	174	131	TBX4	MA0806	83
132	HMBOX1	MA0895	173	132	ZNF354C	MA0130	82
133	RELB	MA1117	173	133	POU2F1	MA0785	82
134	JUN::JUNB	MA1132	173	134	Hand1::Tcf3	MA0092	81
135	MSX2	MA0708	173	135	CREB1	MA0018	81
136	BSX	MA0876	167	136	EN1	MA0027	81
137	PPARA::RXRA	MA1148	167	137	FOXL1	MA0033	80
138	RORC	MA1151	166	138	HMBOX1	MA0895	80
139	JUNB(var.2)	MA1140	166	139	Pou5f1::Sox2	MA0142	79
140	POU3F3	MA0788	166	140	Nr2e1	MA0676	79
141	SP2	MA0516	164	141	FOXl1	MA0042	79
142	GBX2	MA0890	162	142	SNAI2	MA0745	79
143	ZBTB7C	MA0695	161	143	POU3F3	MA0788	77
144	POU2F1	MA0785	161	144	MSX2	MA0708	75
145	MEOX1	MA0661	161	145	OTX1	MA0711	75
146	Ahr::Arnt	MA0006	160	146	KLF4	MA0039	74
147	TBX2	MA0688	160	147	POU4F3	MA0791	73
148	ZBTB7A	MA0750	160	148	ISX	MA0654	72
149	FOXL1	MA0033	159	149	GBX2	MA0890	72
150	Sox17	MA0078	157	150	LBX1	MA0618	72
151	Nr2e1	MA0676	156	151	FOSL1::JUN(var.2)	MA1129	71
152	ETV5	MA0765	156	152	Mafb	MA0117	71

153	TWIST1	MA1123	155	153	NR2F2	MA1111	70
154	TBX4	MA0806	155	154	TFAP2C	MA0524	70
155	HOXA13	MA0650	155	155	TFAP2A(var.2)	MA0810	70
156	FIGLA	MA0820	154	156	Foxj3	MA0851	69
157	IRF1	MA0050	154	157	Foxd3	MA0041	69
158	GSC	MA0648	154	158	TFAP2B	MA0811	68
159	HOXB13	MA0901	153	159	MEIS2	MA0774	67
160	Foxj3	MA0851	153	160	GRHL2	MA1105	67
161	Arid3a	MA0151	153	161	ZNF740	MA0753	67
162	POU4F3	MA0791	153	162	GCM2	MA0767	66
163	GRHL2	MA1105	152	163	NR1H4	MA1110	66
164	KLF16	MA0741	151	164	TFAP2A	MA0003	66
165	MZF1(var.2)	MA0057	150	165	ESR2	MA0258	66
166	MEF2C	MA0497	148	166	HNF4G	MA0484	65
167	NKX3-2	MA0122	146	167	Foxj2	MA0614	64
168	PBX2	MA1113	144	168	MEOX1	MA0661	64
169	TFEC	MA0871	142	169	FOXD1	MA0031	64
170	Lhx8	MA0705	142	170	SP8	MA0747	63
171	TFAP2C(var.2)	MA0814	140	171	FOS::JUN(var.2)	MA1126	63
172	NR1H4	MA1110	140	172	Spz1	MA0111	63
173	TFAP2A	MA0003	139	173	GSC	MA0648	62
174	LHX2	MA0700	138	174	NKX3-2	MA0122	62
175	SIX1	MA1118	138	175	Hoxd3	MA0912	61
176	ISX	MA0654	137	176	SIX1	MA1118	61
177	Foxj2	MA0614	136	177	NFIC	MA0161	60
178	REL	MA0101	136	178	FIGLA	MA0820	58

179	EMX2	MA0886	135	179	RBPJ	MA1116	58
180	ETV4	MA0764	135	180	Arid3a	MA0151	58
181	OTX1	MA0711	133	181	HOXA13	MA0650	58
182	FOS::JUN(var.2)	MA1126	133	182	SIX2	MA1119	58
183	HOXD13	MA0909	132	183	FOSL2::JUN(var.2)	MA1131	57
184	Hoxd3	MA0912	130	184	MEF2C	MA0497	57
185	MYC	MA0147	129	185	TFAP2C(var.2)	MA0814	57
186	FOXI1	MA0042	127	186	TFCP2	MA0145	57
187	MEIS2	MA0774	127	187	GATA2	MA0036	56
188	ZEB1	MA0103	127	188	LHX2	MA0700	56
189	PHOX2A	MA0713	125	189	JUN::JUNB(var.2)	MA1133	56
190	SPIC	MA0687	125	190	HOXB13	MA0901	55
191	HNF4G	MA0484	125	191	TWIST1	MA1123	55
192	SP1	MA0079	124	192	POU3F4	MA0789	54
193	TEAD2	MA1121	124	193	POU6F2	MA0793	54
194	HESX1	MA0894	123	194	MGA	MA0801	54
195	FOXD1	MA0031	121	195	SPIC	MA0687	53
196	CEBPE	MA0837	121	196	TFEC	MA0871	53
197	NFIC	MA0161	120	197	KLF16	MA0741	53
198	NR2F2	MA1111	120	198	Gmeb1	MA0615	53
199	Ascl2	MA0816	119	199	EOMES	MA0800	52
200	LBX1	MA0618	117	200	Sox17	MA0078	52
201	FOSL1::JUN(var.2)	MA1129	117	201	FOXO6	MA0849	52
202	GATA2	MA0036	117	202	TBR1	MA0802	52
203	TFDP1	MA1122	117	203	GMEB2	MA0862	52
204	TCF7L2	MA0523	117	204	Nkx3-1	MA0124	50

205	SIX2	MA1119	117	205	NEUROD1	MA1109	50
206	PAX5	MA0014	116	206	PDX1	MA0132	50
207	MGA	MA0801	116	207	MAFF	MA0495	50
208	NEUROD1	MA1109	116	208	HOXC10	MA0905	50
209	GCM2	MA0767	115	209	GBX1	MA0889	49
210	Sox3	MA0514	113	210	OLIG3	MA0827	48
211	GATA3	MA0037	113	211	Atoh1	MA0461	48
212	HOXC10	MA0905	112	212	EGR4	MA0733	48
213	LHX6	MA0658	112	213	Rhox11	MA0629	48
214	Foxa2	MA0047	111	214	TBX20	MA0689	48
215	ETV1	MA0761	110	215	TFDP1	MA1122	47
216	STAT3	MA0144	109	216	ETV5	MA0765	47
217	EGR4	MA0733	109	217	FOSB::JUN	MA1127	47
218	MXI1	MA1108	107	218	KLF9	MA1107	47
219	TFEB	MA0692	107	219	TBX1	MA0805	47
220	FEV	MA0156	107	220	HOXD13	MA0909	47
221	Mafb	MA0117	107	221	Hoxa11	MA0911	47
222	MYCN	MA0104	106	222	EMX2	MA0886	46
223	CTCFL	MA1102	106	223	NR1A4::RXRA	MA1146	46
224	Spz1	MA0111	104	224	PROP1	MA0715	45
225	Nkx3-1	MA0124	104	225	Sox3	MA0514	45
226	PDX1	MA0132	104	226	Bcl6	MA0463	45
227	Hoxa11	MA0911	103	227	FOSB::JUNB(var.2)	MA1136	45
228	ETV6	MA0645	103	228	DMRT3	MA0610	44
229	TFCP2	MA0145	102	229	ZBTB7C	MA0695	44
230	Bcl6	MA0463	102	230	RARA::RXRG	MA1149	44

231	JUN::JUNB(var.2)	MA1133	101	231	ZBTB7A	MA0750	43
232	ERG	MA0474	101	232	GATA3	MA0037	43
233	ESR2	MA0258	101	233	STAT3	MA0144	43
234	ETS1	MA0098	101	234	POU3F2	MA0787	43
235	NKX2-3	MA0672	100	235	ETV4	MA0764	42
236	STAT1::STAT2	MA0517	100	236	TEAD2	MA1121	42
237	CREB1	MA0018	98	237	TFAP2B(var.2)	MA0812	42
238	Pou5f1::Sox2	MA0142	98	238	Zfx	MA0146	42
239	KLF5	MA0599	98	239	NKX2-3	MA0672	42
240	Hoxb5	MA0904	98	240	REL	MA0101	41
241	FOS::JUN	MA0099	97	241	HESX1	MA0894	41
242	Rhox11	MA0629	97	242	Ascl2	MA0816	41
243	RBPJ	MA1116	97	243	Gfi1b	MA0483	41
244	TCF3	MA0522	96	244	Atf3	MA0605	40
245	Sox5	MA0087	96	245	DUXA	MA0884	40
246	ASCL1	MA1100	95	246	HLF	MA0043	39
247	FOSB::JUNB(var.2)	MA1136	94	247	Stat4	MA0518	39
248	FOXO6	MA0849	93	248	Hmx3	MA0898	39
249	POU3F2	MA0787	92	249	FOS::JUN	MA0099	39
250	Phox2b	MA0681	91	250	BACH2	MA1101	39
251	IRF7	MA0772	90	251	VENTX	MA0724	39
252	EOMES	MA0800	89	252	ZEB1	MA0103	38
253	GBX1	MA0889	89	253	Crx	MA0467	38
254	HEY2	MA0649	89	254	Ddit3::Cebpa	MA0019	38
255	Arntl	MA0603	89	255	FOSL2::JUNB(var.2)	MA1139	38
256	POU6F2	MA0793	88	256	FOXO3	MA0157	38

257	MAX	MA0058	88	257	NR4A1	MA1112	38
258	ETV3	MA0763	88	258	MAFK	MA0496	38
259	NFYA	MA0060	87	259	TCF7L2	MA0523	37
260	Atoh1	MA0461	87	260	POU1F1	MA0784	37
261	HLF	MA0043	87	261	LIN54	MA0619	36
262	Stat4	MA0518	86	262	Stat5a::Stat5b	MA0519	36
263	NR1A4::RXRA	MA1146	84	263	E2F6	MA0471	36
264	OLIG3	MA0827	84	264	Lhx8	MA0705	36
265	E2F6	MA0471	84	265	Arx	MA0874	35
266	ELK3	MA0759	83	266	TBX21	MA0690	35
267	POU1F1	MA0784	82	267	Pou2f3	MA0627	34
268	ID4	MA0824	82	268	NEUROD2	MA0668	34
269	Pax6	MA0069	82	269	MYB	MA0100	34
270	Nr1h3::Rxra	MA0494	82	270	IRF7	MA0772	34
271	RARA::RXRG	MA1149	82	271	MXI1	MA1108	33
272	MNT	MA0825	81	272	GRHL1	MA0647	33
273	Klf1	MA0493	81	273	TCF3	MA0522	33
274	ARNT::HIF1A	MA0259	80	274	Esrrg	MA0643	33
275	HNF1A	MA0046	79	275	NFYA	MA0060	33
276	TFAP2B(var.2)	MA0812	78	276	FOSL2::JUN	MA1130	32
277	MAFF	MA0495	78	277	STAT1::STAT2	MA0517	32
278	Hmx3	MA0898	78	278	HOXD11	MA0908	32
279	HOXD11	MA0908	77	279	SMAD2::SMAD3::SMAD4	MA0513	32
280	TBR1	MA0802	77	280	MYCN	MA0104	32
281	Stat5a::Stat5b	MA0519	77	281	Atf1	MA0604	32
282	FOSL2::JUN	MA1130	77	282	Npas2	MA0626	31

283	CLOCK	MA0819	77	283	FOSL2::JUND(var.2)	MA1145	31
284	NEUROD2	MA0668	76	284	HNF1A	MA0046	31
285	NHLH1	MA0048	76	285	RELB	MA1117	31
286	FOSL1::JUN	MA1128	75	286	Alx4	MA0853	30
287	TBX20	MA0689	75	287	CLOCK	MA0819	30
288	RUNX3	MA0684	74	288	ETV6	MA0645	30
289	VENTX	MA0724	74	289	MAFG	MA0659	30
290	Foxo1	MA0480	73	290	Hmx2	MA0897	30
291	SMAD2::SMAD3::SMAD4	MA0513	73	291	ETV1	MA0761	30
292	DUXA	MA0884	73	292	TFEB	MA0692	29
293	YY2	MA0748	72	293	FOSL1::JUN	MA1128	29
294	TFE3	MA0831	72	294	IRF1	MA0050	29
295	FOXO3	MA0157	71	295	Foxa2	MA0047	29
296	LIN54	MA0619	70	296	Nr5a2	MA0505	29
297	CUX2	MA0755	70	297	OLIG2	MA0678	28
298	PROP1	MA0715	70	298	Stat6	MA0520	28
299	TBX15	MA0803	70	299	NR4A2::RXRA	MA1147	28
300	Gmeb1	MA0615	70	300	JUND(var.2)	MA0492	28
301	Ddit3::Cebpa	MA0019	69	301	MYC	MA0147	28
302	Gabpa	MA0062	68	302	FOSL2::JUND	MA1144	27
303	Hoxc9	MA0485	67	303	Nr1h3::Rxra	MA0494	27
304	Hmx2	MA0897	67	304	ETV3	MA0763	27
305	FOXA1	MA0148	67	305	NRF1	MA0506	27
306	TCF4	MA0830	64	306	DBP	MA0639	26
307	Zfx	MA0146	64	307	Hoxa9	MA0594	26
308	ZIC4	MA0751	64	308	Hoxb5	MA0904	26

309	POU3F4	MA0789	63	309	IRF5	MA1420	26
310	MAFK	MA0496	62	310	Hoxc9	MA0485	26
311	Arx	MA0874	62	311	TBX15	MA0803	26
312	Nkx2-5(var.2)	MA0503	62	312	ID4	MA0824	26
313	DMRT3	MA0610	62	313	NR2C2	MA0504	25
314	Sox6	MA0515	61	314	ASCL1	MA1100	25
315	CUX1	MA0754	61	315	HNF1B	MA0153	25
316	TBX1	MA0805	61	316	Bhlha15	MA0607	25
317	CEBPB	MA0466	60	317	MNT	MA0825	25
318	HNF1B	MA0153	60	318	SP2	MA0516	25
319	mix-a	MA0621	60	319	Alx1	MA0854	24
320	RUNX2	MA0511	60	320	ONECUT3	MA0757	24
321	NR4A1	MA1112	60	321	FOXH1	MA0479	24
322	PRDM1	MA0508	60	322	CTCFL	MA1102	24
323	ERF	MA0760	59	323	PAX3	MA0780	24
324	Esrrg	MA0643	59	324	RUNX3	MA0684	24
325	GRHL1	MA0647	58	325	Nr2f6	MA0677	24
326	Hoxa9	MA0594	58	326	Pax6	MA0069	24
327	Alx4	MA0853	58	327	Dmbx1	MA0883	23
328	BACH2	MA1101	58	328	ONECUT2	MA0756	23
329	Stat6	MA0520	57	329	FOXG1	MA0613	23
330	FOSB::JUN	MA1127	57	330	TFE3	MA0831	23
331	Crx	MA0467	56	331	FOSB::JUNB	MA1135	23
332	EGR2	MA0472	56	332	NHLH1	MA0048	23
333	GLI2	MA0734	56	333	CUX1	MA0754	23
334	Npas2	MA0626	55	334	POU2F2	MA0507	22

335	HOXC11	MA0651	55	335	Klf1	MA0493	22
336	TBX21	MA0690	54	336	KLF5	MA0599	22
337	Hmx1	MA0896	54	337	ETS1	MA0098	22
338	CEBPD	MA0836	54	338	YY1	MA0095	22
339	Alx1	MA0854	53	339	JUN	MA0488	22
340	HEY1	MA0823	53	340	mix-a	MA0621	22
341	HSF4	MA0771	53	341	Nkx2-5(var.2)	MA0503	22
342	HIF1A	MA1106	53	342	STAT1	MA0137	22
343	NR4A2::RXRA	MA1147	52	343	CEBPE	MA0837	21
344	MYB	MA0100	52	344	LEF1	MA0768	21
345	EHF	MA0598	52	345	SP1	MA0079	21
346	FOSL2::JUND(var.2)	MA1145	52	346	Lhx3	MA0135	21
347	FOSL2::JUN(var.2)	MA1131	51	347	BHLHE22	MA0818	21
348	USF1	MA0093	51	348	MAX	MA0058	20
349	Gfi1b	MA0483	51	349	GCM1	MA0646	20
350	ZNF24	MA1124	50	350	LHX6	MA0658	20
351	FOS::JUNB	MA1134	49	351	PAX5	MA0014	20
352	FLI1	MA0475	49	352	ERG	MA0474	20
353	Rfx1	MA0509	49	353	TCF4	MA0830	20
354	ONECUT2	MA0756	48	354	Sox6	MA0515	20
355	FOXG1	MA0613	47	355	GLI2	MA0734	20
356	MAFG	MA0659	46	356	FOXA1	MA0148	19
357	GCM1	MA0646	46	357	PBX1	MA0070	19
358	Dmbx1	MA0883	46	358	ELK3	MA0759	19
359	IRF5	MA1420	46	359	FOSL2::JUNB	MA1138	19
360	HINFP	MA0131	45	360	Crem	MA0609	19

361	FOS::JUND	MA1141	45	361	HINFP	MA0131	19
362	FOSL2::JUND	MA1144	45	362	FEV	MA0156	19
363	FOSB::JUNB	MA1135	45	363	Foxo1	MA0480	19
364	HOXC13	MA0907	45	364	ZNF24	MA1124	19
365	NR2C2	MA0504	45	365	YY2	MA0748	18
366	MITF	MA0620	44	366	TBX19	MA0804	18
367	Myod1	MA0499	44	367	TFAP2A(var.3)	MA0872	18
368	Twist2	MA0633	44	368	FOS::JUNB	MA1134	18
369	KLF14	MA0740	44	369	ATF4	MA0833	18
370	RFX4	MA0799	43	370	ATF7	MA0834	18
371	ELK4	MA0076	42	371	Sox5	MA0087	18
372	FOXP2	MA0593	42	372	Arntl	MA0603	18
373	Nr5a2	MA0505	42	373	Tcf7	MA0769	18
374	NRF1	MA0506	42	374	HOXC11	MA0651	18
375	TEAD3	MA0808	41	375	FOXP2	MA0593	17
376	BHLHE40	MA0464	41	376	CUX2	MA0755	17
377	TFAP2A(var.3)	MA0872	41	377	BHLHE23	MA0817	17
378	TFAP4	MA0691	41	378	EHF	MA0598	17
379	MEF2A	MA0052	41	379	GATA1::TAL1	MA0140	17
380	FOSL2::JUNB(var.2)	MA1139	41	380	OLIG1	MA0826	17
381	FOSL2::JUNB	MA1138	41	381	Hmx1	MA0896	17
382	ONECUT3	MA0757	41	382	JUN(var.2)	MA0489	17
383	ETV2	MA0762	40	383	KLF14	MA0740	17
384	Gata4	MA0482	40	384	Gabpa	MA0062	17
385	Tcf7	MA0769	39	385	TFAP4	MA0691	16
386	CEBPA	MA0102	39	386	Creb5	MA0840	16

387	POU2F2	MA0507	39	387	HEY1	MA0823	16
388	USF2	MA0526	38	388	HEY2	MA0649	16
389	CTCF	MA0139	38	389	RUNX2	MA0511	16
390	MAX::MYC	MA0059	38	390	TEF	MA0843	16
391	TEF	MA0843	37	391	T	MA0009	16
392	Atf3	MA0605	37	392	TAL1::TCF3	MA0091	16
393	LEF1	MA0768	36	393	Twist2	MA0633	15
394	GMEB2	MA0862	36	394	NEUROG2	MA0669	15
395	BATF::JUN	MA0462	35	395	Six3	MA0631	15
396	ZBTB18	MA0698	35	396	ZBTB18	MA0698	14
397	HOXC12	MA0906	35	397	FOS::JUND	MA1141	14
398	TCF7L1	MA1421	35	398	MYF6	MA0667	14
399	MSC	MA0665	35	399	FLI1	MA0475	14
400	STAT1	MA0137	34	400	TEAD3	MA0808	14
401	FOXH1	MA0479	33	401	Tcf12	MA0521	14
402	MLXIPL	MA0664	32	402	Myog	MA0500	14
403	Foxq1	MA0040	32	403	TCF7L1	MA1421	14
404	RFX3	MA0798	32	404	JDP2(var.2)	MA0656	13
405	OLIG2	MA0678	32	405	MSC	MA0665	13
406	TFAP2B(var.3)	MA0813	32	406	SREBF2	MA0596	13
407	RARA::RXRA	MA0159	31	407	HIF1A	MA1106	13
408	Bhlha15	MA0607	31	408	ERF	MA0760	13
409	TAL1::TCF3	MA0091	31	409	MLX	MA0663	13
410	TFAP2C(var.3)	MA0815	30	410	USF1	MA0093	13
411	MYF6	MA0667	30	411	PAX7	MA0680	13
412	Pou2f3	MA0627	30	412	TFAP2B(var.3)	MA0813	12

413	ELK1	MA0028	29	413	E2F1	MA0024	12
414	Nr2e3	MA0164	28	414	ZBTB7B	MA0694	12
415	Arnt	MA0004	28	415	USF2	MA0526	12
416	ZBTB7B	MA0694	28	416	TFAP2C(var.3)	MA0815	12
417	ZIC3	MA0697	28	417	ELK4	MA0076	12
418	Tcf12	MA0521	27	418	PPARG	MA0066	12
419	FOS	MA0476	27	419	NFIL3	MA0025	12
420	DBP	MA0639	27	420	MLXIPL	MA0664	12
421	NR2F1	MA0017	26	421	Klf12	MA0742	12
422	Nr2f6	MA0677	26	422	Gata1	MA0035	11
423	JUN(var.2)	MA0489	26	423	ESRRB	MA0141	11
424	YY1	MA0095	26	424	ZIC4	MA0751	11
425	NFKB2	MA0778	25	425	EGR2	MA0472	11
426	Six3	MA0631	25	426	Rfx1	MA0509	11
427	PAX3	MA0780	25	427	ETV2	MA0762	11
428	Nfe2l2	MA0150	24	428	Nr2e3	MA0164	11
429	ELF3	MA0640	24	429	Gata4	MA0482	11
430	ELF4	MA0641	24	430	HOXC13	MA0907	10
431	EBF1	MA0154	24	431	JUNB	MA0490	10
432	TGIF2	MA0797	23	432	SPDEF	MA0686	10
433	XBP1	MA0844	23	433	BATF3	MA0835	10
434	NFYB	MA0502	23	434	FOS	MA0476	10
435	INSM1	MA0155	23	435	SREBF2(var.2)	MA0828	10
436	BHLHE22	MA0818	23	436	MYBL1	MA0776	10
437	CDX2	MA0465	23	437	ARNT::HIF1A	MA0259	10
438	EGR3	MA0732	23	438	JDP2	MA0655	10

439	Lhx3	MA0135	23	439	Srebf1(var.2)	MA0829	9
440	Myog	MA0500	22	440	HOXD12	MA0873	9
441	Srebf1(var.2)	MA0829	22	441	CTCF	MA0139	9
442	ATF4	MA0833	21	442	HOXC12	MA0906	9
443	SPDEF	MA0686	21	443	EGR3	MA0732	9
444	Klf12	MA0742	21	444	EBF1	MA0154	9
445	CREB3	MA0638	21	445	Mecom	MA0029	9
446	TBX19	MA0804	21	446	CENPB	MA0637	9
447	GLIS2	MA0736	21	447	Foxq1	MA0040	9
448	PAX7	MA0680	20	448	IRF3	MA1418	8
449	Dux	MA0611	20	449	BATF::JUN	MA0462	8
450	POU4F2	MA0683	20	450	DUX4	MA0468	8
451	TP73	MA0861	20	451	ELF3	MA0640	8
452	Atf1	MA0604	20	452	RARA(var.2)	MA0730	7
453	JDP2	MA0655	20	453	MEF2D	MA0773	7
454	GATA1::TAL1	MA0140	20	454	Smad4	MA1153	7
455	CENPB	MA0637	19	455	JUND	MA0491	7
456	Creb3l2	MA0608	19	456	CEBPB	MA0466	7
457	CEBPG	MA0838	19	457	TGIF2	MA0797	7
458	ESRRB	MA0141	19	458	NFE2	MA0841	7
459	E2F1	MA0024	19	459	Nfe2l2	MA0150	7
460	E2F4	MA0470	19	460	MEF2B	MA0660	7
461	NEUROG2	MA0669	19	461	ELF4	MA0641	7
462	FOSL2	MA0478	19	462	MAX::MYC	MA0059	7
463	SP4	MA0685	18	463	HSF4	MA0771	7
464	IRF3	MA1418	18	464	SREBF1	MA0595	7

465	OLIG1	MA0826	18	465	RFX3	MA0798	7
466	JUNB	MA0490	18	466	MEF2A	MA0052	6
467	NFIL3	MA0025	17	467	FOXF2	MA0030	6
468	Gata1	MA0035	17	468	BHLHE40	MA0464	6
469	FOSL1	MA0477	17	469	NR2F1	MA0017	6
470	JUN	MA0488	17	470	RFX4	MA0799	6
471	PBX1	MA0070	17	471	POU4F2	MA0683	6
472	SREBF2(var.2)	MA0828	16	472	FOSL2	MA0478	6
473	FOXF2	MA0030	16	473	MITF	MA0620	6
474	ELF1	MA0473	16	474	ELK1	MA0028	6
475	MAF::NFE2	MA0501	16	475	RARA::RXRA	MA0159	6
476	MLX	MA0663	16	476	ZBED1	MA0749	5
477	HOXD12	MA0873	16	477	SOX21	MA0866	5
478	RORA	MA0071	16	478	CEBPD	MA0836	5
479	SCRT1	MA0743	15	479	Myod1	MA0499	5
480	NFIA	MA0670	15	480	RFX5	MA0510	5
481	SCRT2	MA0744	14	481	Arnt	MA0004	5
482	ZBTB33	MA0527	14	482	XBP1	MA0844	5
483	SREBF2	MA0596	14	483	PLAG1	MA0163	5
484	MEF2B	MA0660	13	484	ONECUT1	MA0679	5
485	DUX4	MA0468	13	485	SCRT2	MA0744	5
486	JUND(var.2)	MA0492	13	486	Ar	MA0007	5
487	MEF2D	MA0773	13	487	NFYB	MA0502	5
488	SMAD3	MA0795	12	488	FOSL1	MA0477	5
489	ZSCAN4	MA1155	12	489	ZSCAN4	MA1155	5
490	Smad4	MA1153	12	490	CEBPA	MA0102	4

491	CREB3L1	MA0839	11	491	SP4	MA0685	4
492	RREB1	MA0073	11	492	Creb3l2	MA0608	4
493	ZIC1	MA0696	11	493	E2F4	MA0470	4
494	BHLHE41	MA0636	11	494	ZBTB33	MA0527	4
495	MYBL2	MA0777	11	495	CREB3	MA0638	4
496	Mlxip	MA0622	10	496	CREB3L1	MA0839	4
497	Ar	MA0007	10	497	Tcf21	MA0832	4
498	Id2	MA0617	10	498	SMAD3	MA0795	3
499	PROX1	MA0794	9	499	GLIS2	MA0736	3
500	T	MA0009	9	500	EGR1	MA0162	3
501	REST	MA0138	9	501	BHLHE41	MA0636	3
502	JUND	MA0491	8	502	Bach1::Mafk	MA0591	3
503	TP53	MA0106	8	503	Esrra	MA0592	3
504	Esrra	MA0592	8	504	TP53	MA0106	3
505	EGR1	MA0162	8	505	PRDM1	MA0508	3
506	Mecom	MA0029	8	506	TP73	MA0861	2
507	PAX1	MA0779	8	507	MYBL2	MA0777	2
508	IRF8	MA0652	8	508	Sox2	MA0143	2
509	HSF2	MA0770	8	509	Sox1	MA0870	2
510	RELA	MA0107	8	510	KLF13	MA0657	2
511	EWSR1-FLI1	MA0149	8	511	MTF1	MA0863	2
512	NFE2	MA0841	7	512	RELA	MA0107	2
513	RFX2	MA0600	7	513	GLIS3	MA0737	2
514	Sox2	MA0143	7	514	NFKB2	MA0778	2
515	RFX5	MA0510	7	515	CEBPG	MA0838	2
516	IRF9	MA0653	7	516	Id2	MA0617	2

517	SPI1	MA0080	7	517	RORA	MA0071	2
518	BHLHE23	MA0817	7	518	SCRT1	MA0743	2
519	ONECUT1	MA0679	6	519	Mlxip	MA0622	2
520	SREBF1	MA0595	6	520	ZNF282	MA1154	2
521	HSF1	MA0486	6	521	RFX2	MA0600	1
522	ZNF282	MA1154	6	522	ESR1	MA0112	1
523	IRF4	MA1419	6	523	MAF::NFE2	MA0501	1
524	NR3C1	MA0113	5	524	HSF2	MA0770	1
525	Bach1::Mafk	MA0591	5	525	PKNOX2	MA0783	1
526	Creb5	MA0840	5	526	SPI1	MA0080	1
527	NR3C2	MA0727	5	527	ELF1	MA0473	1
528	Tcf21	MA0832	4	528	RXRG	MA0856	1
529	PPARG	MA0066	4	529	ZIC3	MA0697	1
530	PLAG1	MA0163	4	530	E2F8	MA0865	1
531	NFKB1	MA0105	4	531	CDX2	MA0465	1
532	KLF13	MA0657	3	532	PKNOX1	MA0782	1
533	Rxra	MA0512	3	533	Rxra	MA0512	1
534	E2F8	MA0865	3				
535	Rarg	MA0859	3				
536	SRF	MA0083	2				
537	MYBL1	MA0776	2				
538	RORA(var.2)	MA0072	2				
539	ZNF410	MA0752	2				
540	HES7	MA0822	2				
541	PKNOX2	MA0783	2				
542	Rarb	MA0857	2				

543	PKNOX1	MA0782	2
544	HES5	MA0821	1
545	GLIS3	MA0737	1
546	ZBED1	MA0749	1
547	SOX21	MA0866	1
548	Hnf4a	MA0114	1
549	Nr2f6(var.2)	MA0728	1
550	ZNF143	MA0088	1
