

Table SI. The 175 differentially expressed genes (DEGs).

Gene	logFC	P-value	FDR
<i>LHX3</i>	-0.74698	5.50E-05	0.000446
<i>ARPP21</i>	-0.50508	0.000749	0.006073
<i>DNMT3L</i>	-0.45786	4.25E-05	0.000344
<i>HMGCLL1</i>	-0.45445	0.001913	0.015499
<i>GPR182</i>	-0.44758	9.78E-05	0.000793
<i>CNDP1</i>	-0.44749	0.000129	0.001043
<i>IDO2</i>	-0.44616	0.000143	0.001162
<i>BMP5</i>	-0.44462	0.003451	0.027969
<i>CYP2A7</i>	-0.44417	1.66E-05	0.000134
<i>WNT1</i>	-0.44065	0.002298	0.018624
<i>CYP2A13</i>	-0.44001	0.000478	0.003872
<i>PADI1</i>	-0.43201	0.00573	0.046431
<i>SCARA5</i>	-0.40454	0.002907	0.023558
<i>TRPC5</i>	-0.39674	0.001173	0.009505
<i>MOGAT2</i>	-0.39463	1.76E-05	0.000143
<i>THRSP</i>	-0.39397	9.38E-06	7.60E-05
<i>GCK</i>	-0.39097	0.004329	0.035079
<i>DEFB132</i>	-0.39023	0.000894	0.007248
<i>CHRNA4</i>	-0.38017	0.000422	0.003417
<i>DHH</i>	-0.37832	0.000165	0.001338
<i>DIO2</i>	-0.37581	0.000362	0.002934
<i>NLRP14</i>	-0.37563	0.002789	0.022604
<i>C3orf36</i>	-0.36801	0.000516	0.004181
<i>PI16</i>	-0.36615	0.004342	0.03519
<i>PRAMEF8</i>	-0.36334	0.003732	0.030241
<i>COL17A1</i>	-0.36273	0.000748	0.006064
<i>REN</i>	-0.36156	0.000163	0.001325
<i>PRAMEF10</i>	-0.35353	0.004638	0.037588
<i>MTUS2</i>	-0.35042	0.00564	0.045705
<i>FOXN4</i>	-0.34866	0.001393	0.011292
<i>OPCML</i>	-0.34804	0.001592	0.012905
<i>KCNB1</i>	-0.34352	0.000669	0.005424
<i>ASXL3</i>	-0.34123	0.003462	0.028054
<i>OMD</i>	-0.33839	0.002495	0.020219
<i>SPATA1</i>	-0.33741	4.56E-05	0.00037
<i>AVPR2</i>	-0.33701	0.000131	0.001058
<i>MIP</i>	-0.33378	0.000519	0.004202
<i>CSDC2</i>	-0.33121	0.005144	0.041686
<i>CRYAA</i>	-0.32735	5.22E-05	0.000423
<i>ADRA1A</i>	-0.32346	0.000132	0.00107
<i>HAO2</i>	-0.32199	5.71E-06	4.63E-05
<i>TAF7L</i>	-0.31869	0.002212	0.017927
<i>DPT</i>	-0.31713	0.000399	0.003235
<i>SHISA3</i>	-0.31203	0.00056	0.004541
<i>ST6GALNAC1</i>	-0.312	0.005352	0.043373
<i>RERGL</i>	-0.30703	0.000272	0.002205
<i>CD300LG</i>	-0.30558	0.001982	0.016065
<i>HSD17B13</i>	-0.30388	4.35E-05	0.000352
<i>EDN2</i>	-0.29888	0.002694	0.021833
<i>SEC14L3</i>	-0.29684	0.004722	0.038269
<i>FBN3</i>	-0.28848	0.003846	0.03117
<i>FNDC5</i>	-0.28822	2.58E-05	0.000209
<i>DAB1</i>	-0.28792	0.001814	0.014697
<i>UROCI</i>	-0.2836	8.39E-05	0.00068
<i>CRHBP</i>	-0.28254	0.000379	0.00307
<i>BHLHE22</i>	-0.27828	0.002516	0.020388

Table SI. Continued.

Gene	logFC	P-value	FDR
<i>GCGR</i>	-0.2777	0.000361	0.002926
<i>GPR17</i>	-0.27487	0.001557	0.012618
<i>GNAO1</i>	-0.27453	4.94E-05	0.000401
<i>OGN</i>	-0.27411	0.003619	0.029328
<i>ARID3C</i>	-0.2675	0.000424	0.003433
<i>DUSP26</i>	-0.26407	0.006139	0.049747
<i>LRRC69</i>	0.263208	0.005297	0.042928
<i>NPTX2</i>	0.264524	0.004661	0.037771
<i>AP1M2</i>	0.265012	0.002298	0.018623
<i>CCDC74B</i>	0.266071	0.005538	0.044882
<i>FAM155B</i>	0.266736	0.001325	0.010736
<i>TREM1</i>	0.267253	0.004161	0.033721
<i>DIRAS1</i>	0.270208	0.005924	0.04801
<i>KLHL30</i>	0.270866	0.001588	0.01287
<i>SLC4A3</i>	0.271011	0.005949	0.048206
<i>EPHX4</i>	0.273107	0.001616	0.013099
<i>BEX2</i>	0.27602	0.001071	0.008677
<i>HAP1</i>	0.276452	0.00441	0.035736
<i>MYLK2</i>	0.277945	0.001898	0.015384
<i>RPL21</i>	0.279818	0.000605	0.004903
<i>SI00P</i>	0.280212	0.000796	0.006451
<i>SHC3</i>	0.281122	0.003327	0.026964
<i>FOXJ1</i>	0.283051	0.0061	0.049434
<i>IQCA1</i>	0.283158	0.001275	0.010331
<i>CNFN</i>	0.283739	0.000928	0.00752
<i>SCIN</i>	0.286746	0.001401	0.011356
<i>GULP1</i>	0.293405	0.002064	0.01673
<i>ANKK1</i>	0.294567	0.003607	0.029231
<i>ZNF280B</i>	0.295852	0.004316	0.034977
<i>PKIA</i>	0.298329	0.003416	0.02768
<i>SYCE1L</i>	0.300889	0.002902	0.023518
<i>IGSF22</i>	0.301332	0.004661	0.037774
<i>HIST1H4E</i>	0.303609	0.001739	0.014091
<i>GLB1L2</i>	0.304205	0.002529	0.020492
<i>TMC5</i>	0.304349	0.001718	0.013921
<i>HOXA10</i>	0.305391	0.001218	0.009869
<i>KIAA0319</i>	0.306237	0.000452	0.003665
<i>CYP2W1</i>	0.309023	0.005022	0.0407
<i>ZG16B</i>	0.313997	0.002625	0.021276
<i>VWA5B2</i>	0.318458	0.003325	0.026947
<i>GRIN2A</i>	0.321964	0.005478	0.044389
<i>DUSP15</i>	0.32457	0.002534	0.020532
<i>RGS9BP</i>	0.325919	0.001881	0.015245
<i>HOXD9</i>	0.327962	4.66E-05	0.000377
<i>SERPINA9</i>	0.329477	0.005396	0.04373
<i>DHDH</i>	0.331148	0.001303	0.010562
<i>RAB40AL</i>	0.331167	0.000232	0.001883
<i>PCP2</i>	0.331173	0.000488	0.003952
<i>CDRT1</i>	0.332455	0.003859	0.031274
<i>CELF4</i>	0.334685	0.00212	0.017179
<i>VAX2</i>	0.335937	0.001236	0.010017
<i>SMC1B</i>	0.342975	0.00297	0.024069
<i>RUNDC3A</i>	0.344357	0.001049	0.008502
<i>KLHL35</i>	0.345027	0.00567	0.04595
<i>RIMBP3C</i>	0.345667	0.00076	0.00616
<i>FXYD3</i>	0.347111	0.002611	0.021155

Table SI. Continued.

Gene	logFC	P-value	FDR
<i>C4orf47</i>	0.348581	0.004721	0.038256
<i>FAM90A1</i>	0.349492	0.00179	0.014502
<i>ULBP1</i>	0.349883	0.001586	0.012853
<i>LY6H</i>	0.352073	0.000147	0.001194
<i>POF1B</i>	0.353414	0.000984	0.007972
<i>FAM163A</i>	0.357671	0.001474	0.011948
<i>MUC5B</i>	0.359368	0.005501	0.044581
<i>GUCY2D</i>	0.359547	0.00346	0.02804
<i>CCL3L3</i>	0.360131	0.004848	0.039283
<i>DDN</i>	0.36213	0.00417	0.03379
<i>ATP6V1B1</i>	0.363099	0.001034	0.008383
<i>KCNN1</i>	0.365217	0.001202	0.009742
<i>TFAP2A</i>	0.365567	6.75E-05	0.000547
<i>KHDC1</i>	0.371281	0.005086	0.041214
<i>ADRA1D</i>	0.373149	0.002327	0.018857
<i>KREMEN2</i>	0.37457	0.001709	0.013846
<i>GIPR</i>	0.378323	0.003695	0.029941
<i>H2AFB1</i>	0.381525	0.000137	0.001113
<i>COL24A1</i>	0.382368	0.002049	0.016606
<i>NOX1</i>	0.389163	0.005506	0.044623
<i>TLL2</i>	0.390968	0.000209	0.00169
<i>CHST6</i>	0.400117	0.000762	0.006173
<i>NKPD1</i>	0.401824	0.000451	0.003654
<i>DIRAS2</i>	0.405966	0.000995	0.008065
<i>SPDEF</i>	0.40721	0.003445	0.02792
<i>PROM1</i>	0.407466	0.003953	0.032032
<i>MYCBPAP</i>	0.409621	0.001207	0.009782
<i>B4GALNT4</i>	0.409904	0.005242	0.04248
<i>FRMD1</i>	0.411164	0.004147	0.033602
<i>EPO</i>	0.413545	0.000993	0.008046
<i>USH1C</i>	0.417143	0.000668	0.005416
<i>CA9</i>	0.422098	0.001719	0.013933
<i>GNG4</i>	0.422829	0.000318	0.002578
<i>ART5</i>	0.423956	0.005438	0.044066
<i>MMP12</i>	0.43064	0.000853	0.006912
<i>TRIM54</i>	0.438513	0.001014	0.008216
<i>CACNG4</i>	0.438895	0.000341	0.002762
<i>CCDC144A</i>	0.439132	0.002265	0.018357
<i>TSKS</i>	0.443227	0.002863	0.023199
<i>CKMT1B</i>	0.448481	0.001363	0.011049
<i>DLK2</i>	0.449348	0.000211	0.001712
<i>PSORS1C1</i>	0.462275	0.000215	0.001739
<i>GRM6</i>	0.462589	0.002204	0.017859
<i>MIOX</i>	0.465439	0.002279	0.018471
<i>PPFIA4</i>	0.467077	5.00E-05	0.000405
<i>SLC7A10</i>	0.478457	0.003718	0.030132
<i>SLC35F3</i>	0.503286	0.002229	0.018061
<i>HS6ST2</i>	0.504074	0.001833	0.014856
<i>PRRX2</i>	0.506409	0.001558	0.012628
<i>ELOVL3</i>	0.52499	0.000118	0.000956
<i>ZNF391</i>	0.529413	0.000117	0.000945
<i>NPTX1</i>	0.532158	0.001638	0.013273
<i>PGC</i>	0.548688	0.000655	0.005308
<i>DLX4</i>	0.576648	3.60E-05	0.000292
<i>PRSS16</i>	0.592087	0.001073	0.008698
<i>ZNF695</i>	0.601449	0.000219	0.001778

Table SI. Continued.

Gene	logFC	P-value	FDR
<i>MMP10</i>	0.606087	0.000426	0.003449
<i>HOXD10</i>	0.633083	2.58E-05	0.000209
<i>PPP2R2C</i>	0.685074	1.09E-05	8.81E-05
<i>IL20RA</i>	0.686411	0.000614	0.004977
<i>PRAME</i>	0.69532	0.000183	0.001484
<i>PCSK1N</i>	0.718216	1.40E-05	0.000113
<i>SEMA3E</i>	0.822893	0.000125	0.001012

FC, fold change; P value was calculated by limma package of R software. FDR, false discovery rate.

Table SII. The 51 DEGs significantly associated with overall survival in Cox regression analysis.

Gene	coef	exp(coef)	se(coef)	z	P
<i>TREM1</i>	0.246	1.28	0.0486	5.06	2.05E-07
<i>SCIN</i>	0.199	1.22	0.0518	3.85	0.00006
<i>POF1B</i>	0.134	1.14	0.0352	3.81	0.00007
<i>PPFIA4</i>	0.197	1.22	0.0524	3.76	0.000085
<i>EPO</i>	0.126	1.13	0.0347	3.64	0.000135
<i>CA9</i>	0.0907	1.09	0.0264	3.43	0.0003
<i>HOXD10</i>	0.181	1.2	0.0538	3.36	0.000385
<i>MMP12</i>	0.13	1.14	0.0399	3.26	0.00055
<i>DHDH</i>	0.196	1.22	0.0607	3.24	0.0006
<i>TRIM54</i>	0.127	1.14	0.0396	3.21	0.00065
<i>HOXD9</i>	0.145	1.16	0.0475	3.06	0.0011
<i>FAM163A</i>	0.179	1.2	0.0622	2.87	0.00205
<i>DIRAS2</i>	0.117	1.12	0.0437	2.67	0.0038
<i>C4orf47</i>	0.227	1.25	0.0863	2.63	0.00425
<i>WNT1</i>	-0.316	0.729	0.125	-2.53	0.0055
<i>GULP1</i>	0.0937	1.1	0.0376	2.49	0.0065
<i>NPTX1</i>	0.131	1.14	0.0537	2.44	0.0075
<i>ART5</i>	0.133	1.14	0.0558	2.38	0.0085
<i>USH1C</i>	0.0612	1.06	0.0265	2.31	0.0105
<i>EPHX4</i>	0.183	1.2	0.08	2.29	0.011
<i>RERGL</i>	-0.126	0.882	0.0563	-2.24	0.0125
<i>MMP10</i>	0.105	1.11	0.0468	2.24	0.0125
<i>GPR182</i>	-0.142	0.867	0.0654	-2.18	0.0145
<i>HSD17B13</i>	-0.0561	0.945	0.0257	-2.18	0.0145
<i>ADRA1A</i>	-0.088	0.916	0.0408	-2.16	0.0155
<i>S100P</i>	0.0573	1.06	0.0269	2.13	0.0165
<i>AVPR2</i>	-0.174	0.84	0.0821	-2.12	0.017
<i>KCNN1</i>	0.143	1.15	0.0675	2.11	0.0175
<i>SLC35F3</i>	0.107	1.11	0.0509	2.11	0.0175
<i>ELOVL3</i>	0.134	1.14	0.0636	2.1	0.0175
<i>COL24A1</i>	0.104	1.11	0.0496	2.09	0.018
<i>DDN</i>	0.169	1.18	0.0814	2.08	0.0185
<i>MYLK2</i>	0.2	1.22	0.0963	2.07	0.019
<i>TMC5</i>	0.0671	1.07	0.0323	2.08	0.019
<i>FXYP3</i>	0.065	1.07	0.0313	2.07	0.019
<i>PPP2R2C</i>	0.0647	1.07	0.0313	2.07	0.019
<i>FRMD1</i>	0.102	1.11	0.0504	2.03	0.0215
<i>SEC14L3</i>	-0.0954	0.909	0.0476	-2	0.0225
<i>DNMT3L</i>	-0.0839	0.92	0.0425	-1.97	0.0245
<i>TFAP2A</i>	0.0918	1.1	0.0468	1.96	0.025
<i>CRYAA</i>	-0.0613	0.941	0.0315	-1.94	0.026
<i>FAM90A1</i>	0.139	1.15	0.0717	1.93	0.0265
<i>SERPINA9</i>	0.133	1.14	0.0714	1.86	0.0315
<i>CRHBP</i>	-0.0883	0.916	0.0482	-1.83	0.0335
<i>CCDC74B</i>	0.112	1.12	0.0641	1.75	0.0405
<i>AP1M2</i>	0.0493	1.05	0.0284	1.74	0.041
<i>ZNF695</i>	0.0839	1.09	0.0489	1.72	0.043
<i>NPTX2</i>	0.0577	1.06	0.0342	1.69	0.0455
<i>RUNDC3A</i>	0.104	1.11	0.0621	1.68	0.0465
<i>GPR17</i>	-0.112	0.894	0.0673	-1.66	0.048
<i>PKIA</i>	0.0982	1.1	0.0596	1.65	0.0495

P was calculated by log-rank test.