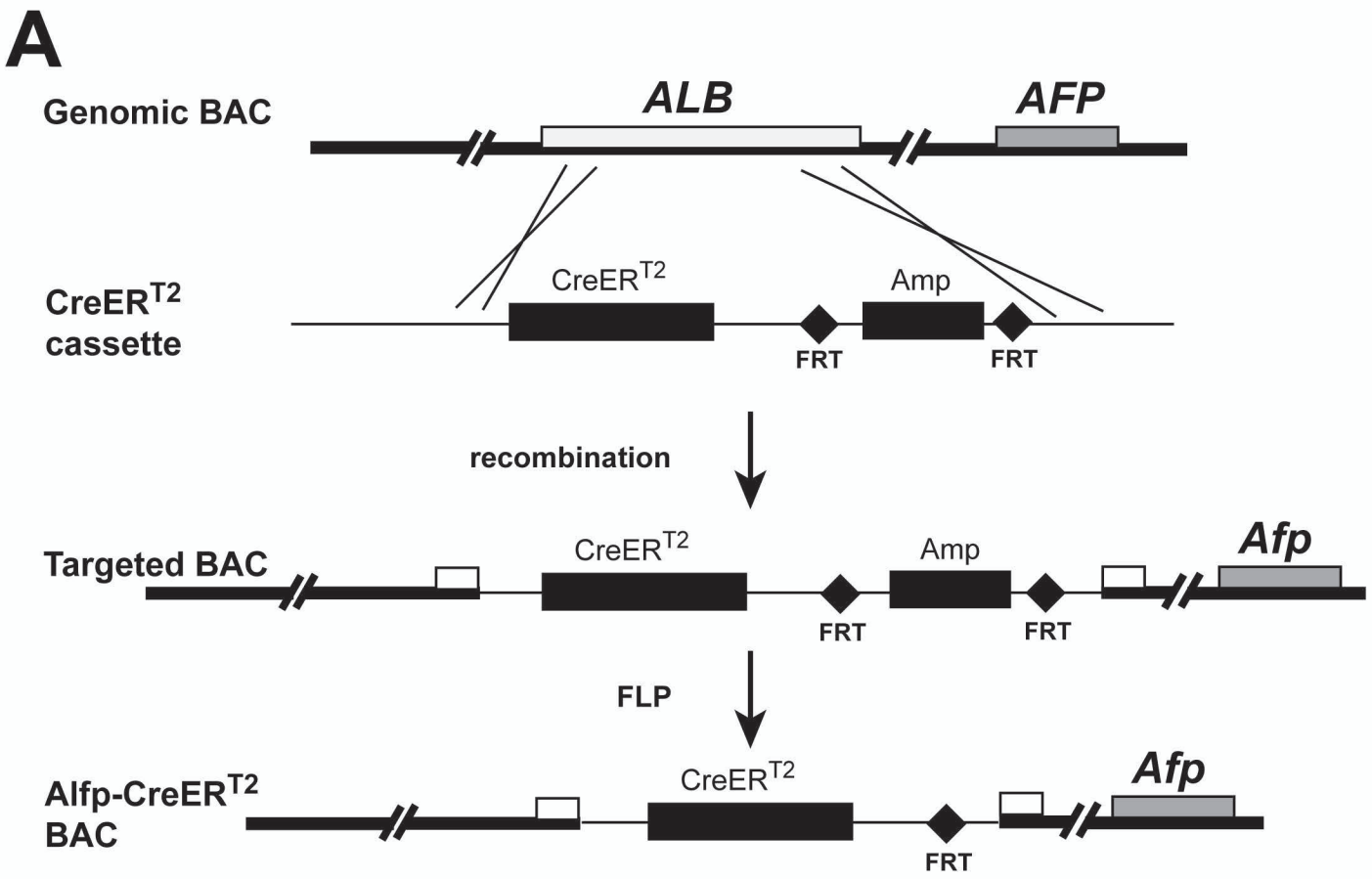
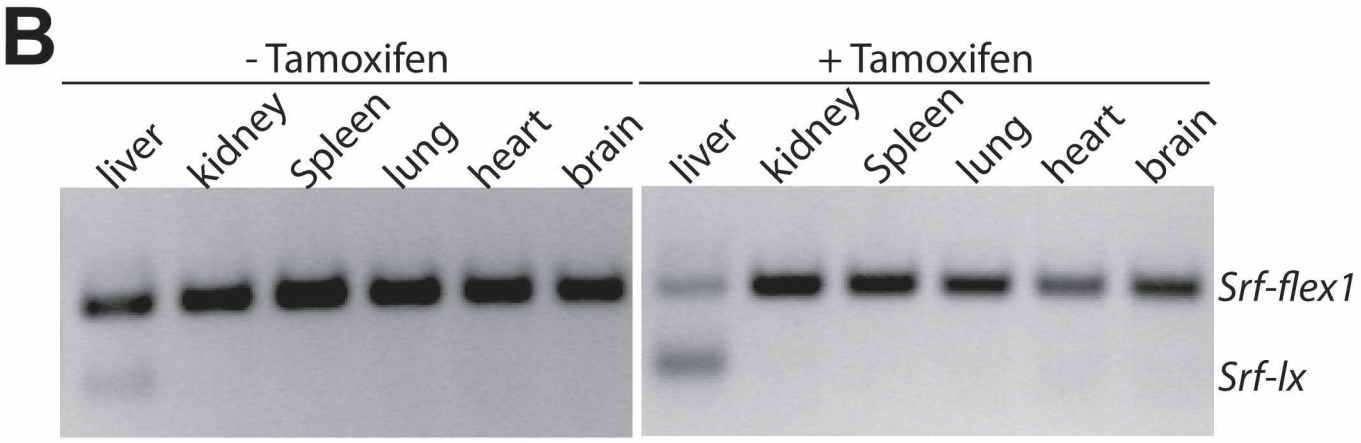
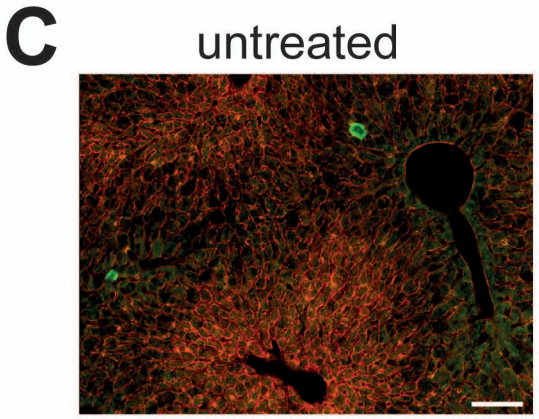
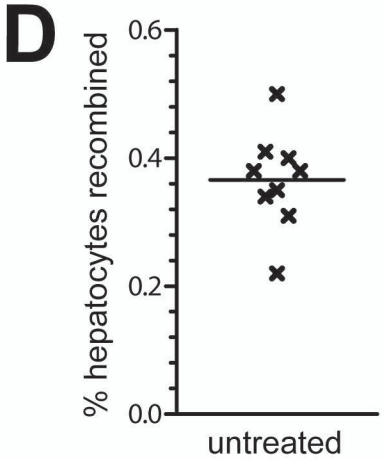
Supporting Figure 1

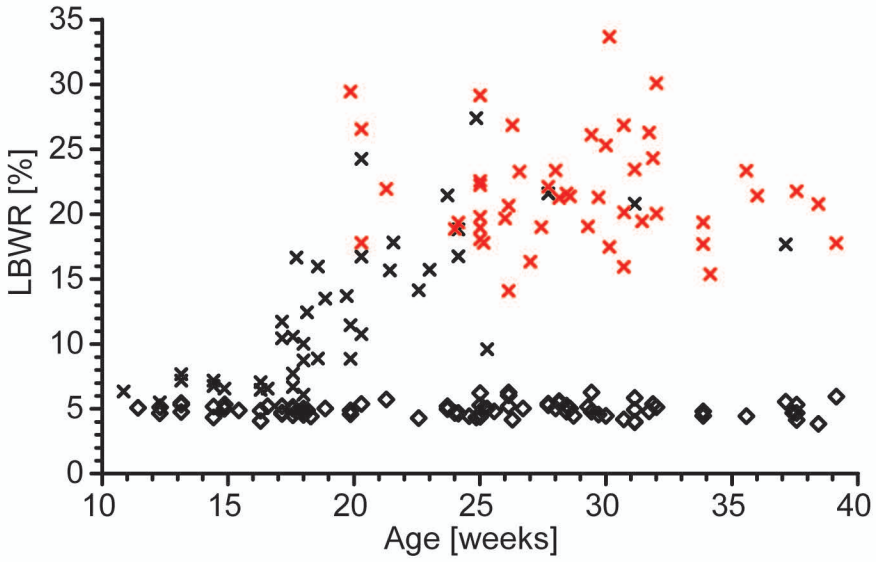


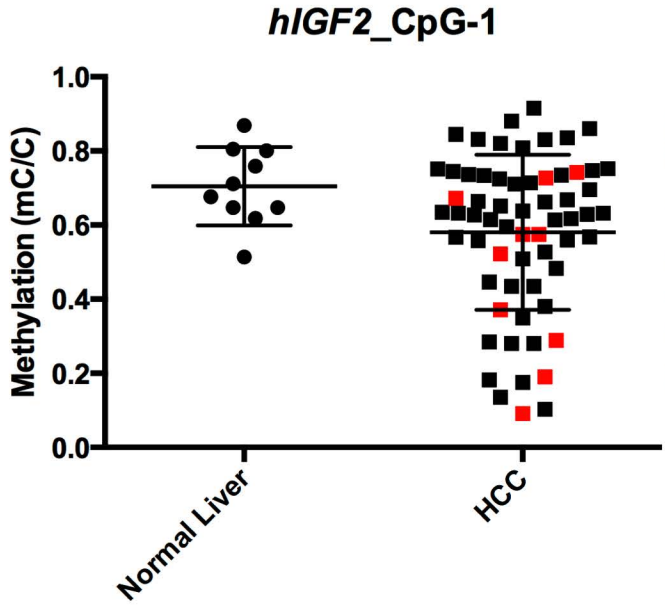


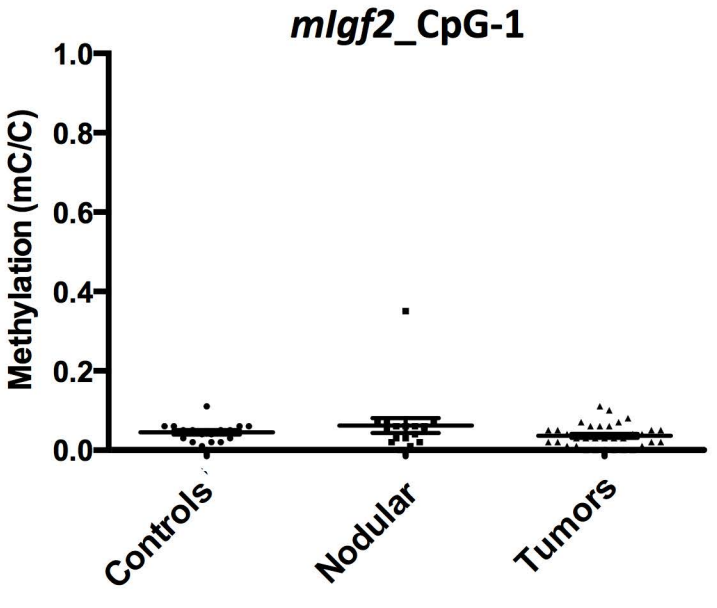


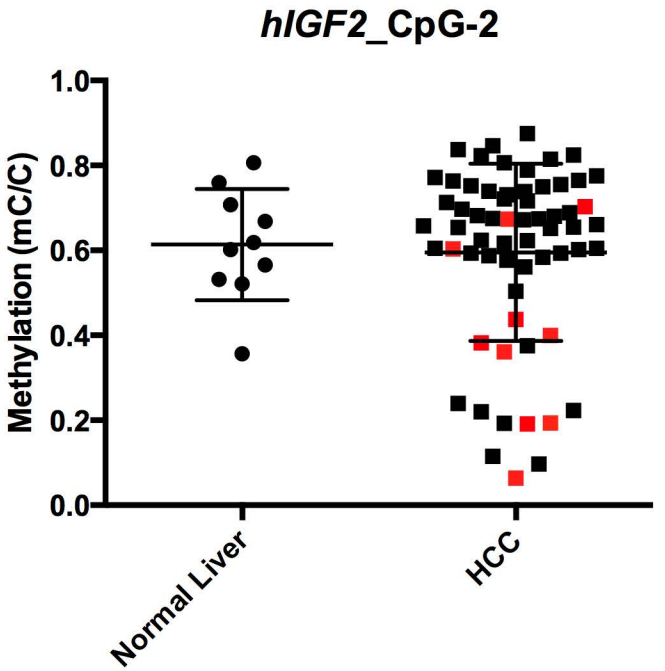


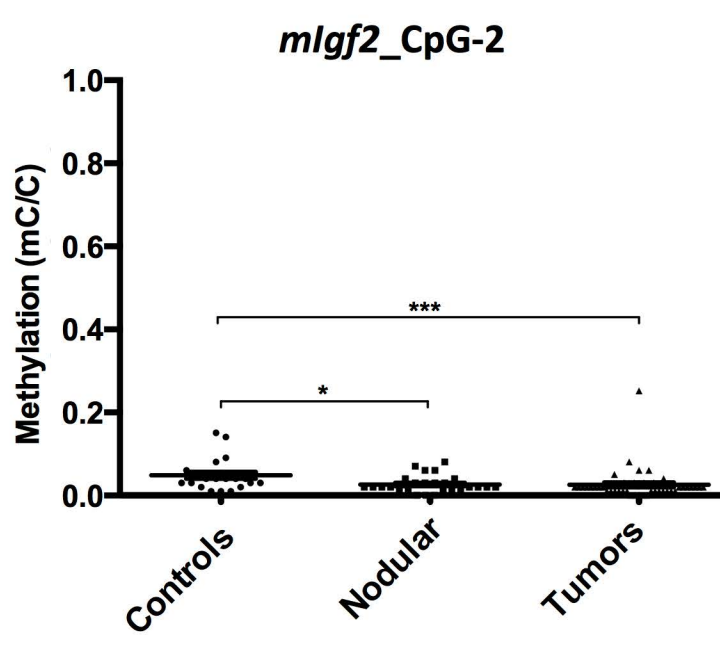
Supporting Figure 2

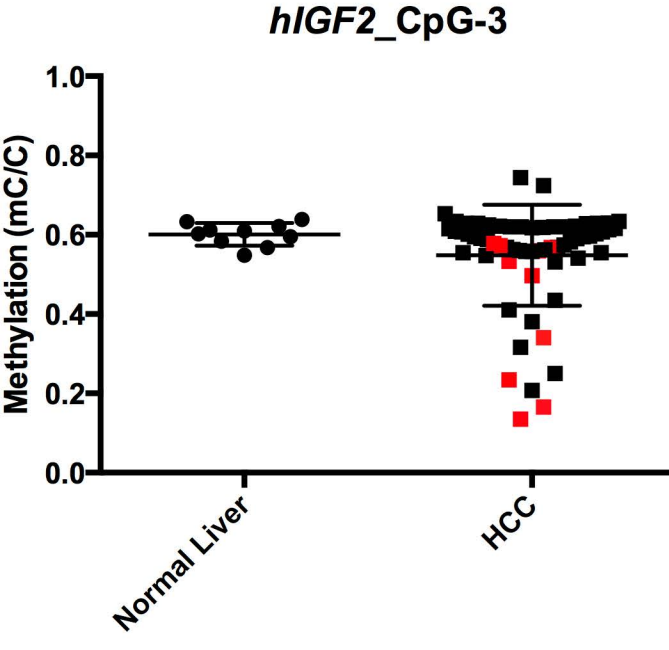


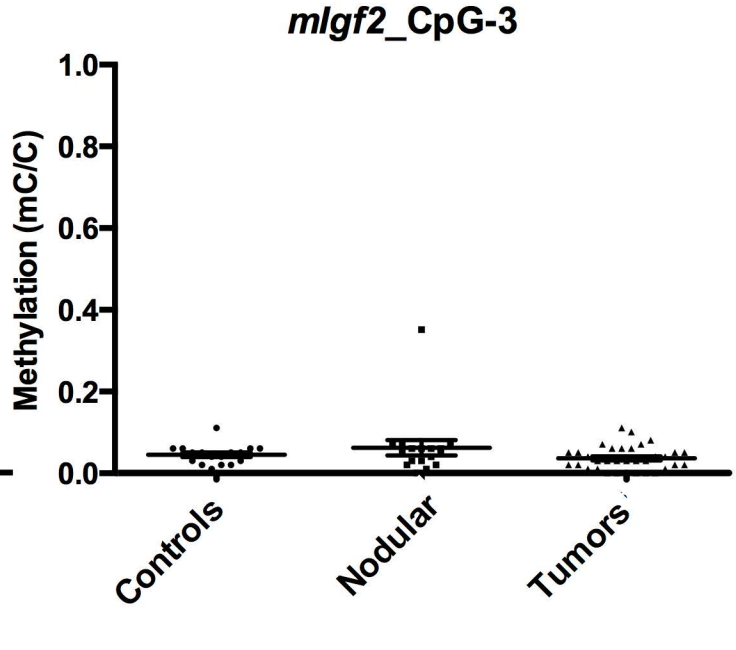

hIGF2_CpG-1
Methylation (mC/C)
1.0
0.8
0.6
0.4
0.2
0.0
Normal Liver
HCC


mIgf2_CpG-1
Methylation (mC/C)
1.0
0.8
0.6
0.4
0.2
0.0
Controls
Nodular
Tumors


hIGF2_CpG-2
Methylation (mC/C)
1.0
0.8
0.6
0.4
0.2
0.0
Normal Liver
HCC


mIgf2_CpG-2
Methylation (mC/C)
1.0
0.8
0.6
0.4
0.2
0.0
***
*
Controls
Nodular
Tumors


hIGF2_CpG-3
Methylation (mC/C)
1.0
0.8
0.6
0.4
0.2
0.0
Normal Liver
HCC


mIgf2_CpG-3
Methylation (mC/C)
1.0
0.8
0.6
0.4
0.2
0.0
Controls
Nodular
Tumors

Supporting Table 1

Sample No	Animal	Ctnnb1 mutations		
		Mutated Codon	**Nucleotide exchange**	**Amino Acid exchange**
1	A	34	GGA to GTA	Gly to Val
2	B	41	ACC to ATC	Thr to Ile
3	C	37	TCT to TTT	Ser to Phe
4	D/1	34	GGA to AGA	Gly to Arg
5	D/2	34	GGA to GAA	Gly to Glu
6	E/1	41	ACC to ATC	Thr to Ile
7	E/2	41	ACC to ATC	Thr to Ile
8	F	37	TCT to TTT	Ser to Phe
9	F/2	32	GAT to TAT	Asp to Tyr
10	G/1	37	TCT to GCT	Ser to Ala
11	G/2	wt	-	-
12	H/1	wt	-	-
13	H/2	41	ACC to ATC	Thr to Ile
14	H/3	41	ACC to ATC	Thr to Ile
15	H/4	wt	-	-
16	I	wt	-	-
17 - 26	other	wt	-	-
Control	other	wt	-	-

Supporting Table 2

Supporting Table 2, (All deregulated transcripts)				
Gene Symbol	Fold-Change (Nodular vs. Control)	Fold-Change (HCC_A vs. Control)	Fold-Change (HCC_B vs. Control)	Legend
Igf2	13.0706	106.18	104.187	-15 onwards
Bex1	4.14501	70.4085	83.8178	-3 to -15
H19	35.4462	72.6964	82.688	-3 to -1
Cpe	1.64063	46.8117	53.0535	1 to 3
Thbs1	2.08549	4.91817	51.9212	3 to 15
Ly6d	6.73055	16.5762	51.0326	15 onwards
Plat	2.29332	11.7479	49.546	
Amy2a5	1.27193	1.19032	47.5007	
Gldn	39.4078	40.8852	45.0136	
Igfbp1	3.38984	12.1705	42.3844	
Psat1	7.16688	40.6757	35.0885	
Cd63	19.9898	31.7967	34.6431	
Tff3	35.3782	21.4822	33.6629	
Car4	-1.07624	-1.01248	30.1643	
S100a6	1.17083	5.86993	24.96	
Igfbp6	2.36218	29.0217	24.672	
Gm10009	2.60015	19.0142	22.2096	
Grb10	1.20993	2.60554	21.4907	
Isyna1	5.75287	10.6821	21.4561	
Endod1	7.56378	12.2761	21.3653	
Amy2a5	1.10473	-1.02031	20.7141	
Atp6v0d2	10.3332	11.5034	19.8	
Sema3c	1.11058	-1.23529	19.5512	
Klrb1a	10.9824	52.5957	19.5293	
Vil1	9.1913	23.8275	19.3018	
Tspan8	3.09904	62.7977	18.5679	
A2m	2.17952	37.2123	18.2744	
Ngfrap1	2.14401	19.9094	17.7802	
Scd2	14.023	23.1374	17.7057	
Amy2a5	1.02195	-1.08801	17.1522	
Aldh1a2	1.27576	1.87903	17.0396	
H19	7.27607	16.54	16.8041	
Klhl23	1.4497	2.90572	16.5211	
Timp1	1.65025	47.5328	16.1436	
Prom2	19.786	7.73123	15.9955	
Gpr64	1.31667	1.16271	14.8597	
Fam180a	1.22292	1.1703	13.9817	
Myof	1.14777	4.62237	13.94	
Atp10a	1.40459	1.24109	13.9305	
BB287469	3.16481	5.00259	13.7124	
Pamr1	1.74829	12.0232	13.369	

Kcnk16	3.71014	14.0864	13.2229
Gdpd1	2.01728	10.77	13.1723
Airn	1.51036	1.8283	13.1623
Lpl	9.2723	17.1384	12.8959
Renbp	5.09671	10.5479	12.5961
Actn3	1.17095	12.833	12.4529
Elovl7	1.76477	9.87082	12.1677
Cidea	4.71218	12.7792	11.9462
S100a11	3.04926	10.1551	11.741
S100a11	2.84035	9.99611	11.5009
Tubb2b	1.00878	5.33524	11.2852
Egr1	7.12353	9.59988	11.1919
Fzd3	2.15193	9.45774	11.0001
Pfkp	2.09759	8.0406	10.9916
Gpr110	9.05365	10.0856	10.9086
Gls	2.70557	8.9526	10.83
Mfge8	5.89407	15.245	10.6241
Cd9	2.62638	8.33254	10.6122
D17H6S56E-5	6.47345	18.8674	10.5344
Slc41a3	5.1175	10.6934	10.5293
Prss8	12.5191	10.939	10.5258
Exph5	3.74248	12.1851	10.2914
Pygb	10.1333	13.0745	9.95799
Cdh1	8.5354	9.39522	9.91473
Sprr1a	1.3643	11.0886	9.88433
Anxa2	2.72963	8.79089	9.86025
Btg3	2.78741	7.46891	9.86013
Pgm5	1.00426	-2.07172	9.72864
Abca5	1.63917	4.77238	9.70687
Mtmr11	3.94909	6.62247	9.69818
Rbp1	7.8876	12.5966	9.67947
Ank2	3.11874	8.15344	9.638
Serpine1	1.00661	2.60234	9.61473
Il1rn	6.74055	13.9341	9.59099
Tspan13	1.85836	12.2182	9.55444
Anxa9	3.47984	9.54407	9.51122
Doc2b	1.53581	4.30385	9.50577
Tmprss2	1.59783	5.42373	9.42569
Btg3	2.66288	6.92621	9.08706
Klf6	1.93955	3.98327	8.95502
Fads3	1.29174	7.54847	8.95494
Gramd1b	2.4949	7.98577	8.87626
Sdcbp2	1.27869	5.98796	8.74705
Icosl	1.40206	4.1478	8.7431
Fhl3	1.91853	6.17309	8.61935
Cyp2c39	-2.4884	-3.41308	8.56776
Gpc3	1.2189	-1.0577	8.43606
Wbp5	1.98874	8.5141	8.40853

Nipal1	3.74538	6.1154	8.38608
Serpinb6a	1.09597	4.37469	8.3815
Tagln2	3.37127	12.1793	8.35988
Ctse	-1.14317	2.24757	8.32345
Npdc1	3.17838	8.58407	8.29445
Cdkn1a	2.56134	10.6345	8.26152
Rhoc	4.3488	7.8295	8.21062
Ahnak	3.63901	4.49717	8.16587
Dsg1a	8.85303	13.2246	8.11545
Fst	1.71736	2.77924	8.07653
Nid1	3.58113	6.50475	8.0618
Lgr5	-1.60272	-3.05043	7.96855
Ndrg1	1.33074	3.87773	7.9237
Tuft1	3.39158	7.78037	7.90369
Igdcc4	6.51365	8.2501	7.90271
Asns	3.13885	13.015	7.89346
Serpinb6b	3.29153	15.1716	7.88894
Alox5	6.12594	13.7385	7.87295
Prrg4	2.84183	10.1024	7.8525
B4galt6	2.67601	10.502	7.81907
Prom1	1.08693	13.2349	7.78962
1700019D03Rik	7.73199	15.8857	7.73591
Pdk3	4.58984	10.8771	7.70526
Btg2	1.94839	6.48019	7.70054
Ankrd1	1.30593	7.61296	7.68294
Nfe2l3	2.32607	5.16753	7.61183
Scn7a	1.23589	1.33226	7.58004
Qpct	1.36173	3.16435	7.57698
Dsg1c	8.14632	13.65	7.56418
Tes	1.24152	5.46319	7.53173
Emp2	3.3592	7.08816	7.46271
Arhgef2	1.75667	3.8315	7.44808
Tuba8	2.84794	5.6782	7.29897
Irak3	1.3035	5.31299	7.27636
Spon2	1.92218	8.47313	7.20515
9330182L06Rik	-1.01816	-1.19713	7.06272
Car2	1.61412	1.84939	7.03633
Lama5	1.58734	3.43088	7.02658
Bex4	1.51721	8.38808	7.00337
Gadd45b	2.92788	4.5953	6.82919
Bean	1.15701	4.26964	6.81531
Fam60a	1.60943	3.37575	6.78991
Esm1	3.60362	4.59846	6.78101
Ier3	1.08138	5.80369	6.77032
Prkg1	1.13572	1.40601	6.74905
Rnase1	1.01507	1.90926	6.73912

Shc2	3.05136	4.75543	6.69837
Cyp2a22	4.93043	4.69614	6.67687
Ms4a6b	1.34342	4.28724	6.63812
Ifngr1	2.15542	5.30745	6.54226
Afp	2.02558	6.71102	6.52713
Tnfrsf12a	1.09862	5.68673	6.48475
Vmn2r96	1.02409	1.28406	6.3979
Fam60a	1.62115	3.17408	6.3873
Ddr1	2.76707	6.42184	6.3809
Pdk4	-1.76524	-2.28266	6.37712
Gprc5b	2.11293	12.1687	6.37402
Tmem146	2.01464	2.91759	6.36124
2210415F13Rik	2.37774	42.0677	6.35613
Itpr3	1.1773	2.22053	6.31221
Tmem71	2.88098	5.26188	6.30031
Hunk	2.33346	3.49332	6.29368
Slc9a7	3.83141	5.66896	6.28187
C630004H02Rik	1.44044	5.80207	6.24923
Slc7a9	3.25909	6.81217	6.24412
Rab3d	2.80474	7.17591	6.24308
Ets2	2.14067	5.47127	6.20986
Sytl2	1.92819	7.53775	6.19514
Gpnmb	1.59939	4.53371	6.19502
Sort1	2.00931	3.24934	6.17537
Uap1l1	2.06694	4.06125	6.17233
Fstl3	1.20238	13.2344	6.15396
Slc25a4	1.19532	11.1056	6.1421
Gprc5a	-1.12317	3.77205	6.13673
Vim	1.80453	5.04181	6.11242
Psrc1	1.98382	6.49131	6.10586
Bex4	1.57299	7.25978	6.08689
Mst1r	3.71999	5.3754	6.01186
Gcom1	1.30506	1.90889	5.8833
Lef1	1.17957	-1.09654	5.87547
Nucb2	3.35072	10.505	5.87321
Rab34	1.45297	5.27628	5.83746
Gpr56	5.11677	12.1684	5.83111
Gm609	3.29495	13.9363	5.77995
Hsd3b1	2.58561	3.71798	5.76826
Avpr1a	1.13453	-3.21862	5.75576
Greb1l	3.75959	5.05224	5.69895
Arnt2	1.17737	2.32996	5.69168
Slc30a3	3.42807	2.97002	5.67673
Atf3	1.60595	4.35421	5.6749
Neto1	1.19963	9.1769	5.66694
Nedd9	2.26994	5.35801	5.65459

Sytl5	3.03613	2.93842	5.64002
Akr1b7	1.15743	1.3269	5.63946
Calml4	1.36695	1.68447	5.63328
Map3k1	1.6328	3.07655	5.63151
H2-Q1	1.20387	1.02656	5.60883
F2rl1	1.68027	5.71852	5.59453
Akr1c18	49.7676	21.7316	5.5744
Tmem229a	3.35119	4.85819	5.55358
Pak1	1.91676	6.07377	5.54321
Pls1	2.44901	5.35746	5.51857
P2rx7	3.97408	5.51089	5.49297
Bicc1	1.19575	7.15674	5.47193
Acsl4	2.65093	3.95778	5.47142
Crip1	4.21983	14.2125	5.45513
Kitl	1.08971	-1.04084	5.45247
Spire2	2.101	4.43777	5.44309
Nck2	1.75855	3.79152	5.41274
Nck2	1.7388	3.90709	5.38822
Marcks	1.2033	2.50563	5.38596
Reln	1.86953	3.13537	5.3344
Cln6	2.08005	2.10961	5.31563
Map4k4	1.23531	3.03238	5.30628
Lgi3	-1.06298	4.19448	5.30147
Il1r1	1.12411	1.63986	5.29949
Igfbp3	1.52148	3.69581	5.27951
Fxyd3	1.44729	2.63349	5.21073
Ano6	1.33296	4.19192	5.192
Kdelr3	1.30194	12.8574	5.16865
Plekha2	1.83419	5.72416	5.16824
Nrip2	4.6399	10.8553	5.15543
Cldnd2	2.91965	2.39652	5.15015
Tead1	1.03918	2.4646	5.14323
Nxn	3.96522	6.48999	5.11001
Cav2	1.82037	5.91925	4.9881
Pbx3	1.43596	3.73401	4.98795
Bace2	2.42809	5.45315	4.9749
Nkd1	-1.33408	-1.54123	4.97379
Casp12	1.23194	13.2394	4.9444
Gnai1	-1.16355	1.59782	4.93125
Msrb3	1.92161	4.03946	4.92765
Peg3	2.29478	14.9933	4.9231
Myadm	3.65914	5.59333	4.91929
Abi2	2.97396	4.61103	4.90677
Plp2	1.69916	5.35561	4.90373
Sectm1b	4.88913	8.58831	4.9001
Gipc2	1.83053	5.08525	4.89887
Lamb2	1.29096	3.08907	4.86585
Lrrc8e	2.13486	5.51888	4.86352

Krt20	25.2349	36.9497	4.85659
Sox4	1.08731	3.03844	4.85544
Clcn5	1.30899	4.17789	4.80256
Dab1	1.03268	4.40051	4.80036
Myo7b	2.01334	5.6901	4.76924
Sytl5	2.3502	2.31346	4.75861
Cpm	1.62425	3.37618	4.75455
Tgfbr2	3.27318	3.41756	4.70115
Nt5e	-1.27147	1.69504	4.6977
Myc	1.75926	2.33816	4.67115
Vill	1.53434	9.42062	4.66066
AB041803	1.44529	1.2449	4.64783
Mbnl3	1.66665	-1.10086	4.64415
Stra6	-1.23762	-1.15354	4.63909
Cyp39a1	2.25186	4.46286	4.63808
App	2.35505	5.11848	4.62793
Fam118a	1.33209	2.1546	4.58336
Tspan15	5.3506	5.13268	4.55849
Anxa3	1.11144	1.9111	4.55771
Slc24a4	1.47247	1.8503	4.54259
AU040829	1.27338	1.94409	4.51874
Nhsl1	1.94734	2.80223	4.5084
Pdgfrl	1.26066	1.32596	4.50503
Fgl2	3.57767	8.03434	4.49587
Jun	1.37278	2.56083	4.49577
Emp1	1.60918	5.04904	4.47725
Dnm3	1.81426	3.23191	4.45213
F3	1.9605	5.77645	4.45007
9430020K01Rik	2.74853	4.03468	4.42816
Mybl1	1.1249	2.61006	4.42467
Pdgfc	-1.00582	1.22476	4.40043
Kdm3a	1.49398	2.31991	4.37713
Tead1	-1.01996	2.65785	4.36727
Sorcs2	1.99351	1.7816	4.3395
Chka	1.8503	4.62245	4.33907
4930583H14Rik	1.08878	5.01167	4.33725
Ahnak2	1.28699	1.91062	4.32487
Chmp4c	1.57641	3.98372	4.30406
Tpm1	2.03419	3.72081	4.29852
Gars	1.14943	2.14023	4.29665
Tnfrsf10b	1.45766	5.73675	4.28498
Bcl2	1.71873	4.01043	4.26536
Axin2	-1.55682	-1.90796	4.26261
Cd34	2.41893	4.28237	4.24709
Lipn	1.13009	11.7467	4.23466
Rab11fip5	1.70224	2.30633	4.22295

Slpi	1.0836	7.27965	4.22289
Eppk1	1.72853	2.89305	4.22017
Wisp1	1.06314	3.25814	4.20828
Fam164a	-1.07379	4.23514	4.20138
2310014L17Rik	2.83497	2.95718	4.1966
Ift57	1.02921	4.74934	4.1962
Dgki	-1.00017	1.00768	4.19226
Nbea	1.542	-1.15957	4.18891
Nhs	1.03324	1.1865	4.17909
Mpped2	1.06649	1.21094	4.17671
Ppl	2.03116	3.58744	4.17298
Tubb6	1.62878	5.80135	4.15945
Osmr	1.94046	6.47489	4.1503
Plp2	1.51168	4.284	4.14651
8430408G22Rik	1.67028	1.35312	4.1424
Tm4sf4	1.24868	3.50315	4.12694
Scn1b	1.9556	4.26867	4.11135
Igfbp2	2.41207	1.50469	4.10303
Bicc1	1.0846	5.02574	4.09107
Aph1b	4.71319	5.51693	4.07686
Dapp1	1.7537	5.15539	4.06593
Atp8b2	1.47684	3.76801	4.0435
Meg3	1.54929	1.84969	4.03932
Unc5b	1.15499	2.87726	4.03812
Syt12	1.62041	3.31475	4.03099
Wfdc3	-1.00673	6.50794	4.02464
Acot9	1.41582	4.53745	4.02427
Cpd	2.90292	4.83164	4.02178
Flna	1.25121	3.12101	4.01645
Pawr	1.59562	2.53621	4.01331
Reep2	1.61276	4.89227	4.00625
Vsig10	1.95755	3.41315	3.99968
Gm106	-1.06414	-1.11429	3.99904
Nup93	2.26485	4.06977	3.95922
Bglap-rs1	2.81185	8.99936	3.94107
Large	1.38289	3.41726	3.93582
BC016579	1.91294	2.64391	3.93322
Kif5c	1.45518	5.20984	3.92793
Kif26b	-1.15818	-1.06891	3.92261
Igf2r	1.25006	1.86361	3.92101
Gm5068	1.4691	3.32936	3.91514
Ophn1	1.57477	2.32817	3.91021
Pqlc3	1.15279	4.56658	3.90818
A930039A15Rik	-1.11859	-1.8525	3.90423
Slc1a4	2.13713	3.45931	3.90342

Cd24a	1.29066	2.83077	3.89559
Ctps2	2.56166	4.45756	3.89212
Vat1	1.19325	3.19253	3.88115
Samd4	1.63082	2.58163	3.87426
Slc13a3	1.10204	-1.30609	3.85914
Ip6k2	1.45756	2.29722	3.85898
Tlr1	2.82985	5.48467	3.85342
Tubb2b	-1.05615	2.21446	3.83744
Lysmd2	2.74342	5.61356	3.82383
Stk39	1.3987	1.81507	3.81425
Cyp1b1	1.1714	1.61994	3.80599
Tcfcp2l1	-1.23418	3.53597	3.77991
Mfsd7c	2.09292	2.19617	3.77627
Fam46a	2.40949	2.41219	3.76938
Phf16	1.20743	1.95792	3.75937
Pvr	1.4959	3.7118	3.75486
Mllt3	1.76269	3.22563	3.75399
Ahr	1.07848	-1.1266	3.74628
Plp2	1.44989	3.76823	3.73505
Slc6a8	2.15762	3.78039	3.73228
Aebp1	2.42105	6.68952	3.73151
Rbm3	1.91291	3.86143	3.73123
Rbm3	1.99141	3.84582	3.72106
Tmem159	2.11069	3.87068	3.71105
Nhsl1	2.06731	2.38845	3.7094
Rnf145	2.77777	1.97041	3.70769
Fndc3b	3.06655	4.50885	3.69663
Gria3	4.80474	3.29561	3.69443
Trib2	1.14067	-1.03944	3.69378
Zfp791	2.60988	1.79013	3.69193
Jub	1.70833	2.85167	3.6866
Abhd2	3.97243	3.67989	3.67789
Kbtbd11	1.10593	1.78587	3.6646
Amot	1.86196	2.69374	3.64281
Gm16368	1.86886	1.69534	3.64028
Fam46a	1.80852	2.17444	3.63448
Usp18	1.6608	1.31658	3.63422
Slc1a5	1.34936	1.5014	3.62642
Mthfd1l	1.89189	2.60746	3.61965
Rbm3	1.88842	3.65444	3.6174
Itpripl2	1.14153	3.53884	3.61548
Tnfrsf19	-1.06917	-1.07949	3.61079
Tcf7	1.58987	1.36497	3.60845
2900073G15Rik	1.538	3.369	3.58323
5430435G22Rik	1.06237	4.0124	3.58242
Lrrc39	1.41063	3.6271	3.57449

Slc36a4	1.75749	2.26485	3.57346
Ccdc120	1.74833	2.57961	3.56563
Dnase2a	1.46145	1.81648	3.55765
Spnb1	1.29476	1.34631	3.55625
Kcnk6	1.43689	3.51939	3.52936
Lass5	1.18263	4.5423	3.52472
Cldn4	2.42913	6.31882	3.49684
Sestd1	2.46276	2.70033	3.48568
Ctnnal1	1.31961	3.19723	3.48299
Gas5	1.06989	2.0137	3.48149
Tubb5	1.66085	3.08278	3.45829
Slc7a5	-1.13822	1.99886	3.42924
Bcas1	1.007	2.19729	3.42867
Lrrc20	1.55586	3.45442	3.42526
Etl4	1.71862	2.09061	3.4242
Dst	1.30004	1.5423	3.42389
Trpm4	1.73068	2.57956	3.42261
0610010O12Rik	2.42824	4.61777	3.42223
Ehd2	1.27954	2.21252	3.41551
Rnf157	1.00614	2.07279	3.40509
Alpk1	1.65124	2.24658	3.4031
Bcl2l11	1.79753	2.62299	3.3986
Paqr4	2.54715	3.07095	3.38889
Plxdc2	1.2421	1.3925	3.38607
Asap2	1.06441	1.55682	3.38489
Fabp4	1.80352	3.77438	3.38366
Tmtc1	1.06315	1.31514	3.37569
Crip2	1.65246	2.30151	3.36999
2210404O07Rik	3.39894	7.82352	3.36835
Sparcl1	-1.04515	3.58349	3.36672
Epdr1	1.02145	3.43673	3.35557
Ptpn21	1.12247	1.65068	3.35423
Gas7	1.67387	2.86578	3.35126
Plekha1	1.70521	3.46835	3.35078
Cstb	1.3504	4.23136	3.3417
Wdr1	2.02059	3.50992	3.33673
Pdp1	1.62322	4.86772	3.33339
Dpysl5	1.11961	3.15093	3.32346
Itga3	-1.11704	2.27527	3.32297
Myh9	2.03021	3.16179	3.31906
Sstr2	4.20507	8.52599	3.30849
Scn3a	1.09246	1.12372	3.30656
Exoc6b	1.26993	2.2112	3.30552
Enc1	1.10151	1.77068	3.3031
Wnk4	1.33303	1.59406	3.30218
Lcn2	1.63729	17.7337	3.28789

Cdkn2c	2.3356	2.99309	3.28594
Mmp14	1.5002	2.78963	3.28305
Phgdh	1.66327	5.22063	3.27777
Tmc5	1.1605	2.62909	3.27503
Dgke	1.15995	2.56683	3.27107
Sec61a2	1.33422	2.01255	3.26656
Ctgf	1.9353	1.74696	3.26534
Rragd	1.64905	10.8864	3.26175
Rtkn	2.06001	3.43581	3.25804
Zfp618	2.14112	4.83179	3.25768
Vsig10	1.66996	2.57284	3.25672
Epha7	1.14909	-1.32428	3.25042
Fmnl3	1.13825	2.39884	3.24639
Phgdh	1.44927	5.75616	3.24527
Pole2	3.40993	3.21874	3.24276
Itga6	2.09885	7.94726	3.23693
Stmn1	2.19093	3.65504	3.23132
Rims2	2.13158	3.10722	3.23113
Arhgap11a	1.8474	3.42247	3.22875
Trim50	1.12815	1.00061	3.22841
Gfpt2	1.05911	2.47068	3.22222
Apobec3	1.33143	13.6147	3.21626
Stmn1	2.2039	3.65171	3.214
Numbl	1.42624	2.56243	3.21099
Rictor	1.42497	1.85735	3.20773
Mpzl1	1.43162	3.30406	3.20468
Rell1	1.80201	2.37196	3.2019
Rybp	1.47197	2.71833	3.19489
Tspan5	1.14389	3.57844	3.19162
Fat1	1.47838	2.35104	3.18862
Nrbp2	1.47467	2.68971	3.18454
2410089E03Rik	1.5094	2.22155	3.18185
Unc13b	3.03116	3.96099	3.18067
Pkp1	1.42102	1.79892	3.16956
Idua	1.7041	2.52041	3.16505
Gpr153	1.10997	1.66547	3.16326
Dnajc12	1.76252	4.7354	3.15167
Slc8a3	1.06258	2.19543	3.13899
Ptgfrn	2.21878	3.62003	3.13805
Mum1l1	1.00911	1.68158	3.13725
Mmp7	-1.1142	-1.12938	3.13255
Grhl1	2.63475	2.06176	3.13136
Fam84a	1.60596	1.64956	3.13067
Prkx	1.71054	2.87214	3.13025
Ptbp2	1.20041	1.44252	3.12633
Slc44a3	1.89303	5.04391	3.12551
Rasa2	-1.06614	2.5915	3.11606

Zfp9	1.74462	3.64312	3.11546
Fos	1.27432	1.60926	3.10977
Slc1a2	-2.23842	-11.8737	3.10488
Shroom3	1.89182	2.56313	3.10174
Slc12a4	1.48837	2.45808	3.097
Krt18	1.65374	3.84959	3.0962
Rdh9	-1.33459	-1.39056	3.08999
Rock2	1.0611	1.18219	3.08902
Ttc3	1.4613	2.60865	3.08061
Irs2	-1.05254	-1.3496	3.07847
Ica1	2.26926	3.47368	3.07693
Trim2	1.4329	2.55845	3.07602
Cyp4f16	1.83697	3.56279	3.07528
Sorbs2	1.76062	2.31093	3.06947
Mrgprg	-1.03128	-1.11822	3.05733
Gm10567	1.40646	4.68113	3.05429
Eid1	1.28117	3.15226	3.05171
Vcl	1.98027	3.01356	3.04936
Gramd1a	1.07206	1.46803	3.04057
Dmxl2	1.19991	1.65902	3.03558
Sorl1	1.64714	2.92408	3.0352
Eif2ak3	1.59102	2.69956	3.03238
Net1	1.19313	1.58124	3.02838
1500012F01Rik	1.40412	2.15192	3.02662
Sox9	2.85455	4.75335	3.02587
Hectd2	1.31606	2.43945	3.02412
Rps6ka3	1.50258	3.35892	3.01453
Cd44	1.12852	4.12731	3.00186
Spink3	1.74215	25.108	2.11021
Anxa13	1.52808	24.8867	1.47762
Efcab3	1.32825	21.0875	2.514
5330417C22Rik	6.04037	15.9789	2.71617
Spp1	4.52688	13.8923	1.3279
Ace	1.30817	13.8728	1.83873
Tmem54	6.51667	11.7996	1.8518
Casp4	1.18383	11.4213	1.50064
Cxcl17	1.15934	10.977	1.80099
Capsl	1.97942	10.3305	1.40484
Ttc9	1.01419	9.88011	2.42048
Cdhr2	1.12499	9.65945	1.84515
Ccl2	1.17915	9.64489	1.90195
Chrm3	1.98663	8.98505	1.23318
Ostb	-1.02159	8.95724	1.53342
1600029D21Rik	3.76773	8.49085	2.12039
Prelid2	-1.20065	8.2288	2.10247

Tnnc1	-1.05292	8.17795	1.90236
Efemp2	1.25906	8.1605	2.33074
Fam81a	4.50633	7.93508	2.56567
Myo5c	2.11271	7.90076	2.94094
Dhrs9	1.55742	7.55449	2.86769
Ggt1	1.11244	7.36693	1.071
Fam132a	1.11751	7.30009	1.10178
C1ql3	1.17107	6.58114	1.35727
Golm1	1.33781	6.5084	2.5038
Cxcl14	1.65533	6.44427	1.51129
Phlda2	2.57655	6.26793	1.83969
Pla2g2e	6.43439	6.23701	2.02707
1810010H24Rik	2.35195	6.19891	2.24434
Dram1	1.41744	5.96458	2.74477
Atp1a2	1.16437	5.89202	1.23887
Ccna2	4.08744	5.77959	2.9326
Pcolce	2.53446	5.77224	2.74246
Glipr2	1.04867	5.69497	1.17986
Epcam	1.55748	5.6346	1.6268
Sema5a	1.03488	5.62451	1.30229
2610524H06Rik	1.5817	5.39241	2.55282
Elf3	1.46536	5.29875	2.24086
Slc34a2	5.15466	5.21093	1.81462
Vdr	-1.10364	5.17244	1.10477
Bglap2	1.77727	5.14621	2.22917
Lrrc8b	1.64172	5.13372	2.71459
Bcmo1	1.97528	5.0878	2.73642
S100a8	1.06984	4.98835	1.20271
Hmgcll1	1.06662	4.92671	-1.03065
Fkbp11	2.51529	4.90509	1.70659
Mthfd2	1.1032	4.85179	1.72863
Psph	1.27072	4.77745	2.88495
Fam129a	1.06526	4.76712	-1.59952
Casp1	-1.23351	4.71603	-1.44746
Sgce	3.14559	4.67378	-1.67344
Diap3	1.42102	4.61966	2.50718
Lxn	1.20454	4.615	-1.04486
Enpp2	3.6119	4.60495	2.42676
Srd5a2	3.32762	4.56317	1.70184
Ccr2	1.30151	4.54444	1.30821
Slamf9	1.20332	4.5419	1.96308
Orai2	2.69404	4.48608	2.85138
Sparc	1.9448	4.48549	2.18533
Kcnj10	1.04966	4.44849	-1.0689
Slc23a3	1.20829	4.41989	2.45681
Smpdl3b	2.23884	4.41703	1.90876

Sgpp2	-1.00238	4.39923	-1.05836
Pgm1	1.71127	4.3876	2.79074
Orai2	2.53544	4.36945	2.80993
Crym	1.46569	4.36336	2.00062
Hhipl2	1.9142	4.35012	1.48569
Me2	1.66176	4.32252	1.62299
Aldh18a1	2.38784	4.28523	2.76662
Igf2bp3	2.33669	4.27645	1.75916
Plscr1	1.46564	4.27564	1.94691
Fry	1.20222	4.27259	1.67762
Galns	4.22807	4.26263	1.40054
Trpv4	2.26583	4.23127	1.39634
Cyb561	1.49211	4.20753	1.26638
Vcam1	1.45989	4.20603	-1.32577
Saa3	1.24202	4.20219	-1.47618
Ccnb2	3.10196	4.13368	2.50585
Taf9b	2.17821	4.12318	2.97438
Omp	3.8823	4.10505	2.6057
Plscr1	1.37352	4.09517	1.9741
Hk1	1.50563	4.06462	2.62097
Ccdc68	1.55249	4.01235	2.30383
Fam73a	1.1803	4.00687	2.2202
Gm5246	1.66024	3.98459	2.95807
Tnfaip8	1.28525	3.97753	2.79578
Rap1gap	1.5564	3.97117	2.48443
Prr15l	1.46584	3.9606	2.06629
C130026I21Rik	1.13374	3.95929	1.98223
Igsf8	1.76647	3.92174	2.97377
Nebl	1.17264	3.90445	1.2805
Phlda3	1.2613	3.87755	2.42398
Egr2	1.55594	3.87394	2.04193
Ccnb1	2.97612	3.8552	2.86238
Tmem165	1.74051	3.8543	2.44776
Igk	2.20057	3.85046	1.36456
Glis3	1.25814	3.8259	1.51958
Tceal8	1.51805	3.81012	2.64423
Loxl4	1.03293	3.77008	2.04249
Osbpl3	-1.15241	3.76693	-1.1951
Pglyrp1	1.09443	3.72904	-1.06448
A530040E14Rik	-1.04839	3.70954	1.88021
Myo5a	1.17514	3.70345	2.25269
Bcl2a1a	1.19188	3.68306	1.6418
Scamp5	2.05986	3.67065	2.9913
Slc7a11	1.00846	3.65972	-1.01119
Nupr1	1.42806	3.65767	1.3913
LOC10004705	1.95632	3.62547	1.15185

3			
Fabp5	3.11716	3.6237	2.15344
Sh3bgrl3	1.53659	3.62086	1.59473
Plxna3	2.08604	3.61558	2.38622
Sh3pxd2b	1.26232	3.58456	2.34945
Dnajc10	1.68331	3.5784	2.51485
Fabp5	3.13406	3.56731	2.13322
Ptgr1	2.78586	3.55907	2.68079
Scara3	1.04935	3.54333	-1.10428
Pfn2	1.53016	3.53074	2.12991
Pdgfb	1.19982	3.52279	1.49362
Serinc2	-1.77821	3.52212	-1.54283
Vsig10l	1.21645	3.49795	2.57053
Ccne1	1.91048	3.49768	1.99031
Armcx3	2.90872	3.49536	2.99421
Bub1	2.13788	3.48995	2.71733
Ccrl2	1.55567	3.48268	1.84293
BC021614	3.64146	3.47997	2.23941
Bcl2a1b	1.1627	3.47516	1.58958
Rcan3	1.06628	3.47336	2.14719
Rhoq	-1.01568	3.46572	2.26019
Bcl2a1d	1.16664	3.45036	1.60672
Wdr67	3.02523	3.44967	2.18439
Mphosph6	1.32693	3.43517	2.24593
Krt8	1.69744	3.43237	2.83389
Pold4	2.91824	3.42314	2.42459
Aim2	1.35405	3.41258	2.96916
Il10rb	1.66288	3.40541	2.86287
Emb	-1.04847	3.40079	1.35349
Hmmr	1.80427	3.39959	2.47429
Ms4a6d	-1.09629	3.3976	2.50704
Tceal5	1.11231	3.38893	1.94724
Ms4a7	1.04557	3.388	1.62489
Nol3	1.7378	3.3876	1.13019
Pdgfa	2.32682	3.38694	2.72126
Hbegf	1.57028	3.38424	2.96898
A530040E14Rik	-1.08433	3.38172	1.62231
Timp3	1.54039	3.38018	2.19682
Crtap	1.53212	3.37533	2.30667
Clec5a	1.08813	3.37144	1.18641
Ggct	1.89925	3.36009	1.94949
Slc41a2	1.07073	3.35404	2.49805
Scel	1.09913	3.31685	1.11478
Socs2	3.23613	3.31477	1.73806
Tmx3	1.76399	3.2994	2.8267
Cacna1e	1.04119	3.29345	2.95121
Top2a	2.37436	3.2838	2.55678

Arfgap3	1.50808	3.28281	2.74291
Plaur	1.08563	3.27997	2.64468
Cgref1	1.50038	3.27831	2.65368
Gm6644	1.80848	3.2684	2.41882
Adck4	1.96002	3.26354	2.17934
Igf2as	1.01161	3.24165	2.53275
1700001L05Rik	2.56244	3.24038	2.22092
Mki67	2.56117	3.23646	2.37516
Slc39a5	-1.00316	3.21971	-1.503
Plce1	1.96075	3.2103	1.62738
Slc6a1	-1.02864	3.20528	-1.0345
Anxa5	1.91645	3.20169	2.63096
Fam115a	1.96861	3.18837	2.71062
Mcm6	1.56469	3.18724	2.35752
Ms4a6c	-1.03739	3.18283	-1.18431
Clca1	1.62671	3.18208	2.31844
Gm6644	1.64396	3.17883	2.32851
Ntn4	1.80781	3.17871	2.85914
Adamts15	1.43394	3.17789	2.30529
Cd14	-1.09376	3.17474	1.4162
Mad2l1	2.14406	3.16965	2.46802
Twf2	1.34737	3.16602	2.43782
Akr1b3	1.65854	3.16128	2.34594
Clec4e	1.11912	3.15486	-1.09039
Ppap2c	1.96934	3.14494	2.48197
Itgb8	1.09948	3.14482	2.11063
Creb3l2	1.70993	3.14193	2.62378
Fkbp1b	1.07616	3.11491	1.2946
Rbl1	1.95357	3.10344	2.54574
Mastl	1.75543	3.103	2.70817
Tgfb2	1.18532	3.09199	1.61385
Pdzk1ip1	1.37252	3.089	2.0875
Sectm1a	3.06015	3.08658	2.72619
Rgs10	1.05716	3.08426	1.03974
St14	1.99359	3.07943	1.16966
Cap2	1.11051	3.0788	1.0465
Loxl4	1.04204	3.07572	1.96935
Itgam	1.06706	3.07548	1.54883
Defb1	3.6354	3.06475	-1.1975
Prkca	1.25244	3.06471	1.70521
S100a9	-1.12163	3.05589	-1.04692
Icam1	1.32205	3.0526	1.37369
Hddc2	1.18037	3.0472	1.85751
Prtn3	1.69182	3.04661	1.88714
LOC641089	1.70355	3.04282	1.33423
Ptpre	1.0753	3.04129	-1.101
Syt17	1.35914	3.0363	1.89104

Ano10	1.6292	3.03071	2.52269
Capg	1.30511	3.01905	1.29904
Casc5	1.9168	3.00925	2.37184
Kctd17	1.8587	3.00923	2.82751
Lgals3	1.12647	3.00285	2.76212
Moxd1	10.1789	-1.32923	-1.36541
Aldh3b2	6.249	1.81808	2.48684
Cib3	3.65659	1.01836	-1.48786
S1pr3	3.64268	-1.10253	1.55324
1700055N04Rik	3.40565	1.32253	1.73873
Saa2	3.28328	1.55833	-12.2829
Mmp12	3.26368	2.00449	2.72542
Spint1	2.99066	1.70505	1.53346
Saa1	2.9618	1.72521	-7.32979
Itih5	2.68729	1.80806	1.30103
Armcx3	2.52167	2.84036	2.58994
Grem2	2.49187	1.41648	2.88383
Enpp1	2.48106	2.52511	2.8159
Rtn4r	2.4797	2.30145	2.31414
Clec2h	2.45858	-3.42541	-3.81134
Tbc1d30	2.45793	1.25933	1.62007
Oxa1l	2.45037	2.79106	1.90967
Slco1a1	2.44495	-11.662	-18.6103
Gcnt4	2.43628	2.04704	1.9599
Cyb5r1	2.4297	2.72665	2.54919
Ell3	2.41396	2.33965	1.86406
A730020M07Rik	2.38347	2.34428	1.10075
Prc1	2.37678	2.95884	2.67791
Slc20a1	2.33606	2.31441	2.71006
Klhdc1	2.32102	2.06971	2.42284
P2rx4	2.30419	1.88809	1.5335
Armcx3	2.29455	2.83335	2.44257
Plk1	2.27603	2.94695	2.03622
Rasal1	2.26929	2.88154	2.49242
Sh2d4a	2.23222	2.61771	2.9368
Gpr155	2.20814	2.77934	2.31898
Il17rb	2.20666	2.17153	1.4719
Rnf39	2.1941	1.57018	1.65306
1700055N04Rik	2.1885	1.14036	1.24762
Plek2	2.18058	2.60649	2.43095
Rrm2	2.13227	1.43612	1.64964
Ifi44	2.13133	-1.17783	-1.54006
Ppif	2.11272	1.99276	1.18063
Soat2	2.10889	1.37261	1.24394
Rxfp3	2.10146	1.24178	-1.02996

Socs2	2.10145	2.10983	1.35845
Rrbp1	2.0868	2.00107	1.38365
Rdh5	2.07683	-1.07817	-1.51488
Hist1h2ak	2.07012	2.14429	2.15846
D630045J12Rik	2.06044	2.17122	2.579
Pion	2.05146	1.23434	1.04655
Hsd17b14	2.04953	2.65733	1.15479
Greb1l	2.04797	2.46443	2.8135
Krt23	2.03758	1.65799	-2.28933
Slc43a1	2.03293	1.74055	1.52668
Foxq1	2.02584	1.1375	1.12775
Pla2g12a	2.02473	1.78646	2.7399
C8a	2.0195	1.14904	-7.6401
Osgin1	2.00456	2.54878	2.30068
Mup3	-1.11015	-15.3342	-157.691
Es31	1.0501	-43.9168	-103.465
2810007J24Rik	-1.71609	-75.4588	-98.8299
C9	-1.2022	-4.11377	-89.9319
Gm4738	1.05	-61.7125	-70.2064
Ugt2b1	-1.56119	-35.5483	-67.5393
Orm1	-1.40025	-2.90536	-62.9089
Ugt3a1	-2.17244	-16.7324	-62.6456
Thrsp	-2.54556	-29.6304	-51.3951
Elovl3	-4.80674	-36.6054	-43.5567
Cyp2j5	-1.55223	-2.10773	-42.2503
Keg1	-1.03658	-13.4054	-41.9946
Hpd	-1.28824	-14.2161	-39.935
Gls2	-1.55575	-10.6788	-39.2034
Cmah	-1.10026	-16.2912	-37.9393
Aass	-1.54603	-7.70864	-37.1446
Mfsd2a	-5.36553	-37.0946	-33.9815
Inhbe	-3.95926	-8.62856	-31.5856
Mme	-4.59979	-7.50045	-30.168
Cyp2f2	-1.03224	-6.19571	-29.8694
Agxt	-1.31939	-8.27962	-28.5971
Sucnr1	-4.83961	-20.6001	-26.9794
Abat	-1.58125	-4.34325	-26.9604
Raet1d	-3.44794	-3.10377	-26.5803
Hsd3b5	1.28639	-21.5509	-24.9099
Tdo2	-1.21118	-4.58523	-21.2744
Mup21	-1.49235	-18.9458	-21.0496
Cyp4a14	-21.9139	-96.1473	-20.321
Otc	-1.18503	-5.7384	-19.9687
Serpina4-ps1	1.77426	-15.5098	-19.8463
0610012H03Rik	-2.11215	-10.0672	-19.3012

Slco1a1	2.44495	-11.662	-18.6103
Orm2	-1.25843	1.4124	-18.4547
Ces1	-1.52999	-8.57218	-18.2617
Mbl1	-1.89171	-4.72049	-17.8056
C730048C13Rik	-1.86867	-19.5842	-17.7807
Acss3	-7.02517	-18.9085	-17.6883
Sdr9c7	-1.9051	-12.7519	-17.4906
Ido2	-1.26205	-5.03804	-17.0566
Mosc1	-1.30738	-5.52151	-16.9653
Cyp2c54	-1.78193	-21.775	-16.9421
Apol7a	-2.27131	-8.2697	-16.9009
Car5a	-2.12968	-10.8953	-16.7914
Fitm1	-3.88508	-6.96551	-16.5896
Cpamd8	1.30467	-2.19678	-16.5526
Pck1	-1.07902	-22.8687	-16.4268
Rdh16	-4.50553	-14.8319	-16.3016
Aadat	-1.24916	-6.10411	-16.2675
AI317395	-1.844	-10.7372	-16.2476
Es22	-1.96956	-13.5656	-16.2051
Apon	-1.28706	-7.1608	-16.0734
Car1	-1.42439	-11.2627	-14.7245
Apoa5	-1.2748	-22.3583	-14.6832
C6	1.24998	-3.89536	-14.4614
Gldc	-1.60604	-1.35992	-14.3985
Mup1	-1.28606	-5.63123	-14.1978
Gnmt	-1.53377	-6.2445	-14.1598
5033411D12Rik	-2.75522	-12.4882	-14.0102
Haao	-1.36658	-4.11217	-13.8036
Sds	-1.07852	-3.09316	-13.5563
Igf1	-1.05471	-4.04717	-13.5554
Slco2b1	-2.04209	-11.6884	-13.4627
Nnmt	-1.89581	-7.85771	-13.3646
Nudt7	-1.47731	-8.49655	-13.0738
Cml2	-1.2038	-4.80235	-13.0582
Gm4952	-2.14332	-8.94567	-12.6285
Gm5631	-1.66223	-14.1673	-12.5655
Slc3a1	-1.33239	-2.57254	-12.4926
Suox	-3.00183	-11.7857	-12.4475
Cd5l	-1.10284	-11.2692	-12.3296
Saa2	3.28328	1.55833	-12.2829
Prhoxnb	1.11371	-6.67979	-12.267
Vsig4	-1.26075	-18.0069	-11.9548
Hal	-1.09034	-3.15051	-11.807
Lipg	-3.77272	-10.9928	-11.6918
Gabbr2	-2.17032	-9.40358	-11.6512
Mettl7b	-1.80643	-9.86267	-11.53

Paqr9	-3.21697	-5.84537	-11.3163
Mup2	-1.16274	-4.84824	-11.2474
Necab1	-1.32548	-2.75222	-11.0949
Mup2	-1.15778	-4.38893	-11.0431
Afmid	-1.3562	-4.21059	-10.918
Hsd3b2	-1.46149	-9.90673	-10.7892
Mup2	-1.16625	-4.12174	-10.669
Cyp2c50	-2.0156	-33.9755	-10.447
Abcc3	-2.87789	-3.26587	-10.4455
Mmd2	-3.03719	-9.49965	-10.3618
Kynu	-1.37385	-2.74381	-10.3611
1100001G20Rik	-1.95094	-5.44181	-10.3537
Inmt	-1.1847	-13.246	-10.3374
Mup20	1.02378	-5.37217	-10.3266
Mup2	-1.13171	-3.91142	-10.3211
Mup11	-1.13796	-3.86879	-10.2665
Gpt	-1.64908	-6.26284	-10.2532
Cml1	-1.29892	-6.62895	-10.1202
Cyp7b1	-1.41707	-10.6268	-10.1071
Mup2	-1.14146	-3.89079	-10.0075
Cth	-1.91632	-5.7366	-9.93078
Srd5a1	-1.4045	-8.93	-9.78695
Mup7	-1.12391	-3.75244	-9.74784
Oat	-5.92246	-22.6358	-9.70971
Mup2	-1.16189	-3.84912	-9.70537
Slc17a3	-1.35064	-7.31021	-9.46844
Inhbc	-1.3612	-5.18181	-9.37025
Adh4	-1.77119	-16.1485	-9.2961
Timd2	-1.33887	-1.20453	-9.20665
Pecr	-1.69276	-5.94883	-9.19134
Aspg	-1.05834	-3.39414	-9.15901
Cpamd8	1.33396	-1.92016	-9.09026
Bdh2	-1.74684	-4.57917	-8.96919
9030619P08Rik	-4.56011	-6.05066	-8.89656
Pigr	-1.11047	-1.48085	-8.81636
Aldh1b1	1.21789	-1.01257	-8.77212
Dio1	1.01815	-3.82633	-8.45206
Alas2	-1.40934	-6.03665	-8.44277
Gm10319	1.19009	-3.11377	-8.36454
Cyp4f14	-1.17041	-6.76403	-8.33253
Adh6-ps1	-1.52557	-6.20738	-8.22623
Cmbl	-2.42346	-6.13371	-8.15372
Kcnn2	-1.15286	-3.51888	-8.04663
Retsat	-2.2326	-8.05765	-7.97023
Colec10	-1.32594	-6.20915	-7.90007
Lrtm1	-3.62256	-6.4635	-7.85773

Ugt2a3	-1.01344	-6.66153	-7.84136
Clec4g	-1.02713	-12.26	-7.80369
Nr0b2	-2.19047	-6.50435	-7.7609
Il1rap	-1.19669	-3.31126	-7.72681
Dnase1l3	-1.0062	-11.1212	-7.71302
Acacb	-3.45201	-7.04275	-7.68048
C8a	2.0195	1.14904	-7.6401
G0s2	-4.87552	-6.78983	-7.52262
Fabp2	-3.00165	-4.18347	-7.49922
Gm11437	1.31317	-2.72026	-7.48863
Fabp7	-1.3836	-4.67933	-7.4461
Cyp3a25	-1.32782	-16.603	-7.34989
Saa1	2.9618	1.72521	-7.32979
Lin7a	-1.0802	-4.17454	-7.30125
Hacl1	-2.75982	-6.93443	-7.28028
Cyp8b1	-1.0859	-10.2421	-7.27562
Hsd11b1	-1.00933	-1.26223	-7.25082
Scnn1a	-1.65292	-7.61573	-7.22721
Acaa1b	-3.85477	-12.6024	-7.22487
Mrap	-2.47146	-2.55374	-7.19999
Cml5	-3.57228	-6.36918	-7.18705
Arg1	-1.13738	-2.81897	-7.17322
Dhtkd1	-1.49945	-4.18304	-7.13582
Mafb	-1.36729	-3.87566	-7.12085
Clec4f	-1.27002	-6.34448	-7.10423
Cyp2d13	-1.30641	-16.7338	-7.06523
Ugt2b5	-1.88056	-3.57196	-7.06369
Cryl1	-2.34354	-3.86503	-7.05897
Fam169b	-1.38417	-2.84496	-7.02883
Akr1d1	-1.53051	-3.42651	-7.01328
Serpina12	1.20013	-5.15442	-7.00781
Igfals	-1.43251	-8.81117	-7.00091
Rab30	-3.84505	-4.83941	-7.00052
Aqp8	-1.7978	-1.95646	-6.99782
Srr	-1.84354	-4.10753	-6.98424
9130409I23Rik	-4.23513	-9.95838	-6.80093
Aldh1l1	-1.45385	-4.2464	-6.75994
Ppm1k	-1.62897	-5.35081	-6.69443
G6pc	-1.63402	-17.6032	-6.51916
Chpt1	-2.02346	-4.39622	-6.50325
Serpina3k	1.13395	-2.55861	-6.46389
Kmo	-1.16986	-4.95369	-6.38803
Prodh	-2.21316	-11.639	-6.3699
Hamp2	-1.76689	-5.27018	-6.35254
Homer2	1.13877	-1.48292	-6.30163
Fam47e	-1.50392	-3.55146	-6.28961
BC025446	-1.37634	-2.42126	-6.27345

B3galt1	1.12581	-2.81089	-6.13665
Hamp	-1.26832	-24.1181	-6.13549
Ftcd	1.11676	-1.81617	-6.08681
EG634650	-2.3852	-5.25771	-6.03805
Sult1b1	-1.61996	-3.91073	-6.02001
Fbp1	-1.07119	-5.00115	-6.01544
Tmem86b	-1.483	-8.45605	-6.00275
1600002H07Rik	-1.66928	-5.1168	-5.99968
Gck	-1.38214	-2.38643	-5.96526
Abhd3	-1.54951	-2.90761	-5.91988
Acot3	-5.52272	-4.51507	-5.91724
Hao1	-1.28158	-3.11352	-5.90589
Phlda1	-1.4376	-5.15687	-5.89229
Gstk1	-1.83929	-4.64643	-5.8797
Pcca	-1.65318	-3.42339	-5.87969
Orm3	-1.13428	-3.10796	-5.80044
Agxt2l1	-1.74237	-4.99322	-5.76511
Plk3	-2.08115	-4.01634	-5.73913
Saa4	-1.09347	-2.20135	-5.72117
Dpys	-1.42142	-6.41305	-5.69942
Cd1d1	-2.41564	-4.14867	-5.69659
Abcg2	-1.3257	-1.02163	-5.68884
Nox4	1.2092	-6.41725	-5.68698
G630090E17Rik	-1.96941	-3.91026	-5.67129
Cd36	-2.27891	-6.67352	-5.66766
Pctp	-1.67806	-2.2789	-5.65141
P2ry1	-2.23172	-5.72457	-5.54324
Bhmt	-1.1372	-3.57486	-5.48603
Slc25a25	-3.80925	-7.41919	-5.45129
Adhfe1	-1.55055	-6.3303	-5.43054
Bhmt	-1.12138	-3.56756	-5.42256
Shpk	-1.46804	-4.39133	-5.42171
Cyp3a41b	-3.27903	-26.9751	-5.41328
Sfxn5	-1.67171	-3.72065	-5.39756
Ctsc	-1.57957	-1.47052	-5.39037
Plekhb1	-1.7152	-3.13146	-5.38499
Ivd	-1.54548	-3.75063	-5.37084
Ugt2b37	-1.81825	-3.86291	-5.36846
Rxrg	-1.81179	-4.94594	-5.35184
C8g	-1.28044	-4.02898	-5.34405
Pdk1	-2.00696	-5.94228	-5.2902
Cyp3a41a	-3.58855	-25.9924	-5.27839
Ugt2b38	-1.46807	-3.43903	-5.23031
S1pr5	-1.7785	-3.92397	-5.22885
Gchfr	-1.93945	-2.77263	-5.21816
3110049J23Ri	-1.8402	-4.89478	-5.21592

k			
Ugt3a1	-1.10469	-1.60575	-5.19415
Hrg	1.09527	-1.54571	-5.18667
Cyp2d26	-1.15244	-1.70992	-5.14094
Folr2	-1.38305	-5.0362	-5.14032
Ifit3	-1.26721	-3.6823	-5.11366
Apol9a	-1.20157	-4.73671	-5.11097
Mpv17l	-1.29628	-3.46828	-5.08822
Fn3k	-1.48856	-4.23462	-5.07608
Apol9b	-1.18036	-4.94808	-5.05962
Rtp3	1.05893	-2.49024	-5.02734
Acsm1	-1.13241	-3.64718	-5.02604
Aldh8a1	-1.01137	-2.54531	-5.02545
Ugt3a1	-1.11024	-1.62039	-5.02077
Olfm3	-2.21688	-4.56464	-5.01236
Slc2a2	-1.26548	-5.28796	-4.98642
AI132487	-1.50354	-5.08714	-4.97783
Slc22a7	1.4979	-1.19862	-4.97008
Gckr	-1.17632	-2.39361	-4.95269
Slc15a5	-2.37352	-5.0274	-4.94546
Mbl2	-1.40877	-5.66878	-4.94366
Hsd17b6	1.59512	-12.9126	-4.90067
Cfhr1	-1.19745	-2.49968	-4.86041
Dmgdh	-1.38198	-5.3579	-4.85634
Asgr2	-1.12003	-2.59527	-4.84701
Plxnc1	-1.22574	-4.47283	-4.83712
Dpyd	-1.6416	-6.90364	-4.79101
Trhde	-2.51141	-4.16622	-4.78686
Slc30a10	-2.66675	-4.1149	-4.78067
Homer2	1.18512	-1.86765	-4.76802
Sult5a1	-1.40684	-3.55806	-4.75385
Extl1	-2.74446	-3.58057	-4.74051
Emr4	-1.37582	-2.56448	-4.73662
Slc23a1	1.10144	-2.29857	-4.72495
Agphd1	-1.021	-4.10508	-4.70228
Creb3l3	-1.36624	-4.30992	-4.70028
Pxmp2	-1.23199	-3.30367	-4.68994
Cyp2u1	1.16223	-3.57335	-4.66534
Pltp	-1.50948	-3.16494	-4.65294
Stap1	-2.43858	-2.17465	-4.5955
Acss2	-1.8686	-5.07216	-4.58759
Fgf1	-1.46146	-4.27571	-4.58621
Adra1b	-1.61139	-4.17375	-4.57078
Tymp	-1.67179	-3.29985	-4.5574
Ces6	-1.21885	-4.18065	-4.54184
Gm4324	-2.92733	-2.75887	-4.51266
Gjb2	-1.40106	-1.76491	-4.50428
Sec14l2	-1.53955	-3.5135	-4.50238

Gas2	-1.70786	-2.53324	-4.49676
Acat1	-1.20216	-2.49141	-4.47737
Cyp1a2	-1.90936	-27.7768	-4.4666
Ttc7b	-2.13393	-4.47609	-4.46483
Nlrp6	1.08899	-2.24072	-4.45341
Cfhr3	-1.54444	-2.61827	-4.44804
Ehd3	-1.07428	-4.85583	-4.44661
Erbb4	-1.73262	-4.24598	-4.44596
Cd59b	-1.39831	-2.24689	-4.4384
Uroc1	-1.12385	-1.7955	-4.42725
Aadac	-1.09064	-2.05638	-4.42367
Gjb2	-1.51718	-1.85331	-4.412
Leap2	-3.52897	-3.13493	-4.40101
Cabc1	-1.78498	-4.54256	-4.39048
Klk1b4	1.22295	-1.70178	-4.38147
Ildr2	-2.84134	-4.36858	-4.37621
Fcna	-1.5428	-4.46352	-4.37318
Hsd3b3	1.13277	-7.77103	-4.36084
1810046K07Rik	-1.92192	-2.65043	-4.34498
Cebpa	-1.44435	-2.97423	-4.31475
Ghr	-1.17818	-2.44635	-4.31343
Hopx	-1.10229	-2.16508	-4.31175
Sntg2	-1.42657	-4.08787	-4.30714
Pon1	-1.34055	-16.3822	-4.30702
Ptpn9	-1.38263	-2.47173	-4.2968
Gna14	-1.78309	-4.67983	-4.29223
Upp2	1.39062	-10.5673	-4.29061
Sec14l4	-1.16738	-3.69522	-4.28612
Serping1	1.01747	-1.52114	-4.2738
Slc10a1	-1.06592	-4.49048	-4.26528
Gsta2	-2.63733	-1.22325	-4.24846
Cyp2c44	1.19465	-3.66512	-4.19307
Paox	-2.24606	-3.36117	-4.13983
Prg4	-1.17924	-1.21449	-4.13927
Gsta1	-2.72338	-1.02194	-4.13663
Clec1b	-1.1111	-4.22881	-4.12517
Olfml1	-1.24275	-1.68825	-4.12427
Baat	-1.26892	-3.66373	-4.12153
Oit3	1.20571	-5.41534	-4.10126
Slc2a5	1.50317	-1.29828	-4.07911
Gsta1	-2.66252	-1.00794	-4.06671
Adssl1	-1.9208	-3.66933	-4.05695
Nit2	-1.29808	-2.47125	-4.05677
Adipor2	-2.09861	-4.63916	-4.05368
F8	1.29099	-2.40957	-4.04313
Enpp3	1.18289	-2.13524	-4.00412
Car3	-1.11176	-4.77301	-3.99709

Aldh9a1	-1.26104	-3.02208	-3.96882
Vipr1	-1.59194	-4.95215	-3.96391
Tm7sf2	-1.63493	-3.73336	-3.96124
9030617O03Rik	-1.26303	-3.43941	-3.94623
Gm10639	-2.67972	-1.1723	-3.93621
Cd300ld	-1.1495	-2.77072	-3.93146
Ccl9	1.29335	1.37373	-3.91982
Timd4	-1.29316	-3.15083	-3.89426
Acsm5	-1.00067	-3.65684	-3.89381
Slc26a1	-1.10772	-3.24767	-3.88908
Aacs	-1.77588	-4.71762	-3.87834
Emr1	-1.30434	-1.44963	-3.86887
Bphl	-1.54616	-3.78482	-3.85151
Slc27a5	-1.24428	-6.75714	-3.85048
Ces5	-1.0863	-1.71872	-3.84964
Slc46a1	-1.36048	-2.3473	-3.82926
Cd163	-1.44765	-3.42023	-3.82844
Bmp2	-1.11733	-6.54132	-3.82771
Clcn2	-1.66742	-3.90209	-3.81914
Clec2h	2.45858	-3.42541	-3.81134
Amdhd1	1.03441	-2.4251	-3.81102
Apof	-1.15722	-1.83222	-3.80543
Hes6	-1.91895	-2.60958	-3.80311
Mocs1	-1.44076	-2.7681	-3.79305
Serpinf1	1.00206	-1.30498	-3.7764
Ifit1	-1.28928	-2.82997	-3.77304
Ugt3a2	-1.00862	-1.66907	-3.76706
Gcdh	-1.65548	-3.85305	-3.76627
Slc25a15	-1.60072	-2.38896	-3.74951
Gm14403	-1.27141	-3.89073	-3.7383
Rtp3	-1.00339	-3.0086	-3.73654
Cd55	-1.01659	-4.55418	-3.7174
Treml4	-1.11655	-2.73188	-3.71737
Qdpr	-1.6838	-2.55465	-3.71004
Dcxr	-1.63565	-2.86578	-3.70966
Cyp3a25	-1.42315	-9.97165	-3.70276
Atrnl1	-1.16491	-2.8665	-3.6975
5830473C10Rik	1.59026	-2.17043	-3.69329
Rmnd1	-1.63341	-2.52988	-3.67949
Gsto1	-1.45511	-2.39944	-3.67852
Cpt2	-1.72979	-2.92319	-3.67031
Cxcl12	-1.1436	-2.3224	-3.66387
Glyat	-1.34774	-2.39553	-3.66343
Gbp6	1.14895	-2.07078	-3.64785
Akr1c14	-1.22306	-3.96877	-3.63303
Slc25a23	-1.33945	-2.46376	-3.63224

Itih1	1.30416	-1.94677	-3.61524
Cyp2d40	-1.31956	-4.49099	-3.60361
Paqr3	-1.63213	-1.63183	-3.5925
Mgmt	-1.66097	-1.52846	-3.58962
Cxcl9	1.4611	1.91494	-3.56955
Ankrd33b	-1.28974	-2.64962	-3.5635
Paox	-1.87683	-2.78682	-3.55838
Syde2	-1.55148	-3.03928	-3.55813
Slc6a12	-1.09777	-3.41716	-3.55409
Gm5512	-1.64533	-2.59292	-3.54369
Slc25a21	-1.38967	-8.12582	-3.53673
Phyhd1	-1.2419	-2.62972	-3.52092
Mgll	-2.07791	-6.13178	-3.50832
Mug-ps1	1.28346	-1.36896	-3.50712
Mup5	-1.22372	-2.42908	-3.49699
D0H4S114	-1.08885	-1.68125	-3.49697
Ehhadh	-1.63503	-3.19164	-3.49231
Cyp3a44	-2.59327	-11.2937	-3.48843
Mpa2l	-1.41745	-2.75724	-3.48742
Acat3	-1.22997	-1.73577	-3.48729
Nat8	-1.57698	-1.055	-3.48493
Gstt3	-2.12279	-3.72897	-3.47132
Ephx2	-1.60676	-3.80567	-3.46121
Afm	-1.02129	-1.99453	-3.46106
Mccc1	-1.69305	-2.84104	-3.4524
F7	1.21229	-2.32356	-3.44969
Ccbl1	-1.05838	-2.70872	-3.43623
Hrsp12	-1.2958	-1.30316	-3.426
Cfp	-1.15327	-2.73735	-3.42404
Abhd15	-1.7832	-3.83188	-3.41497
Tmem53	1.01173	-1.69293	-3.41415
Acad11	-1.28943	-3.18548	-3.41374
Slc17a8	-2.15163	-4.30868	-3.41189
Csrp3	-1.23274	-3.51741	-3.4098
Cbs	-1.27873	-2.50065	-3.40721
Gm4951	-1.08268	-2.74216	-3.40497
Chac2	-1.36952	-1.6532	-3.4037
Slc39a8	-1.30619	-2.66041	-3.40245
Ass1	-1.1553	-2.16442	-3.39653
Mrc1	1.11199	-3.45834	-3.39323
Pde7b	-1.37503	-4.41488	-3.39166
Ass1	-1.15833	-2.17371	-3.38051
1700001C19Rik	-1.02287	-3.14456	-3.37093
Bhmt2	-1.15469	-2.3696	-3.36261
Echdc3	-1.2554	-2.09399	-3.35938
0610008F07Rik	-1.60168	-2.78556	-3.35604

Gatm	1.09013	-1.31496	-3.34899
Il1a	-1.12039	-3.15743	-3.33466
Ppp1r3b	-1.45511	-2.49495	-3.33312
Glyctk	-1.37495	-2.66014	-3.32673
Sms	-1.52063	-2.22998	-3.31602
Aspdh	-1.01086	-2.59338	-3.31167
Acsm3	-1.43507	-1.6418	-3.29984
Bdh1	-1.38127	-3.36739	-3.29652
Bco2	-1.51382	-5.0725	-3.29577
2610029I01Rik	-1.07829	-1.56208	-3.28969
Uox	-1.05932	-2.01806	-3.28649
Agmat	-1.47295	-3.18105	-3.28377
Acadsb	-1.41521	-2.02681	-3.28306
Pcsk6	-1.89058	-2.41025	-3.28001
Pccb	-1.28545	-2.61117	-3.24795
Abcb11	-1.44073	-3.78188	-3.24408
Ldhd	-1.51784	-2.09312	-3.23384
Slco1b2	-1.96047	-25.7374	-3.22862
Mccc2	-1.42635	-3.55969	-3.2224
9030420J04Rik	-1.27283	-2.37606	-3.20491
C2cd2	-1.58475	-2.69141	-3.20379
Celf2	-1.81347	-2.16859	-3.19456
Fam195a	-1.69856	-2.07882	-3.1917
Suclg2	-1.37372	-2.51462	-3.19137
Pnkd	-1.67123	-1.53869	-3.19075
Fahd1	-1.4046	-3.13651	-3.18614
Fpr1	-1.35637	-1.82101	-3.17705
Pemt	-1.26814	-3.52241	-3.16698
Acy1	-1.33858	-1.66531	-3.16403
Glo1	-1.8818	-1.9717	-3.16331
Pm20d1	-1.4105	-3.26899	-3.15771
Suclg2	-1.37972	-2.55434	-3.15709
Oaf	-1.20215	-2.17074	-3.1414
Hgd	-1.46582	-4.22921	-3.13488
Slc10a2	1.0973	2.43905	-3.13329
Pstpip2	-1.30788	-2.63421	-3.12452
Chrna2	-2.23067	-3.45183	-3.12053
Hibch	-1.39562	-2.09582	-3.11333
Fpgs	-1.62735	-2.94666	-3.1097
3110057O12Rik	-1.45332	-3.87295	-3.10895
Fam176a	-1.23617	-1.67155	-3.09856
Cyp2c67	-1.51423	-5.34038	-3.09113
Mgam	-1.25419	-2.03098	-3.08376
Mmd	-1.60296	-2.58056	-3.08002
Ppara	-1.27117	-3.15785	-3.07691

Nr1h4	-1.12532	-2.73868	-3.0765
Acy3	1.23632	-2.05629	-3.06811
Eepd1	-1.9012	-2.60213	-3.06775
Pklr	-1.17795	-3.98678	-3.06562
Dpp4	-1.24157	-9.91658	-3.05957
4931406C07Rik	-1.39161	-3.19919	-3.0507
Cish	-1.23202	-2.98569	-3.04975
Pygl	-1.26823	-5.54121	-3.04693
Ggt6	-1.44038	-1.88356	-3.04228
Lrat	-1.3401	-3.3621	-3.03028
Sult1c2	-1.3309	-1.01911	-3.02709
Hsd3b7	-1.7287	-3.50182	-3.02216
Gas1	-1.91618	-2.73757	-3.02116
Nipsnap1	-1.34542	-1.68917	-3.02075
Echdc1	-1.44615	-2.33919	-3.0181
Galm	-1.07426	-2.3793	-3.0169
Hibadh	-1.38402	-2.52084	-3.01526
Glo1	-1.7786	-1.85269	-3.0119
Tnfsf10	1.2813	-1.47884	-3.00057
AU018778	-1.57392	-41.4982	-1.42834
Lect2	-2.11754	-21.8209	1.05042
Slco1a4	-1.51322	-19.0678	-1.89702
Cyp2c37	-2.36854	-17.0516	-1.99078
Rgn	-1.83539	-16.6101	-2.59071
Cyp2c38	-1.65705	-13.8181	1.70393
Enpep	-2.16679	-13.5788	-1.94132
Cyp2e1	-1.16058	-13.1262	-1.53071
Lhpp	-3.95252	-12.3834	-2.44896
Cyp4a10	-4.76584	-12.1397	-2.28836
Cyp3a11	-1.53865	-12.1093	-2.03252
Slc1a2	-2.23842	-11.8737	3.10488
Cyp4a32	-4.16541	-11.7737	-1.98327
Scp2	-1.36439	-8.0288	-2.28325
Cyp2c29	-1.49185	-6.77421	-2.03266
Ar	-1.8696	-6.70667	1.83971
Aqp9	-1.38984	-6.65912	-1.57117
Lipc	-1.59236	-6.59665	-2.71702
Fmo1	-1.76245	-6.41772	-2.17815
Onecut2	-1.78903	-5.65392	-2.99663
Cyp26a1	-2.6073	-5.62614	-2.2595
Ces3	-1.31839	-5.3528	-2.52684
Tmtc2	-2.36122	-5.06544	-2.62406
Tbx3	-2.48387	-4.98853	1.23272
Glul	-2.11902	-4.96748	1.50406
Ndrg2	-1.16033	-4.88391	-2.22918
Fam82a1	-2.8951	-4.8787	-2.34314
Slc22a1	-1.59226	-4.86524	-2.7522

Cyp4f15	-1.14096	-4.79444	-2.86888
Nr1i3	-1.92399	-4.74286	-2.37994
Slc17a2	1.05623	-4.70611	-1.20613
Glul	-1.94807	-4.64031	1.58105
Gulo	-1.37427	-4.58867	1.37684
Chic1	-1.25914	-4.54565	-1.85623
Cyp4a31	-2.78851	-4.47892	1.10315
BC031353	-1.64839	-4.47208	-2.91739
Aldh1a1	-2.13142	-4.47132	-2.74407
Cpox	-1.66663	-4.39758	-1.93767
Ecm1	-1.27689	-4.23218	-1.44658
Cyp2d22	-1.15882	-4.15264	-2.68375
Pank1	-1.3121	-3.82932	-2.78981
Elovl2	-1.0334	-3.81585	-2.7922
Aqp1	-1.06227	-3.81382	-2.47537
Aox1	-1.64278	-3.65387	-1.69052
Ppp1r3c	-2.19018	-3.60484	-2.47021
Gpcpd1	1.62594	-3.5959	-1.00102
Cyp7a1	1.65911	-3.58212	1.32011
Akr1c6	-1.15342	-3.5228	-1.77612
Apoc3	-1.02922	-3.50844	-2.93569
Id3	-2.05893	-3.48496	-2.87999
Lrrc28	-1.71869	-3.47035	-2.66389
Notum	-1.29896	-3.45968	1.56412
Cyp4b1	1.1918	-3.44736	-1.01668
Ttc39c	1.12869	-3.43514	-2.99692
Cyp2c39	-2.4884	-3.41308	8.56776
Slc17a4	-1.13914	-3.40147	-2.27823
Slc16a10	-1.74043	-3.40127	1.97327
Gphn	-1.35393	-3.373	-2.28505
Hspb1	-2.10432	-3.34339	-1.74538
Pnpla8	-1.41014	-3.33915	-1.99248
Pdilt	-1.91922	-3.3256	-2.98744
Gpr182	1.20242	-3.31797	-2.70361
Aox3	1.48399	-3.31426	-1.44549
Mlxipl	-1.13172	-3.3047	-2.18763
Oplah	-1.76275	-3.3017	-2.41866
9530008L14Rik	-1.43327	-3.26666	-2.31944
1300010F03Rik	-1.45268	-3.26175	-2.55633
Hspb1	-2.03622	-3.25069	-1.69805
Alas1	1.08907	-3.22625	-1.63377
Avpr1a	1.13453	-3.21862	5.75576
Sepw1	-1.43464	-3.19924	-2.14676
Stab2	1.23279	-3.19408	-2.2839
Acot1	-3.99855	-3.18128	-1.76816
Pdp2	-2.03455	-3.16912	-2.67985

Slc22a3	-1.76116	-3.15427	-1.65243
Npr2	-1.85612	-3.15362	-2.65082
Bbox1	-1.21536	-3.15354	-1.53994
1110057K04Rik	-1.27634	-3.14948	-1.81782
Chic1	-1.26981	-3.1479	-1.63559
St3gal4	-1.18729	-3.12194	-2.57403
Ablim3	-1.53092	-3.10454	1.39676
Tsku	-2.01844	-3.08455	-2.39696
Dhdh	-1.19097	-3.07544	-2.94861
Epm2a	-1.5908	-3.0708	-2.88596
Acot4	-3.50879	-3.07071	-2.76383
Lgr5	-1.60272	-3.05043	7.96855
1600014C10Rik	-1.56785	-3.04276	-2.71145
Ttc32	-1.59064	-3.04129	-2.58907
Rnf186	-1.95941	-3.04067	-1.44387
Plin2	-2.10719	-3.03995	-2.979
Prodh2	-1.22756	-3.03316	-2.25176
Lpin1	1.27567	-3.0015	1.04576
Rcan2	-3.16385	-1.64375	2.58719
Snora44	-3.08252	-1.30644	-1.1958
Sgk2	-2.73065	-2.51038	-1.80754
Acot2	-2.51623	-1.08922	1.18766
Pex11a	-2.35945	-2.91373	-2.60065
Uck1	-2.3227	-2.92056	-2.47535
Tmem98	-2.3007	1.88541	1.51128
Agpat9	-2.29187	-1.77834	-2.16704
Spatc1	-2.27513	-1.7305	-2.72477
4732463B04Rik	-2.27116	-2.06492	-1.86352
Snora16a	-2.18218	1.18263	-1.08723
Hsdl2	-2.14625	-2.36482	-1.45808
Insig2	-2.12616	-1.38674	-1.19424
Mtnr1a	-2.12165	-2.642	-2.80942
Nr4a1	-2.11235	-1.85589	1.43937
Rdh18	-2.09635	-2.27598	-2.14179
Me1	-2.03735	-2.95461	-1.01702
Ddc	-2.03708	-2.23943	-1.51032
Olig1	-2.02106	-2.62838	-2.68192
Lgals1	-2.01884	1.4574	-1.81212
Me1	-2.0101	-2.99745	1.01003
Slc39a2	-2.0094	-2.87442	-2.28911
Tmem189	-2.00298	-2.56279	-1.50536

Supporting Table 3

Supporting Table 3, (Category I transcripts)				
Gene Symbol	Fold-Change (Nodular vs. Control)	Fold-Change (HCC_A vs. Control)	Fold-Change (HCC_B vs. Control)	Legend
Igf2	13.0706	106.18	104.187	-15 onwards
H19	35.4462	72.6964	82.688	-3 to -15
Bex1	4.14501	70.4085	83.8178	-3 to -1
Tspan8	3.09904	62.7977	18.5679	1 to 3
Klrb1a	10.9824	52.5957	19.5293	3 to 15
2210415 F13Rik	2.37774	42.0677	6.35613	15 onwards
Gldn	39.4078	40.8852	45.0136	
Psat1	7.16688	40.6757	35.0885	
A2m	2.17952	37.2123	18.2744	
Krt20	25.2349	36.9497	4.85659	
Cd63	19.9898	31.7967	34.6431	
Igfbp6	2.36218	29.0217	24.672	
Vil1	9.1913	23.8275	19.3018	
Scd2	14.023	23.1374	17.7057	
Akr1c18	49.7676	21.7316	5.5744	
Tff3	35.3782	21.4822	33.6629	
Ngfrap1	2.14401	19.9094	17.7802	
Gm10009	2.60015	19.0142	22.2096	
D17H6S56E-5	6.47345	18.8674	10.5344	
Lpl	9.2723	17.1384	12.8959	
Ly6d	6.73055	16.5762	51.0326	
1700019 D03Rik	7.73199	15.8857	7.73591	
Mfge8	5.89407	15.245	10.6241	
Serpinb6 b	3.29153	15.1716	7.88894	
Peg3	2.29478	14.9933	4.9231	
Crip1	4.21983	14.2125	5.45513	
Kcnk16	3.71014	14.0864	13.2229	
Gm609	3.29495	13.9363	5.77995	
Il1rn	6.74055	13.9341	9.59099	
Alox5	6.12594	13.7385	7.87295	
Dsg1c	8.14632	13.65	7.56418	
Dsg1a	8.85303	13.2246	8.11545	
Pygb	10.1333	13.0745	9.95799	
Asns	3.13885	13.015	7.89346	
Cidea	4.71218	12.7792	11.9462	

Rbp1	7.8876	12.5966	9.67947
Endod1	7.56378	12.2761	21.3653
Exph5	3.74248	12.1851	10.2914
Tagln2	3.37127	12.1793	8.35988
Igfbp1	3.38984	12.1705	42.3844
Gprc5b	2.11293	12.1687	6.37402
Gpr56	5.11677	12.1684	5.83111
Plat	2.29332	11.7479	49.546
Atp6v0d2	10.3332	11.5034	19.8
Prss8	12.5191	10.939	10.5258
Pdk3	4.58984	10.8771	7.70526
Nrip2	4.6399	10.8553	5.15543
Gdpd1	2.01728	10.77	13.1723
Slc41a3	5.1175	10.6934	10.5293
Isyna1	5.75287	10.6821	21.4561
Cdkn1a	2.56134	10.6345	8.26152
Renbp	5.09671	10.5479	12.5961
Nucb2	3.35072	10.505	5.87321
B4galt6	2.67601	10.502	7.81907
S100a11	3.04926	10.1551	11.741
Prrg4	2.84183	10.1024	7.8525
Gpr110	9.05365	10.0856	10.9086
Egr1	7.12353	9.59988	11.1919
Anxa9	3.47984	9.54407	9.51122
Fzd3	2.15193	9.45774	11.0001
Cdh1	8.5354	9.39522	9.91473
Bglap-rs1	2.81185	8.99936	3.94107
Gls	2.70557	8.9526	10.83
Anxa2	2.72963	8.79089	9.86025
Sectm1b	4.88913	8.58831	4.9001
Npdc1	3.17838	8.58407	8.29445
Sstr2	4.20507	8.52599	3.30849
Cd9	2.62638	8.33254	10.6122
Igdcc4	6.51365	8.2501	7.90271
Ank2	3.11874	8.15344	9.638
Pfkp	2.09759	8.0406	10.9916
Fgl2	3.57767	8.03434	4.49587
Gramd1b	2.4949	7.98577	8.87626
Itga6	2.09885	7.94726	3.23693
Rhoc	4.3488	7.8295	8.21062
2210404 O07Rik	3.39894	7.82352	3.36835
Tuft1	3.39158	7.78037	7.90369
Prom2	19.786	7.73123	15.9955
Btg3	2.78741	7.46891	9.86013

Rab3d	2.80474	7.17591	6.24308
Emp2	3.3592	7.08816	7.46271
Slc7a9	3.25909	6.81217	6.24412
Afp	2.02558	6.71102	6.52713
Aebp1	2.42105	6.68952	3.73151
Mtmr11	3.94909	6.62247	9.69818
Nid1	3.58113	6.50475	8.0618
Nxn	3.96522	6.48999	5.11001
Ddr1	2.76707	6.42184	6.3809
Cldn4	2.42913	6.31882	3.49684
Nipal1	3.74538	6.1154	8.38608
Myo7b	2.01334	5.6901	4.76924
Tuba8	2.84794	5.6782	7.29897
Slc9a7	3.83141	5.66896	6.28187
Lysmd2	2.74342	5.61356	3.82383
Myadm	3.65914	5.59333	4.91929
Lrrc8e	2.13486	5.51888	4.86352
Aph1b	4.71319	5.51693	4.07686
P2rx7	3.97408	5.51089	5.49297
Tlr1	2.82985	5.48467	3.85342
Ets2	2.14067	5.47127	6.20986
Bace2	2.42809	5.45315	4.9749
Mst1r	3.71999	5.3754	6.01186
Nedd9	2.26994	5.35801	5.65459
Pls1	2.44901	5.35746	5.51857
Ifngr1	2.15542	5.30745	6.54226
Tmem71	2.88098	5.26188	6.30031
Nfe2l3	2.32607	5.16753	7.61183
Tspan15	5.3506	5.13268	4.55849
App	2.35505	5.11848	4.62793
Greb1l	3.75959	5.05224	5.69895
BB287469	3.16481	5.00259	13.7124
Thbs1	2.08549	4.91817	51.9212
Tmem229a	3.35119	4.85819	5.55358
Zfp618	2.14112	4.83179	3.25768
Cpd	2.90292	4.83164	4.02178
Shc2	3.05136	4.75543	6.69837
Sox9	2.85455	4.75335	3.02587
Cyp2a22	4.93043	4.69614	6.67687
0610010O12Rik	2.42824	4.61777	3.42223
Abi2	2.97396	4.61103	4.90677
Esm1	3.60362	4.59846	6.78101

Gadd45b	2.92788	4.5953	6.82919
Fndc3b	3.06655	4.50885	3.69663
Ahnak	3.63901	4.49717	8.16587
Cyp39a1	2.25186	4.46286	4.63808
Ctps2	2.56166	4.45756	3.89212
Spire2	2.101	4.43777	5.44309
Cd34	2.41893	4.28237	4.24709
Nup93	2.26485	4.06977	3.95922
Uap1l1	2.06694	4.06125	6.17233
9430020 K01Rik	2.74853	4.03468	4.42816
Unc13b	3.03116	3.96099	3.18067
Acsl4	2.65093	3.95778	5.47142
Tmem159	2.11069	3.87068	3.71105
Slc6a8	2.15762	3.78039	3.73228
Tpm1	2.03419	3.72081	4.29852
Hsd3b1	2.58561	3.71798	5.76826
Abhd2	3.97243	3.67989	3.67789
Stmn1	2.2039	3.65171	3.214
Ptgfrn	2.21878	3.62003	3.13805
Ppl	2.03116	3.58744	4.17298
Wdr1	2.02059	3.50992	3.33673
Hunk	2.33346	3.49332	6.29368
Ica1	2.26926	3.47368	3.07693
Slc1a4	2.13713	3.45931	3.90342
Rtkn	2.06001	3.43581	3.25804
Tgfbr2	3.27318	3.41756	4.70115
Gria3	4.80474	3.29561	3.69443
Sort1	2.00931	3.24934	6.17537
Pole2	3.40993	3.21874	3.24276
Myh9	2.03021	3.16179	3.31906
Rims2	2.13158	3.10722	3.23113
Paqr4	2.54715	3.07095	3.38889
Cyp4a14	-21.9139	-96.1473	-20.321
Mfsd2a	-5.36553	-37.0946	-33.9815
Elovl3	-4.80674	-36.6054	-43.5567
Cyp2c50	-2.0156	-33.9755	-10.447
Thrsp	-2.54556	-29.6304	-51.3951
Cyp3a41b	-3.27903	-26.9751	-5.41328
Cyp3a41a	-3.58855	-25.9924	-5.27839
Oat	-5.92246	-22.6358	-9.70971
Sucnr1	-4.83961	-20.6001	-26.9794
Acss3	-7.02517	-18.9085	-17.6883
Ugt3a1	-2.17244	-16.7324	-62.6456

Rdh16	-4.50553	-14.8319	-16.3016
Acaa1b	-3.85477	-12.6024	-7.22487
5033411D12Rik	-2.75522	-12.4882	-14.0102
Slc1a2	-2.23842	-11.8737	3.10488
Suox	-3.00183	-11.7857	-12.4475
Slco2b1	-2.04209	-11.6884	-13.4627
Slco1a1	2.44495	-11.662	-18.6103
Prodh	-2.21316	-11.639	-6.3699
Cyp3a44	-2.59327	-11.2937	-3.48843
Lipg	-3.77272	-10.9928	-11.6918
Car5a	-2.12968	-10.8953	-16.7914
0610012H03Rik	-2.11215	-10.0672	-19.3012
9130409I23Rik	-4.23513	-9.95838	-6.80093
Mmd2	-3.03719	-9.49965	-10.3618
Gabbr2	-2.17032	-9.40358	-11.6512
Gm4952	-2.14332	-8.94567	-12.6285
Inhbe	-3.95926	-8.62856	-31.5856
Apol7a	-2.27131	-8.2697	-16.9009
Retsat	-2.2326	-8.05765	-7.97023
Mme	-4.59979	-7.50045	-30.168
Slc25a25	-3.80925	-7.41919	-5.45129
Acacb	-3.45201	-7.04275	-7.68048
Fitm1	-3.88508	-6.96551	-16.5896
Hacl1	-2.75982	-6.93443	-7.28028
G0s2	-4.87552	-6.78983	-7.52262
Cd36	-2.27891	-6.67352	-5.66766
Nr0b2	-2.19047	-6.50435	-7.7609
Lrtm1	-3.62256	-6.4635	-7.85773
Cml5	-3.57228	-6.36918	-7.18705
Cmbl	-2.42346	-6.13371	-8.15372
Mgll	-2.07791	-6.13178	-3.50832
9030619P08Rik	-4.56011	-6.05066	-8.89656
Pdk1	-2.00696	-5.94228	-5.2902
Paqr9	-3.21697	-5.84537	-11.3163
P2ry1	-2.23172	-5.72457	-5.54324
EG634650	-2.3852	-5.25771	-6.03805
Slc15a5	-2.37352	-5.0274	-4.94546
Rab30	-3.84505	-4.83941	-7.00052
Adipor2	-2.09861	-4.63916	-4.05368
Olfm3	-2.21688	-4.56464	-5.01236
Acot3	-5.52272	-4.51507	-5.91724

Ttc7b	-2.13393	-4.47609	-4.46483
Chpt1	-2.02346	-4.39622	-6.50325
Ildr2	-2.84134	-4.36858	-4.37621
Slc17a8	-2.15163	-4.30868	-3.41189
Fabp2	-3.00165	-4.18347	-7.49922
Trhde	-2.51141	-4.16622	-4.78686
Cd1d1	-2.41564	-4.14867	-5.69659
Slc30a10	-2.66675	-4.1149	-4.78067
Plk3	-2.08115	-4.01634	-5.73913
Cryl1	-2.34354	-3.86503	-7.05897
Gstt3	-2.12279	-3.72897	-3.47132
Extl1	-2.74446	-3.58057	-4.74051
Chrna2	-2.23067	-3.45183	-3.12053
Clec2h	2.45858	-3.42541	-3.81134
Cyp2c39	-2.4884	-3.41308	8.56776
Paox	-2.24606	-3.36117	-4.13983
Abcc3	-2.87789	-3.26587	-10.4455
Leap2	-3.52897	-3.13493	-4.40101
Raet1d	-3.44794	-3.10377	-26.5803

Supporting Table 4

Supporting Table 4, (Category II transcripts)				
Gene Symbol	Fold-Change (Nodular vs. Control)	Fold-Change (HCC_A vs. Control)	Fold-Change (HCC_B vs. Control)	Legend
Moxd1	10.1789	-1.32923	-1.36541	-15 onwards
Aldh3b2	6.249	1.81808	2.48684	-3 to -15
Cib3	3.65659	1.01836	-1.48786	-3 to -1
S1pr3	3.64268	-1.10253	1.55324	1 to 3
1700055N04 Rik	3.40565	1.32253	1.73873	3 to 15
Mmp12	3.26368	2.00449	2.72542	15 onwards
Spint1	2.99066	1.70505	1.53346	
Itih5	2.68729	1.80806	1.30103	
Grem2	2.49187	1.41648	2.88383	
Enpp1	2.48106	2.52511	2.8159	
Rtn4r	2.4797	2.30145	2.31414	
Tbc1d30	2.45793	1.25933	1.62007	
Oxa1l	2.45037	2.79106	1.90967	
Gcnt4	2.43628	2.04704	1.9599	
Cyb5r1	2.4297	2.72665	2.54919	
Ell3	2.41396	2.33965	1.86406	
A730020M07 Rik	2.38347	2.34428	1.10075	
Prc1	2.37678	2.95884	2.67791	
Slc20a1	2.33606	2.31441	2.71006	
Klhdc1	2.32102	2.06971	2.42284	
P2rx4	2.30419	1.88809	1.5335	
Plk1	2.27603	2.94695	2.03622	
Rasal1	2.26929	2.88154	2.49242	
Sh2d4a	2.23222	2.61771	2.9368	
Gpr155	2.20814	2.77934	2.31898	
Il17rb	2.20666	2.17153	1.4719	
Rnf39	2.1941	1.57018	1.65306	
1700055N04 Rik	2.1885	1.14036	1.24762	
Plek2	2.18058	2.60649	2.43095	
Rrm2	2.13227	1.43612	1.64964	
Ifi44	2.13133	-1.17783	-1.54006	
Ppif	2.11272	1.99276	1.18063	
Soat2	2.10889	1.37261	1.24394	
Rxfp3	2.10146	1.24178	-1.02996	
Rrbp1	2.0868	2.00107	1.38365	
Rdh5	2.07683	-1.07817	-1.51488	
Hist1h2ak	2.07012	2.14429	2.15846	

D630045J12Rik	2.06044	2.17122	2.579
Pion	2.05146	1.23434	1.04655
Hsd17b14	2.04953	2.65733	1.15479
Krt23	2.03758	1.65799	-2.28933
Slc43a1	2.03293	1.74055	1.52668
Foxq1	2.02584	1.1375	1.12775
Pla2g12a	2.02473	1.78646	2.7399
Osgin1	2.00456	2.54878	2.30068
Rcan2	-3.16385	-1.64375	2.58719
Snora44	-3.08252	-1.30644	-1.1958
Sgk2	-2.73065	-2.51038	-1.80754
Acot2	-2.51623	-1.08922	1.18766
Pex11a	-2.35945	-2.91373	-2.60065
Uck1	-2.3227	-2.92056	-2.47535
Tmem98	-2.3007	1.88541	1.51128
Agpat9	-2.29187	-1.77834	-2.16704
Spatc1	-2.27513	-1.7305	-2.72477
4732463B04Rik	-2.27116	-2.06492	-1.86352
Snora16a	-2.18218	1.18263	-1.08723
Hsdl2	-2.14625	-2.36482	-1.45808
Insig2	-2.12616	-1.38674	-1.19424
Mtnr1a	-2.12165	-2.642	-2.80942
Nr4a1	-2.11235	-1.85589	1.43937
Rdh18	-2.09635	-2.27598	-2.14179
Ddc	-2.03708	-2.23943	-1.51032
Olig1	-2.02106	-2.62838	-2.68192
Lgals1	-2.01884	1.4574	-1.81212
Me1	-2.0101	-2.99745	1.01003
Slc39a2	-2.0094	-2.87442	-2.28911
Tmem189	-2.00298	-2.56279	-1.50536
Me1	-2.03735	-2.95461	-1.01702

Supporting Table 5

Supporting Table 5, (Category III transcripts)				
Gene Symbol	Fold-Change (Nodular vs. Control)	Fold-Change (HCC_A vs. Control)	Fold-Change (HCC_B vs. Control)	Legend
LOC641089	1.70355	3.04282	1.33423	-15 onwards
Tmem165	1.74051	3.8543	2.44776	-3 to -15
Igf2as	1.01161	3.24165	2.53275	-3 to -1
Crtap	1.53212	3.37533	2.30667	1 to 3
Prr15l	1.46584	3.9606	2.06629	3 to 15
Hmgcll1	1.06662	4.92671	-1.03065	15 onwards
Akr1b3	1.65854	3.16128	2.34594	
C1ql3	1.17107	6.58114	1.35727	
Serinc2	-1.77821	3.52212	-1.54283	
Elf3	1.46536	5.29875	2.24086	
Adamts15	1.43394	3.17789	2.30529	
Psph	1.27072	4.77745	2.88495	
Cacna1e	1.04119	3.29345	2.95121	
Ggct	1.89925	3.36009	1.94949	
Slamf9	1.20332	4.5419	1.96308	
Capg	1.30511	3.01905	1.29904	
LOC100047053	1.95632	3.62547	1.15185	
Scara3	1.04935	3.54333	-1.10428	
Cyb561	1.49211	4.20753	1.26638	
Kctd17	1.8587	3.00923	2.82751	
Golm1	1.33781	6.5084	2.5038	
Hhipl2	1.9142	4.35012	1.48569	
Dram1	1.41744	5.96458	2.74477	
Il10rb	1.66288	3.40541	2.86287	
Slc23a3	1.20829	4.41989	2.45681	
Hbegf	1.57028	3.38424	2.96898	
Itgb8	1.09948	3.14482	2.11063	
Prtn3	1.69182	3.04661	1.88714	
Nebl	1.17264	3.90445	1.2805	
Epcam	1.55748	5.6346	1.6268	
Efemp2	1.25906	8.1605	2.33074	
Pdzk1ip1	1.37252	3.089	2.0875	
Rap1gap	1.5564	3.97117	2.48443	
Phlda3	1.2613	3.87755	2.42398	
Dnajc10	1.68331	3.5784	2.51485	
Pglyrp1	1.09443	3.72904	-1.06448	
Myo5a	1.17514	3.70345	2.25269	
Diap3	1.42102	4.61966	2.50718	
Tgfb2	1.18532	3.09199	1.61385	

Hddc2	1.18037	3.0472	1.85751
Nol3	1.7378	3.3876	1.13019
Krt8	1.69744	3.43237	2.83389
Plce1	1.96075	3.2103	1.62738
Clec4e	1.11912	3.15486	-1.09039
Tceal5	1.11231	3.38893	1.94724
Loxl4	1.03293	3.77008	2.04249
Cd14	-1.09376	3.17474	1.4162
A530040E14Rik	-1.04839	3.70954	1.88021
Igsf8	1.76647	3.92174	2.97377
Fam115a	1.96861	3.18837	2.71062
Arfgap3	1.50808	3.28281	2.74291
Gm6644	1.80848	3.2684	2.41882
Ccl2	1.17915	9.64489	1.90195
Rhoq	-1.01568	3.46572	2.26019
S100a8	1.06984	4.98835	1.20271
Plaur	1.08563	3.27997	2.64468
Vcam1	1.45989	4.20603	-1.32577
Casc5	1.9168	3.00925	2.37184
Ggt1	1.11244	7.36693	1.071
Tmx3	1.76399	3.2994	2.8267
Icam1	1.32205	3.0526	1.37369
Ccr2	1.30151	4.54444	1.30821
Ccdc68	1.55249	4.01235	2.30383
S100a9	-1.12163	3.05589	-1.04692
Twf2	1.34737	3.16602	2.43782
Cxcl14	1.65533	6.44427	1.51129
Timp3	1.54039	3.38018	2.19682
Ms4a7	1.04557	3.388	1.62489
Itgam	1.06706	3.07548	1.54883
Nupr1	1.42806	3.65767	1.3913
Bglap2	1.77727	5.14621	2.22917
C130026I21Rik	1.13374	3.95929	1.98223
Clca1	1.62671	3.18208	2.31844
Cgref1	1.50038	3.27831	2.65368
Sh3pxd2b	1.26232	3.58456	2.34945
Glipr2	1.04867	5.69497	1.17986
Spink3	1.74215	25.108	2.11021
Ttc9	1.01419	9.88011	2.42048
Ms4a6c	-1.03739	3.18283	-1.18431
Osbpl3	-1.15241	3.76693	-1.1951
Prkca	1.25244	3.06471	1.70521
Bcl2a1b	1.1627	3.47516	1.58958

Casp4	1.18383	11.4213	1.50064
Rgs10	1.05716	3.08426	1.03974
Slc7a11	1.00846	3.65972	-1.01119
Emb	-1.04847	3.40079	1.35349
Ntn4	1.80781	3.17871	2.85914
Pdgfb	1.19982	3.52279	1.49362
Syt17	1.35914	3.0363	1.89104
Glis3	1.25814	3.8259	1.51958
Vdr	-1.10364	5.17244	1.10477
Fkbp1b	1.07616	3.11491	1.2946
Me2	1.66176	4.32252	1.62299
Cdhr2	1.12499	9.65945	1.84515
Capsl	1.97942	10.3305	1.40484
Mthfd2	1.1032	4.85179	1.72863
Anxa13	1.52808	24.8867	1.47762
Casp1	-1.23351	4.71603	-1.44746
Sema5a	1.03488	5.62451	1.30229
Ms4a6d	-1.09629	3.3976	2.50704
Prelid2	-1.20065	8.2288	2.10247
Tceal8	1.51805	3.81012	2.64423
Atp1a2	1.16437	5.89202	1.23887
Sh3bgrl3	1.53659	3.62086	1.59473
Pfn2	1.53016	3.53074	2.12991
Pgm1	1.71127	4.3876	2.79074
Adck4	1.96002	3.26354	2.17934
Chrm3	1.98663	8.98505	1.23318
Rbl1	1.95357	3.10344	2.54574
Creb3l2	1.70993	3.14193	2.62378
Fry	1.20222	4.27259	1.67762
Fam73a	1.1803	4.00687	2.2202
Vsig10l	1.21645	3.49795	2.57053
St14	1.99359	3.07943	1.16966
Fam132a	1.11751	7.30009	1.10178
Crym	1.46569	4.36336	2.00062
Cap2	1.11051	3.0788	1.0465
Rcan3	1.06628	3.47336	2.14719
Clec5a	1.08813	3.37144	1.18641
Ostb	-1.02159	8.95724	1.53342
Efcab3	1.32825	21.0875	2.514
2610524H06 Rik	1.5817	5.39241	2.55282
Ppap2c	1.96934	3.14494	2.48197
Ace	1.30817	13.8728	1.83873
Ccne1	1.91048	3.49768	1.99031
Lxn	1.20454	4.615	-1.04486

Fam129a	1.06526	4.76712	-1.59952
Anxa5	1.91645	3.20169	2.63096
Bcl2a1d	1.16664	3.45036	1.60672
Plscr1	1.46564	4.27564	1.94691
Aim2	1.35405	3.41258	2.96916
Tnnc1	-1.05292	8.17795	1.90236
Saa3	1.24202	4.20219	-1.47618
Ano10	1.6292	3.03071	2.52269
Kcnj10	1.04966	4.44849	-1.0689
Hmmr	1.80427	3.39959	2.47429
Gm5246	1.66024	3.98459	2.95807
Scel	1.09913	3.31685	1.11478
Hk1	1.50563	4.06462	2.62097
Slc41a2	1.07073	3.35404	2.49805
Cxcl17	1.15934	10.977	1.80099
Dhrs9	1.55742	7.55449	2.86769
Sgpp2	-1.00238	4.39923	-1.05836
Lgals3	1.12647	3.00285	2.76212
Egr2	1.55594	3.87394	2.04193
Bcl2a1a	1.19188	3.68306	1.6418
Slc6a1	-1.02864	3.20528	-1.0345
Ccrl2	1.55567	3.48268	1.84293
Slc39a5	-1.00316	3.21971	-1.503
Tnfaip8	1.28525	3.97753	2.79578
Mphosph6	1.32693	3.43517	2.24593
Sparc	1.9448	4.48549	2.18533
Mastl	1.75543	3.103	2.70817
Mcm6	1.56469	3.18724	2.35752
Lrrc8b	1.64172	5.13372	2.71459
Ptpre	1.0753	3.04129	-1.101
Bcmo1	1.97528	5.0878	2.73642
Bcmo1	1.97528	5.0878	2.73642
Gm6644	1.64396	3.17883	2.32851
Loxl4	1.04204	3.07572	1.96935
Plscr1	1.37352	4.09517	1.9741
AU018778	-1.57392	-41.4982	-1.42834
Slco1a4	-1.51322	-19.0678	-1.89702
Rgn	-1.83539	-16.6101	-2.59071
Cyp2c38	-1.65705	-13.8181	1.70393
Cyp2e1	-1.16058	-13.1262	-1.53071
Cyp3a11	-1.53865	-12.1093	-2.03252
Scp2	-1.36439	-8.0288	-2.28325
Cyp2c29	-1.49185	-6.77421	-2.03266
Ar	-1.8696	-6.70667	1.83971
Aqp9	-1.38984	-6.65912	-1.57117

Lipc	-1.59236	-6.59665	-2.71702
Fmo1	-1.76245	-6.41772	-2.17815
Onecut2	-1.78903	-5.65392	-2.99663
Ces3	-1.31839	-5.3528	-2.52684
Ndrg2	-1.16033	-4.88391	-2.22918
Slc22a1	-1.59226	-4.86524	-2.7522
Cyp4f15	-1.14096	-4.79444	-2.86888
Nr1i3	-1.92399	-4.74286	-2.37994
Slc17a2	1.05623	-4.70611	-1.20613
Gulo	-1.37427	-4.58867	1.37684
Chic1	-1.25914	-4.54565	-1.85623
BC031353	-1.64839	-4.47208	-2.91739
Cpox	-1.66663	-4.39758	-1.93767
Ecm1	-1.27689	-4.23218	-1.44658
Cyp2d22	-1.15882	-4.15264	-2.68375
Pank1	1.0125	-2.28851	-1.14658
Elovl2	-1.0334	-3.81585	-2.7922
Aqp1	-1.06227	-3.81382	-2.47537
Aox1	-1.64278	-3.65387	-1.69052
Gpcpd1	1.62594	-3.5959	-1.00102
Cyp7a1	1.65911	-3.58212	1.32011
Akr1c6	-1.15342	-3.5228	-1.77612
Apoc3	-1.02922	-3.50844	-2.93569
Lrrc28	-1.71869	-3.47035	-2.66389
Notum	-1.29896	-3.45968	1.56412
Cyp4b1	1.1918	-3.44736	-1.01668
Ttc39c	1.12869	-3.43514	-2.99692
Slc17a4	-1.13914	-3.40147	-2.27823
Slc16a10	-1.74043	-3.40127	1.97327
Gphn	-1.35393	-3.373	-2.28505
Pnpla8	-1.41014	-3.33915	-1.99248
Pdilt	-1.91922	-3.3256	-2.98744
Gpr182	1.20242	-3.31797	-2.70361
Aox3	1.48399	-3.31426	-1.44549
Mlxipl	-1.13172	-3.3047	-2.18763
Oplah	-1.76275	-3.3017	-2.41866
9530008L14Rik	-1.43327	-3.26666	-2.31944
1300010F03Rik	-1.45268	-3.26175	-2.55633
Alas1	1.08907	-3.22625	-1.63377
Sepw1	-1.43464	-3.19924	-2.14676
Stab2	1.23279	-3.19408	-2.2839
Slc22a3	-1.76116	-3.15427	-1.65243
Npr2	-1.85612	-3.15362	-2.65082
Bbox1	-1.21536	-3.15354	-1.53994

St3gal4	-1.18729	-3.12194	-2.57403
Ablim3	-1.53092	-3.10454	1.39676
Dhdh	-1.19097	-3.07544	-2.94861
Epm2a	-1.5908	-3.0708	-2.88596
1600014C10Rik	-1.56785	-3.04276	-2.71145
Ttc32	-1.59064	-3.04129	-2.58907
Rnf186	-1.95941	-3.04067	-1.44387
Prodh2	-1.22756	-3.03316	-2.25176
Lpin1	1.27567	-3.0015	1.04576
A530040E14Rik	-1.08433	3.38172	1.62231
Chic1	-1.26981	-3.1479	-1.63559

Supporting Table 6

Supporting Table 6, (Category IV transcripts)				
Gene Symbol	Fold-Change (Nodular vs. Control)	Fold-Change (HCC_A vs. Control)	Fold-Change (HCC_B vs. Control)	Legend
Amy2a5	1.27193	1.19032	47.5007	-15 onwards
Car4	-1.07624	-1.01248	30.1643	-3 to -15
Grb10	1.20993	2.60554	21.4907	-3 to -1
Amy2a5	1.10473	-1.02031	20.7141	1 to 3
Sema3c	1.11058	-1.23529	19.5512	3 to 15
Amy2a5	1.02195	-1.08801	17.1522	15 onwards
Aldh1a2	1.27576	1.87903	17.0396	
Klhl23	1.4497	2.90572	16.5211	
Gpr64	1.31667	1.16271	14.8597	
Fam180a	1.22292	1.1703	13.9817	
Atp10a	1.40459	1.24109	13.9305	
Airn	1.51036	1.8283	13.1623	
Pgm5	1.00426	-2.07172	9.72864	
Serpine1	1.00661	2.60234	9.61473	
Cyp2c39	-2.4884	-3.41308	8.56776	
Gpc3	1.2189	-1.0577	8.43606	
Ctse	-1.14317	2.24757	8.32345	
Fst	1.71736	2.77924	8.07653	
Lgr5	-1.60272	-3.05043	7.96855	
Scn7a	1.23589	1.33226	7.58004	
9330182L06Rik	-1.01816	-1.19713	7.06272	
Car2	1.61412	1.84939	7.03633	
Prkg1	1.13572	1.40601	6.74905	
Rnase1	1.01507	1.90926	6.73912	
Vmn2r96	1.02409	1.28406	6.3979	
Pdk4	-1.76524	-2.28266	6.37712	
Itpr3	1.1773	2.22053	6.31221	
Gcom1	1.30506	1.90889	5.8833	
Lef1	1.17957	-1.09654	5.87547	
Avpr1a	1.13453	-3.21862	5.75576	
Arnt2	1.17737	2.32996	5.69168	
Akr1b7	1.15743	1.3269	5.63946	
Calml4	1.36695	1.68447	5.63328	
H2-Q1	1.20387	1.02656	5.60883	
Kitl	1.08971	-1.04084	5.45247	
Marcks	1.2033	2.50563	5.38596	
Il1r1	1.12411	1.63986	5.29949	
Fxyd3	1.44729	2.63349	5.21073	

Tead1	1.03918	2.4646	5.14323
Nkd1	-1.33408	-1.54123	4.97379
Gnai1	-1.16355	1.59782	4.93125
Nt5e	-1.27147	1.69504	4.6977
Myc	1.75926	2.33816	4.67115
AB041803	1.44529	1.2449	4.64783
Mbnl3	1.66665	-1.10086	4.64415
Stra6	-1.23762	-1.15354	4.63909
Fam118a	1.33209	2.1546	4.58336
Anxa3	1.11144	1.9111	4.55771
Slc24a4	1.47247	1.8503	4.54259
AU040829	1.27338	1.94409	4.51874
Pdgfrl	1.26066	1.32596	4.50503
Jun	1.37278	2.56083	4.49577
Mybl1	1.1249	2.61006	4.42467
Pdgfc	-1.00582	1.22476	4.40043
Kdm3a	1.49398	2.31991	4.37713
Sorcs2	1.99351	1.7816	4.3395
Ahnak2	1.28699	1.91062	4.32487
Gars	1.14943	2.14023	4.29665
Axin2	-1.55682	-1.90796	4.26261
Rab11fip5	1.70224	2.30633	4.22295
Eppk1	1.72853	2.89305	4.22017
Dgki	-1.00017	1.00768	4.19226
Nbea	1.542	-1.15957	4.18891
Nhs	1.03324	1.1865	4.17909
Mpped2	1.06649	1.21094	4.17671
8430408G22 Rik	1.67028	1.35312	4.1424
Meg3	1.54929	1.84969	4.03932
Unc5b	1.15499	2.87726	4.03812
Pawr	1.59562	2.53621	4.01331
Gm106	-1.06414	-1.11429	3.99904
BC016579	1.91294	2.64391	3.93322
Kif26b	-1.15818	-1.06891	3.92261
Igf2r	1.25006	1.86361	3.92101
Ophn1	1.57477	2.32817	3.91021
A930039A15 Rik	-1.11859	-1.8525	3.90423
Cd24a	1.29066	2.83077	3.89559
Samd4	1.63082	2.58163	3.87426
Slc13a3	1.10204	-1.30609	3.85914
Ip6k2	1.45756	2.29722	3.85898
Stk39	1.3987	1.81507	3.81425
Cyp1b1	1.1714	1.61994	3.80599

Phf16	1.20743	1.95792	3.75937
Ahr	1.07848	-1.1266	3.74628
Trib2	1.14067	-1.03944	3.69378
Jub	1.70833	2.85167	3.6866
Kbtbd11	1.10593	1.78587	3.6646
Amot	1.86196	2.69374	3.64281
Gm16368	1.86886	1.69534	3.64028
Usp18	1.6608	1.31658	3.63422
Slc1a5	1.34936	1.5014	3.62642
Mthfd1l	1.89189	2.60746	3.61965
Tnfrsf19	-1.06917	-1.07949	3.61079
Tcf7	1.58987	1.36497	3.60845
Slc36a4	1.75749	2.26485	3.57346
Ccdc120	1.74833	2.57961	3.56563
Dnase2a	1.46145	1.81648	3.55765
Spnb1	1.29476	1.34631	3.55625
Gas5	1.06989	2.0137	3.48149
Slc7a5	-1.13822	1.99886	3.42924
Bcas1	1.007	2.19729	3.42867
Etl4	1.71862	2.09061	3.4242
Dst	1.30004	1.5423	3.42389
Trpm4	1.73068	2.57956	3.42261
Ehd2	1.27954	2.21252	3.41551
Rnf157	1.00614	2.07279	3.40509
Alpk1	1.65124	2.24658	3.4031
Bcl2l11	1.79753	2.62299	3.3986
Plxdc2	1.2421	1.3925	3.38607
Asap2	1.06441	1.55682	3.38489
Tmtc1	1.06315	1.31514	3.37569
Crip2	1.65246	2.30151	3.36999
Ptpn21	1.12247	1.65068	3.35423
Gas7	1.67387	2.86578	3.35126
Itga3	-1.11704	2.27527	3.32297
Scn3a	1.09246	1.12372	3.30656
Exoc6b	1.26993	2.2112	3.30552
Enc1	1.10151	1.77068	3.3031
Wnk4	1.33303	1.59406	3.30218
Mmp14	1.5002	2.78963	3.28305
Tmc5	1.1605	2.62909	3.27503
Dgke	1.15995	2.56683	3.27107
Sec61a2	1.33422	2.01255	3.26656
Ctgf	1.9353	1.74696	3.26534
Epha7	1.14909	-1.32428	3.25042
Fmnl3	1.13825	2.39884	3.24639
Trim50	1.12815	1.00061	3.22841

Gfpt2	1.05911	2.47068	3.22222
Numbl	1.42624	2.56243	3.21099
Rictor	1.42497	1.85735	3.20773
Rell1	1.80201	2.37196	3.2019
Rybp	1.47197	2.71833	3.19489
Fat1	1.47838	2.35104	3.18862
Nrbp2	1.47467	2.68971	3.18454
2410089E03Rik	1.5094	2.22155	3.18185
Pkp1	1.42102	1.79892	3.16956
Idua	1.7041	2.52041	3.16505
Gpr153	1.10997	1.66547	3.16326
Slc8a3	1.06258	2.19543	3.13899
Mum1l1	1.00911	1.68158	3.13725
Mmp7	-1.1142	-1.12938	3.13255
Fam84a	1.60596	1.64956	3.13067
Prkx	1.71054	2.87214	3.13025
Ptbp2	1.20041	1.44252	3.12633
Rasa2	-1.06614	2.5915	3.11606
Fos	1.27432	1.60926	3.10977
Slc1a2	-2.23842	-11.8737	3.10488
Shroom3	1.89182	2.56313	3.10174
Slc12a4	1.48837	2.45808	3.097
Rdh9	-1.33459	-1.39056	3.08999
Rock2	1.0611	1.18219	3.08902
Ttc3	1.4613	2.60865	3.08061
Irs2	-1.05254	-1.3496	3.07847
Trim2	1.4329	2.55845	3.07602
Sorbs2	1.76062	2.31093	3.06947
Mrgprg	-1.03128	-1.11822	3.05733
Gramd1a	1.07206	1.46803	3.04057
Dmxl2	1.19991	1.65902	3.03558
Sorl1	1.64714	2.92408	3.0352
Eif2ak3	1.59102	2.69956	3.03238
Net1	1.19313	1.58124	3.02838
1500012F01Rik	1.40412	2.15192	3.02662
Hectd2	1.31606	2.43945	3.02412
Orm1	-1.40025	-2.90536	-62.9089
Cyp2j5	-1.55223	-2.10773	-42.2503
Orm2	-1.25843	1.4124	-18.4547
Cpamd8	1.30467	-2.19678	-16.5526
Gldc	-1.60604	-1.35992	-14.3985
Slc3a1	-1.33239	-2.57254	-12.4926
Saa2	3.28328	1.55833	-12.2829

Necab1	-1.32548	-2.75222	-11.0949
Kynu	-1.37385	-2.74381	-10.3611
Timd2	-1.33887	-1.20453	-9.20665
Pigr	-1.11047	-1.48085	-8.81636
Aldh1b1	1.21789	-1.01257	-8.77212
C8a	2.0195	1.14904	-7.6401
Gm11437	1.31317	-2.72026	-7.48863
Saa1	2.9618	1.72521	-7.32979
Hsd11b1	-1.00933	-1.26223	-7.25082
Arg1	-1.13738	-2.81897	-7.17322
Fam169b	-1.38417	-2.84496	-7.02883
Aqp8	-1.7978	-1.95646	-6.99782
Serpina3k	1.13395	-2.55861	-6.46389
Homer2	1.13877	-1.48292	-6.30163
BC025446	-1.37634	-2.42126	-6.27345
B3galt1	1.12581	-2.81089	-6.13665
Ftcd	1.11676	-1.81617	-6.08681
Gck	-1.38214	-2.38643	-5.96526
Abhd3	-1.54951	-2.90761	-5.91988
Saa4	-1.09347	-2.20135	-5.72117
Abcg2	-1.3257	-1.02163	-5.68884
Pctp	-1.67806	-2.2789	-5.65141
Ctsc	-1.57957	-1.47052	-5.39037
Gchfr	-1.93945	-2.77263	-5.21816
Hrg	1.09527	-1.54571	-5.18667
Cyp2d26	-1.15244	-1.70992	-5.14094
Aldh8a1	-1.01137	-2.54531	-5.02545
Slc22a7	1.4979	-1.19862	-4.97008
Gckr	-1.17632	-2.39361	-4.95269
Cfhr1	-1.19745	-2.49968	-4.86041
Asgr2	-1.12003	-2.59527	-4.84701
Emr4	-1.37582	-2.56448	-4.73662
Slc23a1	1.10144	-2.29857	-4.72495
Gjb2	-1.40106	-1.76491	-4.50428
Gas2	-1.70786	-2.53324	-4.49676
Acat1	-1.20216	-2.49141	-4.47737
Nlrp6	1.08899	-2.24072	-4.45341
Cfhr3	-1.54444	-2.61827	-4.44804
Cd59b	-1.39831	-2.24689	-4.4384
Uroc1	-1.12385	-1.7955	-4.42725
Aadac	-1.09064	-2.05638	-4.42367
Klk1b4	1.22295	-1.70178	-4.38147
1810046K07Rik	-1.92192	-2.65043	-4.34498
Cebpa	-1.44435	-2.97423	-4.31475

Ghr	-1.17818	-2.44635	-4.31343
Hopx	-1.10229	-2.16508	-4.31175
Ptpn9	-1.38263	-2.47173	-4.2968
Serping1	1.01747	-1.52114	-4.2738
Prg4	-1.17924	-1.21449	-4.13927
Olfml1	-1.24275	-1.68825	-4.12427
Slc2a5	1.50317	-1.29828	-4.07911
Nit2	-1.29808	-2.47125	-4.05677
F8	1.29099	-2.40957	-4.04313
Enpp3	1.18289	-2.13524	-4.00412
Cd300ld	-1.1495	-2.77072	-3.93146
Ccl9	1.29335	1.37373	-3.91982
Emr1	-1.30434	-1.44963	-3.86887
Ces5	-1.0863	-1.71872	-3.84964
Slc46a1	-1.36048	-2.3473	-3.82926
Amdhd1	1.03441	-2.4251	-3.81102
Apof	-1.15722	-1.83222	-3.80543
Hes6	-1.91895	-2.60958	-3.80311
Mocs1	-1.44076	-2.7681	-3.79305
Serpinf1	1.00206	-1.30498	-3.7764
Ifit1	-1.28928	-2.82997	-3.77304
Ugt3a2	-1.00862	-1.66907	-3.76706
Slc25a15	-1.60072	-2.38896	-3.74951
Treml4	-1.11655	-2.73188	-3.71737
Qdpr	-1.6838	-2.55465	-3.71004
Dcxr	-1.63565	-2.86578	-3.70966
Atrnl1	-1.16491	-2.8665	-3.6975
5830473C10Rik	1.59026	-2.17043	-3.69329
Rmnd1	-1.63341	-2.52988	-3.67949
Gsto1	-1.45511	-2.39944	-3.67852
Cpt2	-1.72979	-2.92319	-3.67031
Cxcl12	-1.1436	-2.3224	-3.66387
Glyat	-1.34774	-2.39553	-3.66343
Gbp6	1.14895	-2.07078	-3.64785
Slc25a23	-1.33945	-2.46376	-3.63224
Itih1	1.30416	-1.94677	-3.61524
Paqr3	-1.63213	-1.63183	-3.5925
Mgmt	-1.66097	-1.52846	-3.58962
Cxcl9	1.4611	1.91494	-3.56955
Ankrd33b	-1.28974	-2.64962	-3.5635
Gm5512	-1.64533	-2.59292	-3.54369
Phyhd1	-1.2419	-2.62972	-3.52092
Mug-ps1	1.28346	-1.36896	-3.50712
Mup5	-1.22372	-2.42908	-3.49699

D0H4S114	-1.08885	-1.68125	-3.49697
Mpa2l	-1.41745	-2.75724	-3.48742
Acat3	-1.22997	-1.73577	-3.48729
Nat8	-1.57698	-1.055	-3.48493
Afm	-1.02129	-1.99453	-3.46106
Mccc1	-1.69305	-2.84104	-3.4524
F7	1.21229	-2.32356	-3.44969
Ccbl1	-1.05838	-2.70872	-3.43623
Hrsp12	-1.2958	-1.30316	-3.426
Cfp	-1.15327	-2.73735	-3.42404
Tmem53	1.01173	-1.69293	-3.41415
Cbs	-1.27873	-2.50065	-3.40721
Gm4951	-1.08268	-2.74216	-3.40497
Chac2	-1.36952	-1.6532	-3.4037
Slc39a8	-1.30619	-2.66041	-3.40245
Ass1	-1.1553	-2.16442	-3.39653
Bhmt2	-1.15469	-2.3696	-3.36261
Echdc3	-1.2554	-2.09399	-3.35938
0610008F07Rik	-1.60168	-2.78556	-3.35604
Gatm	1.09013	-1.31496	-3.34899
Ppp1r3b	-1.45511	-2.49495	-3.33312
Glyctk	-1.37495	-2.66014	-3.32673
Sms	-1.52063	-2.22998	-3.31602
Aspdh	-1.01086	-2.59338	-3.31167
Acsm3	-1.43507	-1.6418	-3.29984
2610029I01Rik	-1.07829	-1.56208	-3.28969
Uox	-1.05932	-2.01806	-3.28649
Acadsb	-1.41521	-2.02681	-3.28306
Pcsk6	-1.89058	-2.41025	-3.28001
Pccb	-1.28545	-2.61117	-3.24795
Ldhd	-1.51784	-2.09312	-3.23384
9030420J04Rik	-1.27283	-2.37606	-3.20491
C2cd2	-1.58475	-2.69141	-3.20379
Celf2	-1.81347	-2.16859	-3.19456
Fam195a	-1.69856	-2.07882	-3.1917
Suclg2	-1.37372	-2.51462	-3.19137
Pnkd	-1.67123	-1.53869	-3.19075
Fpr1	-1.35637	-1.82101	-3.17705
Acy1	-1.33858	-1.66531	-3.16403
Glo1	-1.8818	-1.9717	-3.16331
Oaf	-1.20215	-2.17074	-3.1414
Slc10a2	1.0973	2.43905	-3.13329
Pstpip2	-1.30788	-2.63421	-3.12452
Hibch	-1.39562	-2.09582	-3.11333

Fpgs	-1.62735	-2.94666	-3.1097
Fam176a	-1.23617	-1.67155	-3.09856
Mgam	-1.25419	-2.03098	-3.08376
Mmd	-1.60296	-2.58056	-3.08002
Nr1h4	-1.12532	-2.73868	-3.0765
Acy3	1.23632	-2.05629	-3.06811
Eepd1	-1.9012	-2.60213	-3.06775
Cish	-1.23202	-2.98569	-3.04975
Ggt6	-1.44038	-1.88356	-3.04228
Sult1c2	-1.3309	-1.01911	-3.02709
Gas1	-1.91618	-2.73757	-3.02116
Nipsnap1	-1.34542	-1.68917	-3.02075
Echdc1	-1.44615	-2.33919	-3.0181
Galm	-1.07426	-2.3793	-3.0169
Hibadh	-1.38402	-2.52084	-3.01526
Tnfsf10	1.2813	-1.47884	-3.00057

Supporting Table 7

Supporting Table 7, (Category IV transcripts)				
Gene Symbol	Fold-Change (Nodular vs. Control)	Fold-Change (HCC_A vs. Control)	Fold-Change (HCC_B vs. Control)	Legend
Timp1	1.65025	47.5328	16.1436	-15 onwards
Cpe	1.64063	46.8117	53.0535	-3 to -15
Lcn2	1.63729	17.7337	3.28789	-3 to -1
Apobec3	1.33143	13.6147	3.21626	1 to 3
Casp12	1.23194	13.2394	4.9444	3 to 15
Prom1	1.08693	13.2349	7.78962	15 onwards
Fstl3	1.20238	13.2344	6.15396	
Kdelr3	1.30194	12.8574	5.16865	
Actn3	1.17095	12.833	12.4529	
Tspan13	1.85836	12.2182	9.55444	
Pamr1	1.74829	12.0232	13.369	
Lipn	1.13009	11.7467	4.23466	
Slc25a4	1.19532	11.1056	6.1421	
Sprr1a	1.3643	11.0886	9.88433	
Rragd	1.64905	10.8864	3.26175	
Elovl7	1.76477	9.87082	12.1677	
Vill	1.53434	9.42062	4.66066	
Neto1	1.19963	9.1769	5.66694	
Wbp5	1.98874	8.5141	8.40853	
Spon2	1.92218	8.47313	7.20515	
Bex4	1.51721	8.38808	7.00337	
Ankrd1	1.30593	7.61296	7.68294	
Fads3	1.29174	7.54847	8.95494	
Sytl2	1.92819	7.53775	6.19514	
Slpi	1.0836	7.27965	4.22289	
Bicc1	1.19575	7.15674	5.47193	
Wfdc3	-1.00673	6.50794	4.02464	
Psrc1	1.98382	6.49131	6.10586	
Btg2	1.94839	6.48019	7.70054	
Osmr	1.94046	6.47489	4.1503	
Fhl3	1.91853	6.17309	8.61935	
Pak1	1.91676	6.07377	5.54321	
Sdcbp2	1.27869	5.98796	8.74705	
Cav2	1.82037	5.91925	4.9881	
S100a6	1.17083	5.86993	24.96	
Ier3	1.08138	5.80369	6.77032	
C630004H02 Rik	1.44044	5.80207	6.24923	
Tubb6	1.62878	5.80135	4.15945	
F3	1.9605	5.77645	4.45007	

Phgdh	1.44927	5.75616	3.24527
Tnfrsf10b	1.45766	5.73675	4.28498
Plekha2	1.83419	5.72416	5.16824
F2rl1	1.68027	5.71852	5.59453
Tnfrsf12a	1.09862	5.68673	6.48475
Tes	1.24152	5.46319	7.53173
Tmprss2	1.59783	5.42373	9.42569
Plp2	1.69916	5.35561	4.90373
Tubb2b	1.00878	5.33524	11.2852
Irak3	1.3035	5.31299	7.27636
Rab34	1.45297	5.27628	5.83746
Kif5c	1.45518	5.20984	3.92793
Dapp1	1.7537	5.15539	4.06593
Gipc2	1.83053	5.08525	4.89887
Emp1	1.60918	5.04904	4.47725
Slc44a3	1.89303	5.04391	3.12551
Vim	1.80453	5.04181	6.11242
4930583H14 Rik	1.08878	5.01167	4.33725
Reep2	1.61276	4.89227	4.00625
Pdp1	1.62322	4.86772	3.33339
Abca5	1.63917	4.77238	9.70687
Ift57	1.02921	4.74934	4.1962
Dnajc12	1.76252	4.7354	3.15167
Gm10567	1.40646	4.68113	3.05429
Chka	1.8503	4.62245	4.33907
Myof	1.14777	4.62237	13.94
Pqlc3	1.15279	4.56658	3.90818
Lass5	1.18263	4.5423	3.52472
Acot9	1.41582	4.53745	4.02427
Gpnmb	1.59939	4.53371	6.19502
Dab1	1.03268	4.40051	4.80036
Serpinb6a	1.09597	4.37469	8.3815
Atf3	1.60595	4.35421	5.6749
Doc2b	1.53581	4.30385	9.50577
Ms4a6b	1.34342	4.28724	6.63812
Bean	1.15701	4.26964	6.81531
Scn1b	1.9556	4.26867	4.11135
Fam164a	-1.07379	4.23514	4.20138
Cstb	1.3504	4.23136	3.3417
Lgi3	-1.06298	4.19448	5.30147
Ano6	1.33296	4.19192	5.192
Clcn5	1.30899	4.17789	4.80256
Icosl	1.40206	4.1478	8.7431
Cd44	1.12852	4.12731	3.00186

Msrb3	1.92161	4.03946	4.92765
Plp2	1.480785	4.026115	3.94078
5430435G22 Rik	1.06237	4.0124	3.58242
Bcl2	1.71873	4.01043	4.26536
Chmp4c	1.57641	3.98372	4.30406
Klf6	1.93955	3.98327	8.95502
Nck2	1.7388	3.90709	5.38822
Ndrg1	1.33074	3.87773	7.9237
Krt18	1.65374	3.84959	3.0962
Arhgef2	1.75667	3.8315	7.44808
Rbm3	1.930913333	3.78723	3.689896667
Fabp4	1.80352	3.77438	3.38366
Gprc5a	-1.12317	3.77205	6.13673
Atp8b2	1.47684	3.76801	4.0435
Pbx3	1.43596	3.73401	4.98795
Pvr	1.4959	3.7118	3.75486
Igfbp3	1.52148	3.69581	5.27951
Zfp9	1.74462	3.64312	3.11546
Lrrc39	1.41063	3.6271	3.57449
Sparcl1	-1.04515	3.58349	3.36672
Tspan5	1.14389	3.57844	3.19162
Cyp4f16	1.83697	3.56279	3.07528
Itpripl2	1.14153	3.53884	3.61548
Tcfcp2l1	-1.23418	3.53597	3.77991
Kcnk6	1.43689	3.51939	3.52936
Tm4sf4	1.24868	3.50315	4.12694
Plekha1	1.70521	3.46835	3.35078
Lrrc20	1.55586	3.45442	3.42526
Epdr1	1.02145	3.43673	3.35557
Lama5	1.58734	3.43088	7.02658
Arhgap11a	1.8474	3.42247	3.22875
Large	1.38289	3.41726	3.93582
Vsig10	1.95755	3.41315	3.99968
Cpm	1.62425	3.37618	4.75455
Fam60a	1.60943	3.37575	6.78991
2900073G15 Rik	1.538	3.369	3.58323
Rps6ka3	1.50258	3.35892	3.01453
Gm5068	1.4691	3.32936	3.91514
Syt12	1.62041	3.31475	4.03099
Mpzl1	1.43162	3.30406	3.20468
Wisp1	1.06314	3.25814	4.20828
Dnm3	1.81426	3.23191	4.45213
Mllt3	1.76269	3.22563	3.75399

Ctnnal1	1.31961	3.19723	3.48299
Vat1	1.19325	3.19253	3.88115
Qpct	1.36173	3.16435	7.57698
Eid1	1.28117	3.15226	3.05171
Dpysl5	1.11961	3.15093	3.32346
Reln	1.86953	3.13537	5.3344
Flna	1.25121	3.12101	4.01645
Lamb2	1.29096	3.08907	4.86585
Tubb5	1.66085	3.08278	3.45829
Map3k1	1.6328	3.07655	5.63151
Sox4	1.08731	3.03844	4.85544
Map4k4	1.23531	3.03238	5.30628
Vcl	1.98027	3.01356	3.04936
Lgr5	-1.60272	-3.05043	7.96855
Avpr1a	1.13453	-3.21862	5.75576
2810007J24Rik	-1.71609	-75.4588	-98.8299
Gm4738	1.05	-61.7125	-70.2064
Es31	1.0501	-43.9168	-103.465
Ugt2b1	-1.56119	-35.5483	-67.5393
Pck1	-1.07902	-22.8687	-16.4268
Cyp2c54	-1.78193	-21.775	-16.9421
Hsd3b5	1.28639	-21.5509	-24.9099
C730048C13Rik	-1.86867	-19.5842	-17.7807
Mup21	-1.49235	-18.9458	-21.0496
Cmah	-1.10026	-16.2912	-37.9393
Serpina4-ps1	1.77426	-15.5098	-19.8463
Mup3	-1.11015	-15.3342	-157.691
Cyp1a2	-1.90936	-27.7768	-4.4666
Slco1b2	-1.96047	-25.7374	-3.22862
Hamp	-1.26832	-24.1181	-6.13549
Apoa5	-1.2748	-22.3583	-14.6832
Vsig4	-1.26075	-18.0069	-11.9548
G6pc	-1.63402	-17.6032	-6.51916
Cyp2d13	-1.30641	-16.7338	-7.06523
Cyp3a25	-1.32782	-16.603	-7.34989
Pon1	-1.34055	-16.3822	-4.30702
Adh4	-1.77119	-16.1485	-9.2961
Hpd	-1.28824	-14.2161	-39.935
Es22	-1.96956	-13.5656	-16.2051
Keg1	-1.03658	-13.4054	-41.9946
Sdr9c7	-1.9051	-12.7519	-17.4906
Slco1a1	2.44495	-11.662	-18.6103
AI317395	-1.844	-10.7372	-16.2476
Gls2	-1.55575	-10.6788	-39.2034

Ces1	-1.52999	-8.57218	-18.2617
Agxt	-1.31939	-8.27962	-28.5971
Aass	-1.54603	-7.70864	-37.1446
Apon	-1.28706	-7.1608	-16.0734
Cyp2f2	-1.03224	-6.19571	-29.8694
Aadat	-1.24916	-6.10411	-16.2675
Otc	-1.18503	-5.7384	-19.9687
Mosc1	-1.30738	-5.52151	-16.9653
Ido2	-1.26205	-5.03804	-17.0566
Mbl1	-1.89171	-4.72049	-17.8056
Tdo2	-1.21118	-4.58523	-21.2744
Abat	-1.58125	-4.34325	-26.9604
C9	-1.2022	-4.11377	-89.9319
Gm5631	-1.66223	-14.1673	-12.5655
Inmt	-1.1847	-13.246	-10.3374
Hsd17b6	1.59512	-12.9126	-4.90067
Clec4g	-1.02713	-12.26	-7.80369
Cd5l	-1.10284	-11.2692	-12.3296
Car1	-1.42439	-11.2627	-14.7245
Dnase1l3	-1.0062	-11.1212	-7.71302
Cyp7b1	-1.41707	-10.6268	-10.1071
Upp2	1.39062	-10.5673	-4.29061
Cyp8b1	-1.0859	-10.2421	-7.27562
Dpp4	-1.24157	-9.91658	-3.05957
Hsd3b2	-1.46149	-9.90673	-10.7892
Mettl7b	-1.80643	-9.86267	-11.53
Srd5a1	-1.4045	-8.93	-9.78695
Igfals	-1.43251	-8.81117	-7.00091
Nudt7	-1.47731	-8.49655	-13.0738
Tmem86b	-1.483	-8.45605	-6.00275
Slc25a21	-1.38967	-8.12582	-3.53673
Nnmt	-1.89581	-7.85771	-13.3646
Hsd3b3	1.13277	-7.77103	-4.36084
Scnn1a	-1.65292	-7.61573	-7.22721
Slc17a3	-1.35064	-7.31021	-9.46844
Dpyd	-1.6416	-6.90364	-4.79101
Cyp4f14	-1.17041	-6.76403	-8.33253
Slc27a5	-1.24428	-6.75714	-3.85048
Prhoxnb	1.11371	-6.67979	-12.267
Ugt2a3	-1.01344	-6.66153	-7.84136
Cml1	-1.29892	-6.62895	-10.1202
Bmp2	-1.11733	-6.54132	-3.82771
Nox4	1.2092	-6.41725	-5.68698
Dpys	-1.42142	-6.41305	-5.69942
Clec4f	-1.27002	-6.34448	-7.10423

Adhfe1	-1.55055	-6.3303	-5.43054
Gpt	-1.64908	-6.26284	-10.2532
Gnmt	-1.53377	-6.2445	-14.1598
Colec10	-1.32594	-6.20915	-7.90007
Adh6-ps1	-1.52557	-6.20738	-8.22623
Alas2	-1.40934	-6.03665	-8.44277
Pecr	-1.69276	-5.94883	-9.19134
Cth	-1.91632	-5.7366	-9.93078
Mbl2	-1.40877	-5.66878	-4.94366
Mup1	-1.28606	-5.63123	-14.1978
Pygl	-1.26823	-5.54121	-3.04693
1100001G20Rik	-1.95094	-5.44181	-10.3537
Oit3	1.20571	-5.41534	-4.10126
Mup20	1.02378	-5.37217	-10.3266
Dmgdh	-1.38198	-5.3579	-4.85634
Ppm1k	-1.62897	-5.35081	-6.69443
Cyp2c67	-1.51423	-5.34038	-3.09113
Slc2a2	-1.26548	-5.28796	-4.98642
Hamp2	-1.76689	-5.27018	-6.35254
Inhbc	-1.3612	-5.18181	-9.37025
Phlda1	-1.4376	-5.15687	-5.89229
Serpina12	1.20013	-5.15442	-7.00781
1600002H07Rik	-1.66928	-5.1168	-5.99968
AI132487	-1.50354	-5.08714	-4.97783
Bco2	-1.51382	-5.0725	-3.29577
Acss2	-1.8686	-5.07216	-4.58759
Folr2	-1.38305	-5.0362	-5.14032
Fbp1	-1.07119	-5.00115	-6.01544
Agxt2l1	-1.74237	-4.99322	-5.76511
Kmo	-1.16986	-4.95369	-6.38803
Vipr1	-1.59194	-4.95215	-3.96391
Apol9b	-1.18036	-4.94808	-5.05962
Rxrg	-1.81179	-4.94594	-5.35184
3110049J23Rik	-1.8402	-4.89478	-5.21592
Ehd3	-1.07428	-4.85583	-4.44661
Cml2	-1.2038	-4.80235	-13.0582
Car3	-1.11176	-4.77301	-3.99709
Apol9a	-1.20157	-4.73671	-5.11097
Aacs	-1.77588	-4.71762	-3.87834
Gna14	-1.78309	-4.67983	-4.29223
Fabp7	-1.3836	-4.67933	-7.4461
Gstk1	-1.83929	-4.64643	-5.8797
Bdh2	-1.74684	-4.57917	-8.96919

Cd55	-1.01659	-4.55418	-3.7174
Cabc1	-1.78498	-4.54256	-4.39048
Cyp2d40	-1.31956	-4.49099	-3.60361
Slc10a1	-1.06592	-4.49048	-4.26528
Plxnc1	-1.22574	-4.47283	-4.83712
Fcna	-1.5428	-4.46352	-4.37318
Pde7b	-1.37503	-4.41488	-3.39166
Shpk	-1.46804	-4.39133	-5.42171
Mup2	-1.15778	-4.38893	-11.0431
Creb3l3	-1.36624	-4.30992	-4.70028
Fgf1	-1.46146	-4.27571	-4.58621
Aldh1l1	-1.45385	-4.2464	-6.75994
Erbb4	-1.73262	-4.24598	-4.44596
Fn3k	-1.48856	-4.23462	-5.07608
Hgd	-1.46582	-4.22921	-3.13488
Clec1b	-1.1111	-4.22881	-4.12517
Afmid	-1.3562	-4.21059	-10.918
Dhtkd1	-1.49945	-4.18304	-7.13582
Ces6	-1.21885	-4.18065	-4.54184
Lin7a	-1.0802	-4.17454	-7.30125
Adra1b	-1.61139	-4.17375	-4.57078
Haao	-1.36658	-4.11217	-13.8036
Srr	-1.84354	-4.10753	-6.98424
Agphd1	-1.021	-4.10508	-4.70228
Sntg2	-1.42657	-4.08787	-4.30714
Igf1	-1.05471	-4.04717	-13.5554
C8g	-1.28044	-4.02898	-5.34405
Pklr	-1.17795	-3.98678	-3.06562
Akr1c14	-1.22306	-3.96877	-3.63303
S1pr5	-1.7785	-3.92397	-5.22885
Sult1b1	-1.61996	-3.91073	-6.02001
G630090E17Rik	-1.96941	-3.91026	-5.67129
Clcn2	-1.66742	-3.90209	-3.81914
C6	1.24998	-3.89536	-14.4614
Gm14403	-1.27141	-3.89073	-3.7383
Mafb	-1.36729	-3.87566	-7.12085
3110057O12Rik	-1.45332	-3.87295	-3.10895
Mup11	-1.13796	-3.86879	-10.2665
Ugt2b37	-1.81825	-3.86291	-5.36846
Gcdh	-1.65548	-3.85305	-3.76627
Abhd15	-1.7832	-3.83188	-3.41497
Dio1	1.01815	-3.82633	-8.45206
Ephx2	-1.60676	-3.80567	-3.46121

Bphl	-1.54616	-3.78482	-3.85151
Abcb11	-1.44073	-3.78188	-3.24408
Mup7	-1.12391	-3.75244	-9.74784
Ivd	-1.54548	-3.75063	-5.37084
Tm7sf2	-1.63493	-3.73336	-3.96124
Sfxn5	-1.67171	-3.72065	-5.39756
Sec14l4	-1.16738	-3.69522	-4.28612
Ifit3	-1.26721	-3.6823	-5.11366
Adssl1	-1.9208	-3.66933	-4.05695
Cyp2c44	1.19465	-3.66512	-4.19307
Baat	-1.26892	-3.66373	-4.12153
Acsm5	-1.00067	-3.65684	-3.89381
Acsm1	-1.13241	-3.64718	-5.02604
Bhmt	-1.1372	-3.57486	-5.48603
Cyp2u1	1.16223	-3.57335	-4.66534
Ugt2b5	-1.88056	-3.57196	-7.06369
Mccc2	-1.42635	-3.55969	-3.2224
Sult5a1	-1.40684	-3.55806	-4.75385
Fam47e	-1.50392	-3.55146	-6.28961
Pemt	-1.26814	-3.52241	-3.16698
Kcnn2	-1.15286	-3.51888	-8.04663
Csrp3	-1.23274	-3.51741	-3.4098
Sec14l2	-1.53955	-3.5135	-4.50238
Hsd3b7	-1.7287	-3.50182	-3.02216
Mpv17l	-1.29628	-3.46828	-5.08822
Mrc1	1.11199	-3.45834	-3.39323
9030617O03Rik	-1.26303	-3.43941	-3.94623
Ugt2b38	-1.46807	-3.43903	-5.23031
Akr1d1	-1.53051	-3.42651	-7.01328
Clec2h	2.45858	-3.42541	-3.81134
Pcca	-1.65318	-3.42339	-5.87969
Cd163	-1.44765	-3.42023	-3.82844
Slc6a12	-1.09777	-3.41716	-3.55409
Aspg	-1.05834	-3.39414	-9.15901
Bdh1	-1.38127	-3.36739	-3.29652
Lrat	-1.3401	-3.3621	-3.03028
Il1rap	-1.19669	-3.31126	-7.72681
Pxmp2	-1.23199	-3.30367	-4.68994
Tymp	-1.67179	-3.29985	-4.5574
Pm20d1	-1.4105	-3.26899	-3.15771
Slc26a1	-1.10772	-3.24767	-3.88908
4931406C07Rik	-1.39161	-3.19919	-3.0507
Ehhadh	-1.63503	-3.19164	-3.49231

Acad11	-1.28943	-3.18548	-3.41374
Agmat	-1.47295	-3.18105	-3.28377
Pltp	-1.50948	-3.16494	-4.65294
Ppara	-1.27117	-3.15785	-3.07691
Il1a	-1.12039	-3.15743	-3.33466
Timd4	-1.29316	-3.15083	-3.89426
Hal	-1.09034	-3.15051	-11.807
1700001C19Rik	-1.02287	-3.14456	-3.37093
Fahd1	-1.4046	-3.13651	-3.18614
Plekhb1	-1.7152	-3.13146	-5.38499
Gm10319	1.19009	-3.11377	-8.36454
Hao1	-1.28158	-3.11352	-5.90589
Orm3	-1.13428	-3.10796	-5.80044
Sds	-1.07852	-3.09316	-13.5563
Syde2	-1.55148	-3.03928	-3.55813
Aldh9a1	-1.26104	-3.02208	-3.96882
Rtp3	1.05893	-2.49024	-5.02734

Supporting Table 8

Supporting Table 8 (Shared genes with Esnault et al., 2014)				
Gene Symbol	Fold-Change (Nodular vs. Control)	Fold-Change (HCC_A vs. Control)	Fold-Change (HCC_B vs. Control)	Legend
Thbs1	2.08549	4.91817	51.9212	-15 onwards
2900073G15Rik	1.538	3.369	3.58323	-3 to -15
Acsl4	2.65093	3.95778	5.47142	-3 to -1
Ahnak	3.63901	4.49717	8.16587	1 to 3
Ankrd1	1.30593	7.61296	7.68294	3 to 15
Ano6	1.33296	4.19192	5.192	15 onwards
Atf3	1.60595	4.35421	5.6749	
Bcl2	1.71873	4.01043	4.26536	
Btg2	1.94839	6.48019	7.70054	
Ctps2	2.56166	4.45756	3.89212	
Dnm3	1.81426	3.23191	4.45213	
Egr1	7.12353	9.59988	11.1919	
Ets2	2.14067	5.47127	6.20986	
F3	1.9605	5.77645	4.45007	
Fam60a	1.62115	3.17408	6.3873	
Fhl3	1.91853	6.17309	8.61935	
Flna	1.25121	3.12101	4.01645	
Ier3	1.08138	5.80369	6.77032	
Ifngr1	2.15542	5.30745	6.54226	
Klf6	1.93955	3.98327	8.95502	
Lass5	1.18263	4.5423	3.52472	
Msrb3	1.92161	4.03946	4.92765	
Myadm	3.65914	5.59333	4.91929	
Myh9	2.03021	3.16179	3.31906	
Nedd9	2.26994	5.35801	5.65459	
Tes	1.24152	5.46319	7.53173	
Tpm1	2.03419	3.72081	4.29852	
Tubb5	1.66085	3.08278	3.45829	
Tubb6	1.62878	5.80135	4.15945	
Vcl	1.98027	3.01356	3.04936	
Vim	1.80453	5.04181	6.11242	
Wdr1	2.02059	3.50992	3.33673	
Anxa5	1.91645	3.20169	2.63096	
Efemp2	1.25906	8.1605	2.33074	
Egr2	1.55594	3.87394	2.04193	
Glipr2	1.04867	5.69497	1.17986	
Hk1	1.50563	4.06462	2.62097	
Lgals3	1.12647	3.00285	2.76212	
Pdgfa	2.32682	3.38694	2.72126	
Timp3	1.54039	3.38018	2.19682	
Atp10a	1.40459	1.24109	13.9305	

Cdkn2c	2.3356	2.99309	3.28594
Ctgf	1.9353	1.74696	3.26534
Enc1	1.10151	1.77068	3.3031
Fam118a	1.33209	2.1546	4.58336
Fat1	1.47838	2.35104	3.18862
Fos	1.27432	1.60926	3.10977
Gpr153	1.10997	1.66547	3.16326
Jun	1.37278	2.56083	4.49577
Mybl1	1.1249	2.61006	4.42467
Pawr	1.59562	2.53621	4.01331
Rell1	1.80201	2.37196	3.2019
Rock2	1.0611	1.18219	3.08902
Samd4	1.63082	2.58163	3.87426
Serpine1	1.00661	2.60234	9.61473
Tead1	1.03918	2.4646	5.14323
Trpm4	1.73068	2.57956	3.42261
2410089E03Rik	1.1649	1.3875	2.03184
3110003A17Rik	1.28861	2.94157	2.15108
A130022J15Rik	1.29475	2.00259	1.58633
Actg1	1.38255	2.20465	1.96317
Alpk1	1.50921	1.88706	2.79467
Anxa1	1.534	2.45552	2.15443
Aurka	1.43396	2.31094	1.4415
Bcl10	1.34432	2.08982	1.96095
C130039O16Rik	1.40568	1.99536	2.2472
Calu	1.27227	2.25606	1.72367
Cav1	1.46668	2.57696	2.7883
Cdc25a	1.28529	2.5654	2.48283
Cdc42bpa	1.12956	1.2988	2.20546
Cdc42se2	-1.01359	2.15693	1.36811
Cdk17	-1.1619	1.30138	1.73612
Cirbp	1.43045	1.49257	2.47002
Col12a1	-1.22826	1.14034	1.7459
Coro1c	1.77033	2.8479	2.13126
Crim1	1.26716	1.21479	2.838
Cstf3	-1.01042	1.34182	1.98939
Ctps	-1.09513	2.6922	1.99106
Cyr61	-1.69692	1.28125	1.94982
D1Bwg0212e	1.16141	1.21248	2.2341
Dusp10	1.08485	2.42793	2.9616
Dusp5	1.71432	2.68366	2.0775
Enpp1	2.48106	2.52511	2.8159
Fam100a	1.28912	1.58765	2.23111
Fam3c	1.97924	2.2753	2.33265
Fam55c	1.07673	1.19622	2.52386
Flnb	1.2648	1.73145	2.38915
Fosl2	1.00727	1.30545	2.83034
Gmds	1.43633	2.67487	2.54246

Ier5	1.28745	2.93185	2.07434
Ifrd1	1.35821	1.91777	2.66318
Iqgap1	1.28076	2.22	2.58262
Irf2bp2	1.1219	1.66679	2.25512
Itgav	1.28173	2.0257	1.31071
Junb	-1.02318	1.6205	1.99381
Lass6	1.25452	2.13333	2.87766
Leprotl1	1.20466	2.23169	2.29447
Lox	1.12368	1.7637	2.0342
Lpp	1.19297	1.38714	2.1197
Maff	1.00133	1.61689	2.42149
Map3k8	-1.05942	1.36437	2.35395
Map4k3	1.11517	1.46675	2.00121
Mical2	1.08006	2.21789	2.55108
Morc4	1.20625	2.50298	1.78377
Msn	1.26633	2.07967	2.47652
Myo1c	1.41531	2.09177	2.5834
Nbeal1	1.42204	1.82814	2.75676
Nedd4l	-1.0618	1.56249	2.16897
Nfkbiz	-1.23105	1.27797	1.69275
Notch2	1.41532	1.77874	2.3229
Nt5c2	1.15196	2.26324	2.27732
Pdlim7	1.52199	1.88495	2.91847
Per1	1.63057	1.23222	2.47816
Pip5k1a	1.12368	1.42244	2.05904
Plekhg2	1.16736	1.71145	2.02136
Ppm1h	1.29048	2.02993	1.59223
Prc1	2.37678	2.95884	2.67791
Prkab2	1.36216	1.85091	2.26828
Ptrf	1.13115	2.67292	2.32217
Rassf1	1.11748	1.39797	2.11182
Rhob	1.42694	1.99405	2.81879
Rrbp1	2.0868	2.00107	1.38365
Rrm2	2.13227	1.43612	1.64964
Sh3gl3	1.51163	2.07892	2.49083
Smg1	1.30708	1.66572	2.49076
Snx6	1.12148	1.24678	2.04849
Stil	1.39099	2.13622	2.19782
Tacc2	-1.05793	1.31333	1.92412
Tfrc	1.14038	1.73411	2.02384
Tjp2	1.21676	1.96322	2.90689
Tmem98	-2.3007	1.88541	1.51128
Tmpo	1.38141	1.81959	2.15575
Tpm4	1.50705	2.05166	2.06635
Unc45a	1.26868	1.71221	2.23633
Vgll3	1.05422	1.52047	2.54403
Wwtr1	1.07553	1.49584	2.54857
Zyx	1.33908	1.66106	2.21519

Oxct1	-1.07327	2.303	-1.29682
Prepl	-1.03856	1.4947	-1.35271
Zdhhc14	1.76837	1.08202	-1.26772
Kitl	1.08971	-1.04084	5.45247
Lpin1	1.27567	-3.0015	1.04576
Lrp4	1.12763	-1.57881	1.27096
Nr4a1	-2.11235	-1.85589	1.43937
Prpf39	1.21632	-1.05342	2.02022
Rusc2	-1.15812	-1.13917	1.93269
S1pr3	3.64268	-1.10253	1.55324
Sgms1	-1.47029	-1.14055	1.96036
Stard13	-1.26675	-1.12741	2.26811
1300014I06Rik	-1.53484	-2.06475	-1.0622
3110057O12Rik	-1.45332	-3.87295	-3.10895
A430107O13Rik	1.22043	-1.4555	-1.66231
Aacs	-1.77588	-4.71762	-3.87834
Acly	-1.52331	-2.0821	-2.78101
Akr1e1	-1.09657	-2.15421	-2.0762
BC031353	-1.64839	-4.47208	-2.91739
Ccrn4l	-1.63728	-2.04547	-2.52723
Cpt2	-1.72979	-2.92319	-3.67031
Crybg3	-1.32124	-2.45913	-1.21867
Dusp6	-1.62469	-2.03647	-2.38458
Ecm1	-1.27689	-4.23218	-1.44658
Elovl5	-1.64393	-2.41924	-2.65706
Epb4.1l3	-1.04181	-1.79283	-2.06558
Fam126b	-1.31162	-2.34535	-2.20395
Hibadh	-1.38402	-2.52084	-3.01526
Hsdl2	-2.14625	-2.36482	-1.45808
Lyrm5	-1.43164	-2.9334	-2.64353
Mmd	-1.60296	-2.58056	-3.08002
Mreg	-1.48445	-1.8208	-2.64436
Mthfd1	-1.17074	-2.94592	-2.40104
Oat	-5.92246	-22.6358	-9.70971
Pank1	1.0125	-2.28851	-1.14658
Phlda1	-1.4376	-5.15687	-5.89229
Plk3	-2.08115	-4.01634	-5.73913
Prg4	-1.17924	-1.21449	-4.13927
Rgl1	-1.11501	-2.28009	-2.3727
Slc3a1	-1.33239	-2.57254	-12.4926
Snai2	1.46627	-1.16113	-1.66228
Syde2	-1.55148	-3.03928	-3.55813
Trap1	-1.20308	-1.72506	-2.23404
Trib1	-1.30515	-2.0613	-2.43816
Usp2	1.20189	-2.18804	-1.41176

Inventory of Supporting Information

A. Supporting Materials & Methods

B. References to Supporting Materials & Methods

C. Legends to Supporting Figures

D. Legends to Supporting Tables

A. Supporting Materials & Methods

Expression of SRF-VP16 in murine hepatocytes *in vivo*.

Alfp-CreER^{T2} mice were generated as described in Suppl. Figure 1A. Liver specificity of CreER^{T2} recombinase activity (Suppl. Figure 1B), its tamoxifen-inducible activation (Suppl. Figure 1B), as well as its spontaneous activity (Suppl. Figure 1B, C) are shown. Stop-floxed SRF-VP16 mice (*Gt(ROSA)26Sor$^{tm1(SRF-VP16)Antu}$* mice (1) were bred with *Srf-flex1* (floxed *Srf* exon 1) (2) and *Alfp-CreER^{T2}* animals to obtain triple transgenic mice, *Srf$^{flex1/wt}$::SRF-VP16$^{+/-}$::Alf-CreER$^{T2+/-}$* (termed *SRF-VP16^{iHep}* mice), with a mixed genetic background. Spontaneous Cre activation in *Alfp-CreER^{T2}* mice was followed upon breeding with mTmG-reporter mice (3) (Suppl. Figure 1C, D). Genotyping was performed by PCR (see Supplementary Materials and Methods). Animal housing and handling was conducted in accordance with the Federation of European Laboratory Animal Science Associations upon approval by the Regierungspräsidium Tübingen.

Primers and conditions for genotyping mice.

Genotyping of mice was performed by PCR using DNA extracted from ear punch biopsies. The primers used to detect the Cre-transgene were Alfp-CreER^{T2}-fw (5'-

CGGTCGATGCAACGAGTGATGAGG-3') and Alfp-CreER^{T2}-bw (5'-CCAGAGACGGAAATCCA TCGCTCG-3'). Three-primer PCR was used to genotype the *Srf* allele (2, 4) and the ROSA26-SRF-VP16 allele (1). Detection of Cre-mediated excision of floxed Stop-cassette for the SRF-VP16 construct was tested by PCR on DNA from various organs. Primers for the Rosa26 wt and the non-recombined Rosa26-SRF-VP16 loci were as previously described (1), while primers for the recombined SRF-VP16 locus were: ROSA-fw (5'-GGAGGCAGGAAGCACTTGCTCTCC-3') and hSRF-bw (5'-GCCTTCTTCATGATGCCCGTCTTC-3'). Further experimental details are available upon request. Animal housing and handling was conducted in accordance with the Federation of European Laboratory Animal Science Associations and approval by the local ethics committee (Regierungspräsidium Tübingen).

Antibodies for immunoblotting and immuno-histochemistry.

EGR1	Cell Signaling, Danvers, MA (#4153)	1:1000
GAPDH	Hytest Ltd, Turku, Finland	1:20000
Ki67	DCS, Hamburg, Germany (KI681R06)	undiluted
GS	Sigma-Aldrich, St. Louis, MO (G2781)	1:1000
VP16	Abcam, Cambridge, UK (ab4808)	1:500
DPP IV	R&D Systems, Minneapolis, MN (BAF945)	1:100
p21	BD Biosciences (556431)	1:50
Caspase 3 (activated)	Cell Signaling, Danvers, MA (#9661)	1:1000

Immunoblot analysis.

Discontinuous SDS-PAGE was performed using standard protocols. PVDF-membrane (45 µm; Roth, Karlsruhe, Germany) was used, with indicated antibodies according to manufacturers recommendations.

Histological Analysis.

Immuno-histochemical analyses were performed on 5 or 7 µm paraffin-embedded liver sections (citrate buffer antigen retrieval) using the indicated antibodies with standard protocols. For Figure 2B, the EGR1-positive nodular components within randomly chosen 10 mm^2 section areas were quantitated. For Figure 2C, numbers of Ki67-positive hepatocyte nuclei were counted within a continuous area of 5 mm^2 in diameter and normalized over numbers of total hepatocyte nuclei.

Analysis of genomic mutations of murine HCCs.

Sanger sequencing of cDNA: 1µg of total RNA, after extraction from whole liver tissue using RNeasy-Kit (Qiagen) and digestion with DNAse I (Roche, Switzerland), was converted to cDNA using MMLV-Reverse Transcriptase (Promega) primed by random hexamers. Subsequent target gene amplification used sequence specific primers (Ctnnb1-fw: 5'-GTCAGCTCGTGTCCTGTGAA-3'; Ctnnb1-bw 5'-CAGTGTCGTGATGGCGTAGA-3') and Phusion Polymerase (New England Biolabs). PCR products were purified by agarose gel electrophoresis, extracted and subjected to Sanger sequencing using above primers. Sanger sequencing of genomic DNA was performed as described previously (5), as were nutation analyses based on restriction fragment length polymorphisms for *Ha-Ras* and *B-Raf* (5, 6).

Quantitative High-Resolution DNA Methylation Analysis of murine samples.

To quantitatively assess DNA methylation levels in imprinting control regions and promoter regions of overexpressed candidate genes at single CpG resolution of 40 SRF-VP16-triggered murine HCCs, we used the MassARRAY system as described previously (7, 8). Briefly, 1 µg of genomic DNA was bisulfite converted and target regions were amplified by PCR using T7 promoter tagged primers. PCR products were then transcribed in vitro, cleaved with RNaseA, and subsequently analyzed by matrix-assisted laser desorption ionization time-of-flight mass spectrometry. Analysis of methylation profiles was done using the EpiTYPER® software (Sequenom, San Diego, CA, USA).

Primer sequences for MassARRAY assays:

GeneName	Remarks	LeftPrimer	RightPrimer	Length	CpGs
H19-DMR_1	DMR amplicon 1	TTTGAGGAGTTTTAAGGTAGAAGGG	AAACCAAAAAAACTTAACTCATTCCC	456	19
H19-DMR_2	DMR amplicon 2	TTTGTAGAATTTTTATGTTTTTTGGATG	CTACCCTAACAATCCCCAAATTAAC	485	6
Airn-TSS_1	promoter	TGGTGGTTAGGAAAATTTTTATAGGA	CTAACTTACCTCAATTCCCCAAAAT	493	7
Cdkn3	promoter	GGGGTAGGGTTTTGAATAAGGA	ACCTAAATCACCAAACTAACAAAAA	304	16
Igf2	promoter (* site)	GAGATTTTAAGGGTAGTTTTTAGTGAAT	TCCCCAACTTAAATTCTAATTTTTCTAA	451	25
Igf2	promoter (site 1)	TTTTTAATTTTTGTTTTGTTTGGGA	CCAATAATAACCCTTTAAAAACCTAA	467	17
Igf2	promoter (site 2)	GGGATAGATATTTAGGATTTAGTGGG	CCCTACACAAAAATTAACAACAAC	452	56
Igf2	promoter (site 3)	TTTTGTTTTTTTAGGGTATTTTAGGGTT	AAATTACATCCTCTCCTCTACTTAAAA	406	19
Igf2	site 4	TTGATTTATTGATGGTTGTTGGATA	AAAACAAAAAAAACCACTCACTTCTT	453	18
Igf2	site 5	TTGGGTTTTGGGATTTAAGTTTTAG	CTCCTCTTAAACAAAAACAATTCCA	459	5
Igfbp6	promoter amplicon 1	AAATATTAGAATAATTTGGGAAGTAAATAG	TTATCCCTCTCTCCTAAAACAACCT	444	22
Igfbp6	promoter amplicon 2	AGGTTGTTTTAGGAGAGAGGGATAA	ACCCAACCTACATCTATCCAAATTC	255	15

Methylation profiling of human HCCs.

The Infinium HumanMethylation27 BeadChip (v1.2; Illumina, San Diego, CA) was used to obtain genome-wide DNA methylation profiles across 27,578 CpG dinucleotides located in a region of 1 kb around the transcription start site of 14,495 genes as described previously (9).

Expression profiling of human HCCs.

Expression profiles were generated from 40 human HCCs as described previously (9). In brief, quality and integrity of the total RNA was controlled using an Agilent Technologies 2100 Bioanalyzer (Agilent Technologies; Waldbronn, Germany). Two hundred ng of

total RNA were applied for Cy3-labelling reaction using the one color Quick Amp Labeling protocol (Agilent Technologies). Labeled cRNA was hybridized to Agilent human 8x60k microarrays at 68°C for 16 h and scanned using the Agilent DNA Microarray Scanner. Expression values were calculated by the software package Feature Extraction 10.5.1.1. Complete data are available online (http://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE50579).

Genomic DLC1 status of human HCCs.

The genomic status of the DLC1 locus was retrieved from an existing aCGH data set available at the NCBI Gene Expression Omnibus database (http://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?token=hrsflskaayigkro&acc=GSE8351) (9, 10). The definition of the genomic status was based on the segmentation software GLAD (11).

CTNNB1 mutational analysis of human HCCs.

For amplification of exon three of the CTNNB1 gene, the following primer-set was generated: CTNNB1-F: CAA TCT ACT AAT GCT AAT ACT GTT TCG, and CTNNB1-R: CAA AAC TGC ATT CTG ACT TTC A. The following temperature profile was used: 94°C for 5 min followed by 30 cycles of 94°C for 1 min, 55°C for 1 min, and 72°C for 1 min. A final extension step of 72°C for 5 min was added. PCR-amplification was carried out using *Pfu* DNA Polymerase (Fermentas, Germany) according to the manufacturer´s instructions. PCR fragments were directly sequenced bidirectionally on an ABI PrismÒ 377-18 DNA Sequencer (Applied Biosystems, USA) using the BigDyeÒ Termination v1.1 Cycle Sequencing Kit (Applied Biosystems) according to the manufacturer´s instructions.

Expression profiling of murine samples.

The purity and concentration of total RNA were determined by absorbance measurements at 260 and 280 nm using a spectrophotometer (ND-1000; NanoDrop Technologies, Wilmington, DE). Respective RNAs were used to generate double-stranded cDNA with the random primer according to a microarray (GeneChip; Affymetrix Inc., USA) target labeling protocol, as described by the manufacturer. The processed cDNA was hybridized to Affymetrix arrays (GeneChip MouseGene 1.0 ST) for 16 to 18 hours to screen a total of 26,166 transcripts. Overall 12 samples were used for hybridization to microarray (GeneChip; Affymetrix Inc.). Each microarray was washed and stained with streptavidin-phycoerythrin and scanned (Affymetrix Scanner System 3000 7G; microarray; Affymetrix Inc.). A visual quality control measurement was performed to ensure proper hybridization after each chip was scanned. Additional quality control parameters, such as scaling factors used to normalize the chips, average background, and noise, were also evaluated.

For statistical analysis of microarray data, all CEL format files were imported to PARTEK Genomics Suite, version 6.4, where the RMA algorithm was applied to yield log signal values on each probe set. Significance was calculated using a *t*-test without multiple testing corrections, selecting all transcripts with a minimum change in expression level of 1.5-fold together with $P < 0.05$.

For Venn diagram representation, the cut-off for the selection of differentially regulated genes was 2 fold for premalignant nodules and 3-fold for HCC samples. The list of genes from each sample category were uploaded to the GeneVenn web application and the venn diagram generated (12).

For clustering analysis, the expression level values of the 58 genes normalized over controls were uploaded to Gene Cluster version 3.0. Clustering was performed on genes and arrays based on the 'Complete Linkage' method. Heatmaps were viewed using Treeview software.

Quantitative real-time PCR.

cDNA was obtained as described above. Subsequent quantitative PCR was performed using Sybr-Green reaction mix (Applied Biosystems, Foster City, CA; Roche, Rotkreutz, Switzerland) and the Applied Biosystems 7500fast System (Applied Biosystems, USA). Primers used:

Actb	AGAGAGGTATCCTGACCCTGAAGT	CACGCAGCTCATTGTAGAAGGTGA
Car3	TGATGGCATCGCTGTGGTT	CCTCGTCTTCACCTTC
Cdh1	TCGCCCTGCTGATTCTGATC	GGCTCTTTGACCACCGTTCTC
Cdk16	CACCCCCCACGCAAGA	GCTGGTAGTGACAGGCGTTTG
Ctnnb1	GTGCAATTCCTGAGCTGACA	CTTAAAGATGGCCAGCAAGC
Cyr61	TGAAGAGGCTTCCTGTCTTTGG	GGCGTGCAGAGGGTTGAA
Dusp2	TGCGAGGCGGTTTCAAAA	CCTGGGCAGGAGCTTCAG
Egr1	GCCGAGTGTCACTCCAAGAAATGG	TCCACCATCGCCTTCTCATT
Egr2	GTTGACTGTCACTCCAAGAAATGG	AGCGCAGCCCTGTAGGC
Fos	CCTGCCCCTTCTCAACGA	GCTCCACGTTGCTGATGCT
Gapdh	TGGATCTGACGTGCCGC	TGCCGTCTTCACCACCTT
Mmp14	CCTGCCTGCATCCATCAATA	CCCAGTGCTTATCTCCTTTGAAG
Myc	GTCTTTCCCTACCCGCTCAAC	GTGGAATCGGACGAGGTACAG
Snail1	CAACTATAGCGAGCTGCAGGTCTA	GGTCGTAGGGCTGCTGGAA
Vcl	CCAAGGTCAGAGAAGCCTTCC	CGTAGCTGTTCAAGGTCTGGT

Vim	GGTTGACACCCACTCAAAAAGAA	TCTCATTGATCACCTGTCCATCT
Vp16	CTTAGACGGGCAAGT	CCCAACATGTCCAGATCGAAA

Isolation and analysis of intrahepatic immune cells (IHICs).

Minced liver tissues (up to 1.5 g per mouse) were used for isolation of IHICs by digestion for 30 minutes at 37°C, 5% CO_2 in 6 ml RPMI-1640 medium containing 5% FCS, 1 mg/ml collagenase D (Sigma-Aldrich, St. Louis, MO), and 0.01 mg/ml DNAse I (Roche). The suspension was forced through a 70µm cell strainer and centrifuged at 4°C for 5 minutes at 400 g and pelleted erythrocytes were lysed for 10 min in 150 mM NH_4Cl, 10 mM $KHCO_3$, 2 mM NaEDTA. 10 ml PBS, containing 2% FCS, were added and samples centrifuged at 4°C for 5 min at 400 g. Pellets were resuspended in 10ml 35% Percoll in HBSS (Biochrom, Berlin, Germany) and centrifuged at room temperature for 30 minutes at 850g to select for IHICs. Pellets were suspended in PBS for immunostaining. Flow cytometry and cell population analysis was performed as previously described (13), using the following antibodies: CD4-PE (RM4-5), Gr1-eFluor450 (RB6-8C5), CD11c-APC (N418), CD8a-FITC (53-6.7), F4/80-PE-Cy7 (BM8); CD11b-APC-efluor780 (M1/70), NKp46-PerCp-Cy5.5 (29A1.4).

Statistical analysis.

Data were analyzed using the *Graph Pad Prism 5.0* Software. Statistical analysis was performed using two-tailed Student's t-test. *P* levels of <0.05 were considered significant. Code for *P* levels: * = < 0.05; ** = < 0.01; *** = < 0.001.

B. References to Supporting Materials and Methods

1. Sandstrom J, Heiduschka P, Beck SC, Philippar U, Seeliger MW, Schraermeyer U, Nordheim A. Degeneration of the mouse retina upon dysregulated activity of serum response factor. Molecular vision 2011;17:1110-1127.
2. Wiebel FF, Rennekampff V, Vintersten K, Nordheim A. Generation of mice carrying conditional knockout alleles for the transcription factor SRF. Genesis 2002;32:124-126.
3. Muzumdar MD, Tasic B, Miyamichi K, Li L, Luo L. A global double-fluorescent Cre reporter mouse. Genesis 2007;45:593-605.

4. Angstenberger M, Wegener JW, Pichler BJ, Judenhofer MS, Feil S, Alberti S, Feil R, et al. Severe intestinal obstruction on induced smooth muscle-specific ablation of the transcription factor SRF in adult mice. Gastroenterology 2007;133:1948-1959.
5. Aydinlik H, Nguyen TD, Moennikes O, Buchmann A, Schwarz M. Selective pressure during tumor promotion by phenobarbital leads to clonal outgrowth of beta-catenin-mutated mouse liver tumors. Oncogene 2001;20:7812-7816.
6. Strathmann J, Schwarz M, Tharappel JC, Glauert HP, Spear BT, Robertson LW, Appel KE, et al. PCB 153, a non-dioxin-like tumor promoter, selects for beta-catenin (Catnb)-mutated mouse liver tumors. Toxicol Sci 2006;93:34-40.
7. Ehrich M, Nelson MR, Stanssens P, Zabeau M, Liloglou T, Xinarianos G, Cantor CR, et al. Quantitative high-throughput analysis of DNA methylation patterns by base-specific cleavage and mass spectrometry. Proc Natl Acad Sci U S A 2005;102:15785-15790.
8. Claus R, Lucas DM, Stilgenbauer S, Ruppert AS, Yu L, Zucknick M, Mertens D, et al. Quantitative DNA methylation analysis identifies a single CpG dinucleotide important for ZAP-70 expression and predictive of prognosis in chronic lymphocytic leukemia. J Clin Oncol 2012;30:2483-2491.
9. Neumann O, Kesselmeier M, Geffers R, Pellegrino R, Radlwimmer B, Hoffmann K, Ehemann V, et al. Methylome analysis and integrative profiling of human HCCs identify novel protumorigenic factors. Hepatology 2012;56:1817-1827.
10. Schlaeger C, Longerich T, Schiller C, Bewerunge P, Mehrabi A, Toedt G, Kleeff J, et al. Etiology-dependent molecular mechanisms in human hepatocarcinogenesis. Hepatology 2008;47:511-520.
11. Hupe P, Stransky N, Thiery JP, Radvanyi F, Barillot E. Analysis of array CGH data: from signal ratio to gain and loss of DNA regions. Bioinformatics 2004;20:3413-3422.
12. Pirooznia M, Nagarajan V, Deng Y. GeneVenn - A web application for comparing gene lists using Venn diagrams. Bioinformation 2007;1:420-422.
13. Autenrieth SE, Warnke P, Wabnitz GH, Lucero Estrada C, Pasquevich KA, Drechsler D, Gunter M, et al. Depletion of dendritic cells enhances innate anti-bacterial host defense through modulation of phagocyte homeostasis. PLoS Pathog 2012;8:e1002552.

C. Legends to Supporting Figures

Supporting Figure 1

***Alfp-CreER^{T2}* mice display hepatocyte-specific Cre activity**

(**A**) Strategy to generate the *Alfp-CreER^{T2}* single-copy transgenic mouse line by DNA microinjection into mouse oocytes of the Alfp-CreER^{T2} BAC. This BAC construct is 200kb in size and harbors transcriptional regulatory elements of the *Alb* (albumin) and *Afp* (a-fetoprotein) genes in their original chromosomal arrangement. Genomic BAC clone RP23-279P6 (from mouse BAC library RP23) was recombined with the PCR-generated

CreER^{T2} cassette, containing 50bp arms of homology to the albumin exon 1 locus. Recombination inserted the CreER^{T2} cassette within *Alb* exon1, thereby disrupting *Alb* coding sequences on the BAC but preserving the promoter and relevant 5´ regulatory elements. Verified clones were recombined with FLP recombinase to excise the ampicillin cassette (Amp), thereby generating the Alfp-CreER^{T2} BAC.

(B) Cre-mediated loxP recombination events in several organs of *Alfp-CreER^{T2}* mice with and without five 1 mg tamoxifen injections (controls were injected with carrier solution), as evidenced by PCR of the *Srf-flex1* locus. Before treatment, exclusively in liver tissue, a faint band of the recombined *Srf-lx* allele can be detected (left). After tamoxifen application, exclusively in liver tissue, a strong induction of the recombined *Srf-lx* allele is found (right).

(**C, D**) Using the mTmG-reporter, within the first 10 weeks of age of untreated *Alfp-CreER^{T2}* mice, the accumulated percentage of recombined hepatocytes was quantified to be 0.38% (± 0.08%) (n=9).

Supporting Figure 2

Age dependence (weeks) of LBWR displayed by individual control (diamonds) and *SRF-VP16^{iHep}* mice. Red crosses indicate presence of HCC.

Supporting Figure 3

Methylation status of three individual CpG sites within the *hIGF2* and *mIgf2* promoter regions of human and murine liver tissues, respectively.

The CpG sites analyzed are named site 1, site 2 and site 3, corresponding to their locations shown in Fig. 7C (lower). The human HCC samples represent the Heidelberg cohort of 40; the murine samples represent 22 control liver tissues, 24 nodular liver

tissues, and 40 independent SRF-VP16-triggered tumor tissues. The individual human HCC samples indicated in red represent the SC10 tumors.

D. Legends to Supporting Tables

Supporting Table 1

Some SRF-VP16-triggered HCCs display activating point mutations in *Ctnnb1*.

Twenty-six HCC samples (derived from 16 animals) analyzed for point mutations in the coding sequences of *C* [illegible] *C* [illegible] activating mutations were found in 12 samples, each revealing one point mutation (located in one of codons 31, 34, 37, or 41; rows 3 and 4), resulting in a defined amino acid change (row 5).

Supporting Table 2

Complete listing of dysregulated transcripts in *SRF-VP16^{iHep}* liver tissues (premalignant nodules, HCC$_A$ (*Ctnnb1* wt), and HCC$_B$ (*Ctnnb1* mutated)).

Supporting Table 3

Listing of dysregulated transcripts in Category I (see Figure 6A).

Supporting Table 4

Listing of dysregulated transcripts in Category II (see Figure 6A).

Supporting Table 5

Listing of dysregulated transcripts in Category III (see Figure 6A).

Supporting Table 6

Listing of dysregulated transcripts in Category IV (see Figure 6A).

Supporting Table 7

Listing of dysregulated transcripts in Category V (see Figure 6A).

Supporting Table 8

Listing of *SRF-VP16*^{iHep} dysregulated genes shared with the 960-membered set of direct SRF target genes mediating the serum response of transformed fibroblasts (Esnault et al., 2014).