



Figure S1 ROC curve of the risk prognostic model. (A) ROC of 3-year OS in TCGA set. (B) ROC of 3-year OS in ICGC set.

Table S1 Selection of 568 CNV-driven genes using K-S test

geneName	pvalue	geneName	pvalue
DSCC1	2.13E-23	CDC25A	0.00395
PITPNM3	5.69E-17	MDF1	0.003993
DCST2	8.93E-15	OLFM3	0.004041
CENPL	1.10E-13	KBTBD11	0.004056
FLVCR1	1.23E-13	WDR76	0.004066
CAP2	1.79E-13	E2F2	0.0041
TK1	7.19E-12	C19orf33	0.004205
ACTN2	8.03E-12	SSUH2	0.004253
TRIP13	1.10E-11	OIP5	0.004384
DCST1	1.39E-11	FABP4	0.004394
GSTZ1	4.64E-11	LY6K	0.004406
IQGAP3	9.71E-11	BEST4	0.004495
MSH5	9.86E-11	SHCBP1	0.004532
TRIM72	3.26E-10	DCX	0.004536
GMNN	8.36E-10	MNS1	0.00472
SBSPON	1.19E-09	SLC6A9	0.00477
AURKA	1.48E-09	NAT2	0.004791
NUF2	2.29E-09	GRIK4	0.004843
SAPCD1	2.30E-09	PRAMEF8	0.005041
CENPW	3.42E-09	HPDL	0.005155

Table S1 (continued)

Table S1 (continued)

geneName	pvalue	geneName	pvalue
LHX4	4.31E-09	DTL	0.005272
SLC26A6	5.12E-09	COL24A1	0.005405
E2F1	5.75E-09	DLX1	0.005471
SLC6A2	1.65E-08	PLK4	0.005512
TPX2	2.67E-08	PRDM9	0.005513
STAR	2.95E-08	PIF1	0.005853
MT2A	2.96E-08	GJA10	0.0059
EPHA2	3.35E-08	DMRT3	0.005936
KDM8	3.36E-08	CXCL17	0.006061
EME1	6.71E-08	PPFIA4	0.006076
MT1X	7.26E-08	TFAP2A	0.006084
RCAN1	7.69E-08	GRIN2B	0.006138
TRIM45	7.79E-08	SNCG	0.006261
MTFR2	8.44E-08	MCIDAS	0.006303
CCNE1	8.45E-08	NNMT	0.006503
TCF19	9.96E-08	HCRT	0.006559
MFSD2A	1.73E-07	CD109	0.006795
UBE2T	1.82E-07	AKAP14	0.006841
CNNM1	2.19E-07	RPRM	0.006974
ADRA1A	2.20E-07	MAD2L1	0.006995

Table S1 (continued)

Table S1 (continued)

geneName	pvalue	geneName	pvalue
ACSM3	3.04E-07	OPRK1	0.00701
ARHGEF39	3.04E-07	ASB16	0.007061
NKD1	3.80E-07	SULT4A1	0.007136
CDKN2A	3.99E-07	PKMYT1	0.007136
TERT	4.29E-07	NEK2	0.007276
DNAJC6	7.76E-07	SPP1	0.007557
EGR3	8.85E-07	HIST2H4A	0.007651
ECT2	9.35E-07	TDGF1	0.007689
ZNF296	9.40E-07	TNFRSF19	0.007692
HP	1.30E-06	SERPINE1	0.007697
CAPN9	2.54E-06	CSRNP1	0.00781
ZNF648	2.69E-06	GAGE12J	0.007974
SLC2A5	2.86E-06	IQCD	0.007995
DPF1	3.70E-06	POPDC3	0.008109
GLUL	3.96E-06	NTF3	0.008207
GNAO1	4.16E-06	HHIP	0.008249
CLVS1	4.21E-06	PRAMEF7	0.008655
NDC80	4.64E-06	C1orf158	0.008699
TMEM145	4.70E-06	TLX1	0.008853
TNNT2	4.91E-06	TEDDM1	0.008955
GINS1	5.17E-06	CBX2	0.009009
ORC1	5.23E-06	JPH3	0.009072
BIRC5	5.35E-06	TAC3	0.009123
LENEP	5.64E-06	EXO1	0.009224
TTK	5.98E-06	EDIL3	0.009264
MESP2	6.08E-06	CSMD2	0.009306
FBXO43	6.63E-06	PZP	0.009467
S100A1	7.68E-06	BPIFB6	0.009526
ASPM	7.99E-06	RIPPLY2	0.009682
PBK	8.56E-06	TMEM190	0.009709
WDR62	8.64E-06	OR12D2	0.00982
CCDC78	8.89E-06	TNNI3	0.010009
PTP4A3	9.15E-06	MRAP2	0.010031
FBXL16	9.25E-06	GUCY2D	0.010194

Table S1 (continued)

Table S1 (continued)

geneName	pvalue	geneName	pvalue
GRIK2	1.05E-05	PAX2	0.010196
LRAT	1.05E-05	PDE1C	0.010331
AGBL4	1.07E-05	IL11	0.010425
DNASE1L2	1.11E-05	MYBPHL	0.010445
PRR11	1.14E-05	CETP	0.010487
CR1	1.14E-05	FAM183A	0.010659
SLC25A47	1.16E-05	TRAIP	0.010926
C5orf34	1.34E-05	LHFPL4	0.010995
MAEL	1.36E-05	FUT2	0.011094
DIRAS3	1.41E-05	MSLN	0.011203
C16orf89	1.59E-05	CD5L	0.01121
RDM1	1.60E-05	ADAMTS13	0.011247
PITX2	1.70E-05	TTC39A	0.011854
TPPP2	1.80E-05	DCC	0.01196
CLSPN	1.81E-05	MELK	0.012074
AC024361.1	1.94E-05	ECM1	0.012366
STRIP2	2.06E-05	CHGA	0.01239
SLC30A2	2.07E-05	PTHLH	0.012456
C20orf144	2.24E-05	OIT3	0.012494
TRAM1L1	2.37E-05	ANGPTL7	0.012827
MXD3	2.62E-05	C21orf62	0.012866
TOP2A	2.71E-05	CNTNAP4	0.012944
LPA	3.01E-05	UBD	0.01296
KIF14	3.14E-05	CCNB2	0.013309
EPS8L3	3.30E-05	SPINK4	0.01402
MCM10	3.86E-05	EGR2	0.014201
MRO	3.93E-05	RASGEF1A	0.014375
RND3	4.25E-05	VSIG10L	0.014389
ZIC2	4.65E-05	TRIM16L	0.014399
FGF4	4.67E-05	DMBT1	0.014437
HHIPL2	4.83E-05	EZH2	0.014555
KIFC1	4.85E-05	CCDC28B	0.014596
FANCI	4.94E-05	TGM4	0.014599
SKA1	4.98E-05	SIGLEC7	0.014646

Table S1 (continued)

Table S1 (continued)

geneName	pvalue	geneName	pvalue
CCNE2	5.38E-05	HGF	0.014699
NGFR	5.98E-05	CFP	0.014755
FAM83D	5.98E-05	NTSR2	0.015076
C19orf67	6.33E-05	FBP1	0.015648
ANGPTL6	6.45E-05	CLEC1B	0.015697
PRC1	6.78E-05	DNTT	0.015697
C7	6.95E-05	DRGX	0.015788
SLC44A5	7.01E-05	SEZ6L2	0.015861
UBE2C	7.10E-05	PAQR4	0.015928
TRIM71	7.18E-05	RASD2	0.015981
LRRN3	7.28E-05	ZNF676	0.016049
POU3F2	7.71E-05	PADI3	0.016076
PRAMEF4	8.06E-05	FANCB	0.016291
RGS20	8.29E-05	SPATC1L	0.016313
KIF18B	8.36E-05	COCH	0.01653
ADCY8	8.48E-05	RGS9BP	0.016607
CDCA2	0.000102	DMP1	0.016619
DLL3	0.000104	SLC6A18	0.016933
AADAT	0.000104	ADIPOQ	0.017094
CDC6	0.000106	DKK1	0.017225
ADH4	0.000108	PLAC8	0.017327
CDCA8	0.000109	PAGE4	0.017676
DEPDC1	0.000111	WDHD1	0.017731
CDKN2C	0.000116	SAPCD2	0.017842
MND1	0.00012	NUSAP1	0.017873
CHRNA2	0.000128	PCDHA1	0.018016
DYDC2	0.000139	BCAN	0.018236
MUC12	0.000144	SPHK1	0.01825
GPRIN1	0.000144	CSN3	0.018537
IGSF3	0.000149	KCNH2	0.018574
MSX1	0.00015	RTKN2	0.018576
OR2B6	0.000153	SCN1A	0.018671
LCAT	0.000165	MCOLN3	0.018741
TBC1D26	0.000166	ASF1B	0.018794

Table S1 (continued)

Table S1 (continued)

geneName	pvalue	geneName	pvalue
SP5	0.00017	TEX19	0.019257
BLM	0.000206	TNFRSF9	0.019682
TNNC1	0.000207	MAFA	0.020213
FCN3	0.000211	AQP10	0.020458
MYOM2	0.000211	KCTD8	0.020701
ILDR2	0.000212	NPY1R	0.020904
FOS	0.000213	SH3GL3	0.021176
WNT3A	0.000222	CSTL1	0.021369
IL17D	0.000236	KCNH4	0.021465
MYBL2	0.00024	DLX5	0.021492
INSRR	0.000242	TSPAN5	0.021552
GDAP1L1	0.000248	UGT2B11	0.021569
TRIM16	0.000248	CELF3	0.021576
SFN	0.00025	CXCL12	0.021793
NEFL	0.000272	DYDC1	0.022052
RAD54L	0.000276	KEL	0.022118
PLK5	0.000279	ADRA2C	0.022513
FOXO2	0.00028	RPS6KL1	0.022855
AHNAK2	0.000283	ASPG	0.022965
WDR87	0.000308	LCN2	0.022966
CYP11B2	0.000309	PDZK1IP1	0.02298
CUZD1	0.000316	UTS2R	0.023074
SYT5	0.00032	C6orf223	0.023328
CRLF1	0.000355	PSMA8	0.023559
EFNA3	0.000365	TMEM266	0.023876
GNGT1	0.000383	RBPJL	0.023947
AMH	0.000393	KCNN1	0.024105
CDRT1	0.000409	PHYHIPL	0.024326
IL1RAP	0.000409	GJC1	0.024525
FGF20	0.000426	RNF224	0.024879
FLNC	0.000426	CLLU1	0.024925
CHAF1B	0.000432	REC114	0.025168
DIO2	0.000439	BUB1B	0.025173
HIST1H3H	0.000445	TMEM26	0.025593

Table S1 (continued)

Table S1 (continued)

geneName	pvalue	geneName	pvalue
PRAMEF15	0.000447	CCNO	0.026383
CERS1	0.000453	SPTA1	0.026717
SPC25	0.000472	KIRREL2	0.026986
RXFP4	0.000495	ARHGAP11A	0.02749
CENPU	0.000499	FOXN4	0.028642
HIST1H2AM	0.0005	DDIT4L	0.028701
CDC20	0.000542	CLEC4M	0.029083
CPLX2	0.00058	MT1M	0.029124
MAPT	0.000582	GABRG2	0.029433
TMEM61	0.000583	SLC10A4	0.029756
PRR19	0.000585	ADAM18	0.0299
TICRR	0.000611	LHX8	0.029963
BHLHA9	0.000613	TMEM130	0.029969
PRAMEF11	0.000676	HTR3B	0.030061
MLANA	0.000711	TSLP	0.030157
RHBG	0.000722	FXYD3	0.030387
MT1G	0.000731	GFY	0.030621
MYH7B	0.000743	TWIST2	0.030742
AP1M2	0.000771	ARX	0.031148
NRCAM	0.000817	CDCA3	0.031234
MT1E	0.000818	TMEM178B	0.031289
FAM24B	0.000826	HIST1H2BL	0.031348
LEF1	0.000833	HELLS	0.031363
KIF2C	0.000862	DLX2	0.031769
SYN3	0.000866	SOHLH1	0.031942
STIL	0.000877	VASH2	0.03258
SPARCL1	0.000891	HIST1H4H	0.033016
NKPD1	0.000891	CDH22	0.03303
DMKN	0.000898	MCCD1	0.033099
CPEB3	0.000902	GABRA2	0.033139
GPM6A	0.000935	PCSK1N	0.03334
MYH13	0.000943	AKR1B15	0.033566
SKA3	0.000949	HJURP	0.033946
ZIC5	0.000957	C1orf61	0.034063

Table S1 (continued)

Table S1 (continued)

geneName	pvalue	geneName	pvalue
RRM2	0.000964	PXDNL	0.034163
CCDC185	0.000975	SCNN1G	0.034168
CCNA2	0.000989	OLFML2B	0.034288
PTGS2	0.001067	COMP	0.034717
LILRA5	0.001077	RBFOX1	0.034837
HIST1H4E	0.001079	ERC2	0.034892
CD24	0.001083	CYP17A1	0.035361
DNAH3	0.001094	COL7A1	0.035713
EXTL1	0.001175	MSH4	0.035842
DCAF12L2	0.001198	SCUBE1	0.036087
CACNA1B	0.0012	TUBAL3	0.036221
CELSR3	0.001218	THY1	0.036838
FGF19	0.001243	GPR19	0.036988
FPR2	0.00126	KIF11	0.037047
CDH24	0.001268	CLLU1OS	0.03705
PRRX1	0.001304	BAIAP2L2	0.0376
BCO2	0.00134	TRIM17	0.038129
RIMS2	0.00136	DRD4	0.038255
RGSL1	0.001462	PTGFR	0.038389
NKX1-2	0.001503	FTHL17	0.038397
RNF157	0.001511	FERMT1	0.038808
UNC5D	0.001567	HIST1H2AI	0.038906
TCF24	0.001626	IGFL2	0.039086
CRYBA4	0.001674	NCAPG	0.039138
CDK1	0.001683	NKX3-2	0.039567
ATP4A	0.001695	PHEX	0.039696
PRAMEF2	0.001698	TACC3	0.039811
PADI4	0.001727	HNRNPCL3	0.039879
MAMSTR	0.001798	CRH	0.039978
BDKRB1	0.0018	EDARADD	0.040143
C1QTNF3	0.001806	CTNND2	0.040363
SLC7A10	0.001818	KRT12	0.0405
AKR1B10	0.00182	GPRC6A	0.040554
CDT1	0.001827	SLC6A7	0.04062

Table S1 (continued)

Table S1 (continued)

geneName	pvalue	geneName	pvalue
SORCS3	0.001905	CAGE1	0.04086
CENPF	0.001933	AMBN	0.041144
STMN1	0.001953	ZNF729	0.041209
CAPN8	0.00207	STOML3	0.041328
KCNA1	0.002138	PPP1R1B	0.041339
FANCD2	0.002144	FGF8	0.041766
KIF23	0.002221	COLCA2	0.041779
STK39	0.002222	SLCO1B3	0.041793
TRIM63	0.002265	EEF1A2	0.042188
UPK1A	0.002272	SFRP4	0.042195
GFAP	0.002313	MAGEB1	0.042222
ORC6	0.002334	CST2	0.042229
ANO2	0.002354	ATP6V0D2	0.042445
RNF151	0.002371	MAGEB16	0.042488
CDH12	0.0024	CCDC155	0.043075
RBM24	0.002474	SLCO1C1	0.043108
CDC7	0.002552	PLVAP	0.043201
GJA3	0.002599	PYDC1	0.04323
ZIC4	0.002637	PAGE1	0.043298

Table S1 (continued)**Table S1** (continued)

geneName	pvalue	geneName	pvalue
DMRTB1	0.002856	PPP1R14C	0.04356
ZWINT	0.002924	RHBDL3	0.043841
CRIP3	0.002929	ARID3A	0.04389
EGF	0.002939	KIF19	0.044518
PRR36	0.002949	MT1B	0.044538
DCAF4L1	0.00295	SDR16C5	0.044821
CPA6	0.003043	SLC30A8	0.044885
SLC5A11	0.003067	SYT2	0.045084
FHAD1	0.003071	NPHS1	0.045219
CCDC13	0.003075	PSAPL1	0.045438
CCL25	0.003123	HIST3H2BB	0.045642
MT1F	0.003136	KCNJ6	0.045655
RNFT2	0.003155	CCBE1	0.04567
MOS	0.003209	C1QL1	0.046086
FITM1	0.00321	FBXW10	0.046112
KCNJ5	0.003402	QRFRP	0.046277
TSPO2	0.003711	SLC12A1	0.047138
STMND1	0.003717	TMEM155	0.047734
GLP2R	0.00375	KPNA7	0.047942
TLL2	0.003847	IGFALS	0.048685
ARFGEF3	0.003936	ESR1	0.049811

Table S2 Wilcoxon rank-sum results

gene	conMean	treatMean	logFC	pValue	fdr
PITX2	0.014548	0.114562	2.977216	0.001589	0.001679
RBM24	0.271788	1.516507	2.4802	1.50E-16	2.69E-16
UBE2C	0.020923	8.417896	8.652209	1.02E-21	2.67E-21
OLFML2B	0.098781	2.417167	4.612942	2.35E-27	2.15E-26
ASB16	0.272465	0.641053	1.234375	4.44E-23	1.35E-22
CCNE1	0.010827	2.292889	7.726339	4.44E-25	1.79E-24
SYT5	0.042541	0.118585	1.478985	1.22E-08	1.56E-08
GINS1	0.178909	1.851394	3.371313	3.95E-25	1.61E-24
CDKN2C	0.52573	4.201133	2.998385	3.01E-28	5.90E-27
AMH	0.10028	0.326345	1.702369	6.50E-08	7.97E-08

Table S2 (continued)

Table S2 (continued)

gene	conMean	treatMean	logFC	pValue	fdr
ASPG	9.642475	3.656328	-1.39901	5.59E-17	1.01E-16
GSTZ1	9.615745	4.162492	-1.20795	2.84E-21	6.93E-21
AKAP14	0.026238	0.09208	1.811205	8.14E-08	9.92E-08
TOP2A	0.034263	5.126495	7.225183	8.50E-25	3.21E-24
SLC2A5	0.183757	1.256253	2.773257	2.44E-12	3.58E-12
TRIM45	0.372207	1.097112	1.559535	1.92E-25	8.50E-25
EXO1	0.100456	1.082293	3.42945	2.45E-27	2.20E-26
CDCA8	0.065069	2.696066	5.372748	5.71E-28	7.59E-27
DCST2	0.389916	0.810804	1.05619	4.30E-22	1.18E-21
FBXW10	0.233479	0.559304	1.26034	2.24E-09	2.92E-09
TAC3	0.102345	0.239951	1.229298	3.07E-07	3.70E-07
TRIP13	0.18207	1.469062	3.012331	1.74E-28	5.90E-27
NCAPG	0.326387	1.929736	2.563746	7.79E-28	9.17E-27
MAEL	0.010256	0.772496	6.234976	4.34E-08	5.40E-08
PIF1	0.187355	0.781849	2.061115	1.78E-24	6.26E-24
DIO2	0.020267	0.368483	4.184362	2.15E-08	2.73E-08
MAPT	0.124496	0.56075	2.171254	3.34E-25	1.40E-24
TEX19	0.002376	0.113794	5.581928	4.87E-22	1.32E-21
ASPM	0.198747	1.684712	3.0835	1.98E-27	1.89E-26
GJA3	0.010813	0.046377	2.100646	0.003454	0.00364
GRIK4	0.056012	0.16358	1.546178	3.46E-06	3.96E-06
RASD2	0.037473	0.416474	3.47429	8.60E-27	6.33E-26
MYH7B	0.228411	0.768049	1.749567	1.39E-06	1.62E-06
LY6K	0.081836	0.363969	2.153011	0.000102	0.000112
LRRN3	0.446977	0.182201	-1.29467	5.18E-21	1.21E-20
EGF	0.006458	0.207539	5.006125	1.10E-05	1.24E-05
AKR1B15	0.221349	1.645843	2.894435	6.01E-09	7.72E-09
MT2A	890.5815	185.0133	-2.26712	5.34E-24	1.75E-23
HIST1H2AM	0.08472	0.534141	2.656443	2.63E-20	5.72E-20
ERC2	0.0172	0.06826	1.988584	4.37E-08	5.43E-08
HP	2316.924	656.6056	-1.81911	1.99E-21	5.00E-21
DLX1	0.008581	0.132206	3.94549	6.43E-12	9.10E-12
ZWINT	0.308956	5.3194	4.105791	6.61E-26	3.28E-25
CCNB2	0.070746	2.912539	5.363481	9.52E-28	1.06E-26

Table S2 (continued)

Table S2 (continued)

gene	conMean	treatMean	logFC	pValue	fdr
IL1RAP	5.861583	2.910083	-1.01023	3.91E-16	6.80E-16
CAPN9	0.077565	0.240577	1.633023	2.09E-11	2.92E-11
BEST4	0.09446	0.326104	1.787566	7.28E-18	1.44E-17
CAPN8	0.21514	0.519395	1.271556	2.89E-12	4.20E-12
PTHLH	0.182931	0.947187	2.372349	2.49E-05	2.79E-05
KCNJ6	0.021697	0.062015	1.515103	7.02E-07	8.31E-07
ZIC2	0.001063	1.393709	10.35664	2.11E-20	4.66E-20
ECM1	10.22191	2.548523	-2.00393	4.24E-27	3.43E-26
CPEB3	3.781311	1.554166	-1.28275	9.00E-24	2.83E-23
NEK2	0.053849	2.17434	5.335514	2.89E-27	2.53E-26
LEF1	0.344472	1.357595	1.978592	3.47E-17	6.45E-17
VASH2	0.115679	0.438832	1.923535	1.02E-17	2.00E-17
ZNF648	0.143655	0.445529	1.632907	0.000105	0.000115
CD109	0.209051	1.246832	2.576337	4.03E-16	6.98E-16
FANCB	0.061653	0.216295	1.810756	1.30E-21	3.38E-21
C1QTNF3	0.002659	4.887746	10.84402	1.43E-12	2.13E-12
RTKN2	0.075386	0.27477	1.865848	5.34E-19	1.12E-18
TCF19	0.169691	3.861876	4.508322	1.53E-26	1.02E-25
CDK1	0.225714	3.206727	3.828531	7.09E-28	8.85E-27
MT1G	768.8577	195.446	-1.97595	2.78E-33	1.14E-30
PRR19	0.327069	0.79076	1.273644	9.25E-11	1.25E-10
GJC1	0.113938	0.576731	2.339646	4.53E-26	2.39E-25
HHIP	1.177773	0.375211	-1.65029	3.63E-26	1.96E-25
RNFT2	0.0626	0.366348	2.548969	1.10E-21	2.88E-21
TMEM61	0.060691	0.359659	2.567074	0.000139	0.000151
CSMD2	0.041075	0.150221	1.870734	2.21E-16	3.87E-16
LENEP	0.008534	0.065722	2.945029	5.23E-12	7.45E-12
ACSM3	7.327693	3.526277	-1.05521	3.51E-21	8.41E-21
KCNN1	0.03743	0.125001	1.739655	4.44E-12	6.38E-12
MT1X	245.77	51.49964	-2.25467	4.61E-24	1.52E-23
CRIP3	0.916265	3.012009	1.716889	7.54E-22	1.99E-21
ANO2	0.089137	0.240415	1.431432	3.11E-17	5.80E-17
EFNA3	0.29915	1.411479	2.238269	3.03E-22	8.44E-22
NNMT	298.152	77.54793	-1.94289	4.24E-19	8.96E-19

Table S2 (continued)

Table S2 (continued)

gene	conMean	treatMean	logFC	pValue	fdR
TRIM17	0.081177	0.262592	1.693686	4.65E-11	6.39E-11
RHBDL3	0.02016	0.339687	4.074611	3.97E-09	5.12E-09
PRAMEF4	0.028001	0.452487	4.014341	0.000327	0.000349
RDM1	0.074991	0.491499	2.712394	1.70E-23	5.27E-23
ARID3A	0.240386	2.03473	3.08141	2.49E-18	5.09E-18
CUZD1	0.071638	0.430341	2.586677	7.37E-16	1.25E-15
NPHS1	0.021542	0.087244	2.01793	2.15E-07	2.61E-07
CLSPN	0.078489	0.406259	2.371843	4.73E-22	1.29E-21
PZP	9.670536	0.911966	-3.40654	2.27E-21	5.61E-21
GPM6A	1.842934	0.590992	-1.64079	6.42E-26	3.23E-25
TTK	0.172461	1.17707	2.770857	3.81E-27	3.27E-26
CHRN2	0.017393	0.054507	1.647908	1.44E-11	2.03E-11
CDC20	0.00324	6.542496	10.97957	4.73E-21	1.12E-20
CD24	1.354992	28.50801	4.395012	1.35E-10	1.81E-10
CELSR3	0.099311	0.641211	2.690779	2.23E-27	2.09E-26
TNNC1	0.096207	1.799563	4.225359	1.41E-08	1.80E-08
CLEC4M	6.048182	0.865239	-2.80533	2.57E-30	3.53E-28
EZH2	0.755838	2.713735	1.84413	4.59E-28	7.20E-27
CENPF	0.082785	1.787432	4.432372	4.06E-28	6.97E-27
CDCA3	0.295806	1.512753	2.354454	1.84E-28	5.90E-27
BHLHA9	0.098621	0.021638	-2.18835	1.28E-14	2.03E-14
IGFL2	0.072625	0.150249	1.048824	3.83E-06	4.36E-06
FANCD2	0.360865	1.132547	1.650041	2.65E-25	1.14E-24
PLVAP	0.113872	25.64005	7.814837	2.74E-29	1.61E-27
CDKN2A	0.266405	3.129789	3.554375	1.87E-25	8.37E-25
CDC7	0.481091	1.407633	1.548889	3.18E-24	1.06E-23
C19orf33	0.220282	2.415676	3.455004	0.015246	0.015902
CLEC1B	5.102987	0.840832	-2.60145	1.77E-29	1.38E-27
RGS9BP	0.002441	0.033655	3.785376	2.92E-15	4.74E-15
GPRIN1	0.081052	0.807134	3.315885	6.69E-22	1.78E-21
RCAN1	16.90906	5.347118	-1.66096	5.46E-24	1.77E-23
KIF23	0.274751	1.206116	2.134175	8.04E-26	3.85E-25
TFAP2A	0.117091	0.363664	1.634983	5.48E-08	6.76E-08
UBD	2.782608	44.27614	3.99202	7.95E-16	1.34E-15

Table S2 (continued)

Table S2 (continued)

gene	conMean	treatMean	logFC	pValue	fdr
SPHK1	0.539595	3.801175	2.816497	8.75E-05	9.59E-05
DIRAS3	2.731089	0.872223	-1.64671	2.04E-22	5.82E-22
NPY1R	2.265229	1.038644	-1.12496	1.64E-22	4.72E-22
DNAJC6	0.139482	0.729746	2.387314	1.97E-21	4.98E-21
LILRA5	1.921618	0.819385	-1.22971	1.99E-16	3.51E-16
RGS20	0.021651	0.095341	2.138638	1.57E-12	2.32E-12
FOXN4	0.166522	0.895339	2.426722	0.001048	0.001113
ORC1	0.122423	1.099514	3.166917	3.62E-26	1.96E-25
IQCD	0.081773	0.514416	2.653235	5.48E-21	1.28E-20
CSRNP1	18.98319	5.898589	-1.68628	1.32E-22	3.87E-22
ZIC5	0.017259	0.4382	4.666162	1.26E-20	2.85E-20
E2F1	0.042362	5.598552	7.046154	2.62E-23	8.06E-23
KIF14	0.121035	0.683004	2.496475	5.88E-26	3.03E-25
FHAD1	0.067709	0.184671	1.447543	1.15E-13	1.80E-13
FABP4	0.329511	6.321003	4.261756	3.49E-10	4.64E-10
EPS8L3	0.023725	3.821074	7.331422	1.93E-16	3.41E-16
DLX5	0.009925	0.220976	4.476685	3.86E-14	6.08E-14
CENPW	0.257762	5.643826	4.452562	8.05E-28	9.21E-27
CXCL12	21.69151	5.292733	-2.03505	1.08E-24	3.95E-24
TSLP	1.997337	0.84791	-1.2361	1.59E-20	3.55E-20
DLX2	0.003833	0.066805	4.123584	4.97E-07	5.91E-07
DSCC1	0.321833	1.383548	2.103988	2.52E-28	5.90E-27
ZNF676	0.061486	0.294662	2.260724	0.041389	0.042631
FPR2	0.61853	0.223964	-1.46558	6.95E-16	1.18E-15
SKA1	0.010313	1.430236	7.115643	2.87E-28	5.90E-27
TMEM145	0.063502	0.428228	2.75351	1.00E-19	2.15E-19
OIP5	0.321466	1.607628	2.322194	6.58E-24	2.10E-23
NRCAM	0.150986	1.097458	2.86168	0.000107	0.000116
NGFR	5.139406	2.249034	-1.1923	8.26E-18	1.63E-17
SLC6A9	0.262446	1.005621	1.937993	4.04E-15	6.50E-15
SERPINE1	82.85032	24.82337	-1.73881	1.78E-11	2.49E-11
S100A1	0.628054	2.948731	2.231134	7.33E-12	1.03E-11
MESP2	0.011331	0.579584	5.676711	2.87E-25	1.22E-24
HPDL	0.03376	0.272197	3.011271	1.75E-16	3.11E-16

Table S2 (continued)

Table S2 (continued)

gene	conMean	treatMean	logFC	pValue	fdR
DEPDC1	0.09103	0.864537	3.247522	9.69E-27	6.88E-26
SLC44A5	0.205607	0.840544	2.031431	0.005659	0.005933
FAM183A	0.115749	0.390169	1.753102	4.93E-05	5.45E-05
DRD4	0.200916	0.849174	2.079467	1.06E-14	1.68E-14
CDCA2	0.088104	0.628759	2.835232	5.95E-25	2.38E-24
KIF11	0.267462	1.535667	2.52146	9.53E-26	4.51E-25
TDGF1	0.285436	1.506102	2.39958	3.96E-05	4.39E-05
E2F2	0.047971	0.486718	3.342856	3.43E-25	1.41E-24
MNS1	0.358531	1.890552	2.398639	5.34E-14	8.37E-14
UBE2T	0.071707	5.830857	6.345454	2.78E-28	5.90E-27
BAIAP2L2	0.14049	4.46118	4.988886	1.41E-18	2.88E-18
SFRP4	0.183978	1.272288	2.789819	3.73E-14	5.90E-14
COMP	0.116212	0.916884	2.97998	2.43E-05	2.73E-05
AHNAK2	0.09837	0.371052	1.915331	0.031477	0.032502
FLVCR1	0.472587	2.082588	2.139724	2.14E-28	5.90E-27
CAP2	0.431424	5.887226	3.77041	6.49E-25	2.52E-24
TRAIIP	0.196064	1.132998	2.53075	4.53E-28	7.20E-27
PLK4	0.214192	0.728801	1.766623	3.38E-25	1.41E-24
C5orf34	0.165382	0.636554	1.944484	5.70E-28	7.59E-27
FAM83D	0.246566	3.68129	3.900168	8.12E-25	3.10E-24
GPR19	0.046778	0.241464	2.367916	2.04E-21	5.07E-21
KIFC1	0.017211	3.436522	7.641495	1.42E-26	9.62E-26
DDIT4L	0.056481	0.356477	2.657972	3.54E-05	3.94E-05
MELK	0.130939	1.979966	3.918504	4.98E-28	7.33E-27
TK1	0.255001	12.09733	5.56804	1.02E-24	3.75E-24
OIT3	21.30992	3.413868	-2.64205	7.53E-27	5.72E-26
ADAMTS13	4.936471	1.602208	-1.62342	5.33E-28	7.57E-27
HIST1H4H	0.102978	2.183295	4.406106	4.39E-18	8.86E-18
HIST2H4A	0.005339	0.11679	4.451322	1.74E-16	3.11E-16
RNF151	0.02758	0.079913	1.534797	2.18E-08	2.76E-08
MAMSTR	0.144142	0.578966	2.005994	2.02E-24	6.93E-24
ATP6V0D2	0.088933	0.407899	2.197414	3.37E-12	4.88E-12
FLNC	0.023016	1.835133	6.3171	4.03E-06	4.58E-06
SLC10A4	0.042695	0.095917	1.167719	9.75E-07	1.14E-06

Table S2 (continued)

Table S2 (continued)

gene	conMean	treatMean	logFC	pValue	fdr
MT1M	64.23517	19.09479	-1.75018	7.24E-32	1.49E-29
KBTBD11	2.319411	0.872284	-1.41089	1.81E-20	4.01E-20
BIRC5	0.007384	4.530991	9.261281	8.83E-25	3.31E-24
ARHGAP11A	0.210571	1.226055	2.541644	1.02E-25	4.76E-25
C7	27.9382	9.474361	-1.56014	1.04E-17	2.01E-17
CDC6	0.180911	2.207426	3.609015	4.60E-27	3.64E-26
IGSF3	0.180897	1.730222	3.257714	8.68E-16	1.46E-15
NKX3-2	0.011058	0.087754	2.988365	5.92E-11	8.08E-11
RNF224	0.03374	0.098956	1.552336	6.20E-13	9.29E-13
EGR3	1.093695	0.526587	-1.05447	3.08E-13	4.66E-13
TNNI3	0.062335	0.26302	2.077055	0.000122	0.000133
SFN	0.079416	15.3129	7.591096	4.00E-11	5.54E-11
WDHD1	0.210959	0.753923	1.837454	1.33E-24	4.72E-24
TNFRSF9	0.107299	0.397206	1.888249	0.000211	0.000226
NDC80	0.276735	2.008922	2.859846	2.26E-28	5.90E-27
FBXO43	0.05482	0.457386	3.060631	2.11E-28	5.90E-27
ILDR2	0.084455	0.49759	2.558699	2.64E-06	3.04E-06
TLX1	0.211824	1.096112	2.371459	4.74E-16	8.17E-16
PAQR4	0.56139	2.260698	2.009693	7.33E-21	1.69E-20
PXDNL	0.055161	0.145364	1.397949	3.80E-22	1.05E-21
MDFI	0.22268	1.244204	2.482176	2.70E-12	3.95E-12
STMN1	1.142131	9.346068	3.032631	1.90E-27	1.86E-26
SLC5A11	0.169086	0.731083	2.11228	6.36E-06	7.18E-06
SYN3	0.051265	0.205736	2.004735	2.28E-16	3.97E-16
CCDC28B	0.581803	1.944585	1.74086	2.63E-24	8.89E-24
VSIG10L	0.526408	2.06782	1.973858	2.49E-11	3.46E-11
HIST3H2BB	0.022147	0.129457	2.547272	2.76E-06	3.17E-06
PBK	0.091128	2.213856	4.602525	1.71E-26	1.10E-25
CPA6	0.041481	0.323293	2.96232	9.17E-16	1.54E-15
NUSAP1	0.396866	5.824548	3.875421	6.10E-25	2.42E-24
CCDC78	0.167954	0.384122	1.193495	5.43E-18	1.09E-17
CCDC13	0.148696	0.562449	1.919357	0.004319	0.00454
CCBE1	1.440845	0.367424	-1.9714	2.54E-26	1.54E-25
PPFIA4	0.073195	0.176866	1.27283	1.52E-08	1.93E-08

Table S2 (continued)

Table S2 (continued)

gene	conMean	treatMean	logFC	pValue	fdr
MCM10	0.090704	0.698713	2.945459	7.78E-25	3.00E-24
FBXL16	0.083861	0.657118	2.970079	0.00014	0.000151
ESR1	2.41054	0.964269	-1.32185	1.04E-22	3.14E-22
CDT1	0.040553	2.73458	6.07535	3.53E-26	1.96E-25
BUB1B	0.180706	1.390193	2.943566	2.75E-26	1.64E-25
TACC3	0.725177	3.666278	2.337912	7.44E-26	3.61E-25
TRIM72	0.007662	0.062565	3.02949	8.27E-05	9.09E-05
STIL	0.224356	0.793306	1.82209	2.79E-26	1.64E-25
HELLS	0.276158	0.910532	1.721215	3.84E-24	1.28E-23
SEZ6L2	0.093158	6.01878	6.013643	1.07E-09	1.41E-09
FCN3	35.31802	3.003514	-3.55568	1.09E-27	1.15E-26
HIST1H2AI	0.013629	0.381497	4.806957	4.56E-17	8.35E-17
NAT2	18.19904	3.44412	-2.40165	1.20E-25	5.56E-25
CBX2	0.154027	0.885284	2.522956	2.15E-24	7.32E-24
RIMS2	0.031793	0.104287	1.713792	0.010853	0.011349
DNASE1L2	0.274263	0.599029	1.127067	5.26E-18	1.06E-17
TSPO2	0.122683	0.656604	2.420088	1.83E-15	3.02E-15
HHIPL2	0.000103	1.102345	13.38249	8.41E-11	1.14E-10
CCNA2	0.193462	3.676458	4.248198	3.92E-27	3.29E-26
CENPL	0.253294	1.008503	1.993332	3.31E-28	6.20E-27
PRRX1	0.218561	0.551466	1.335236	5.61E-18	1.12E-17
TMEM26	0.698624	0.322499	-1.11522	2.63E-17	4.97E-17
CCNO	0.07178	0.779377	3.440668	2.40E-08	3.02E-08
IGFALS	40.76762	6.466022	-2.65647	1.19E-24	4.29E-24
CETP	9.589907	2.364191	-2.02017	2.59E-22	7.27E-22
WDR76	0.216672	1.370734	2.661362	1.89E-24	6.61E-24
ZNF296	0.189435	0.735477	1.956976	8.35E-18	1.64E-17
MRO	1.502704	0.60467	-1.31334	6.67E-20	1.44E-19
SHCBP1	0.141682	0.886207	2.644989	1.24E-25	5.66E-25
COCH	0.136112	1.37987	3.341665	2.91E-13	4.43E-13
SCUBE1	0.336968	1.41675	2.071901	0.023346	0.024228
TRIM16	0.328119	2.510745	2.935824	4.96E-23	1.50E-22
AURKA	0.227714	4.679457	4.361044	4.05E-28	6.97E-27
GDAP1L1	0.017947	0.0535	1.575766	3.14E-07	3.78E-07

Table S2 (continued)

Table S2 (continued)

gene	conMean	treatMean	logFC	pValue	fdr
SKA3	0.056326	1.19191	4.403332	1.75E-27	1.80E-26
GUCY2D	0.093035	0.23911	1.361827	2.84E-05	3.17E-05
HIST1H2BL	0.01632	0.147016	3.171301	1.71E-12	2.51E-12
FBP1	247.6309	72.27755	-1.77657	3.04E-21	7.38E-21
RND3	22.85251	6.236732	-1.87349	7.42E-21	1.70E-20
KIF2C	0.05943	2.272652	5.257051	2.11E-28	5.90E-27
CSTL1	0.036414	0.116261	1.674811	0.000161	0.000173
STK39	0.525711	2.424077	2.205094	6.27E-14	9.78E-14
EGR2	2.816894	1.12102	-1.32929	1.71E-15	2.83E-15
POU3F2	0.002288	0.04978	4.443377	1.04E-10	1.40E-10
IL17D	0.160479	0.702411	2.129928	9.47E-13	1.41E-12
CNNM1	0.116347	0.816317	2.810697	0.022098	0.022991
QRFPR	0.03752	0.080415	1.099797	5.31E-06	6.01E-06
FOS	76.18826	11.97356	-2.66972	2.83E-21	6.93E-21
SLCO1B3	11.11193	4.362336	-1.34894	6.72E-16	1.15E-15
CDH24	0.279609	0.975768	1.803129	5.47E-27	4.25E-26
TLL2	0.04001	0.080026	1.000125	6.32E-10	8.34E-10
C20orf144	0.04771	0.142387	1.577447	8.94E-19	1.85E-18
TSPAN5	0.317436	1.182463	1.897259	2.15E-07	2.61E-07
COL7A1	0.413818	1.670616	2.013312	7.40E-19	1.54E-18
MAD2L1	0.524937	1.694201	1.690388	2.45E-25	1.06E-24
CFP	5.970888	1.515895	-1.97778	1.56E-26	1.02E-25
UGT2B11	0.100089	8.436219	6.397247	3.98E-11	5.51E-11
TPPP2	2.035941	0.942665	-1.11088	2.39E-20	5.23E-20
FOXD2	0.11756	0.536044	2.188959	2.36E-19	5.03E-19
DCC	0.014385	0.07741	2.427953	0.00034	0.000362
CRLF1	0.098063	0.715007	2.866175	1.02E-15	1.69E-15
PHEX	0.0582	0.183373	1.655698	5.04E-11	6.89E-11
ACTN2	0.005554	1.393166	7.970571	3.51E-08	4.40E-08
CD5L	19.14209	3.463174	-2.46658	5.66E-22	1.51E-21
TGM4	0.015961	0.038164	1.257625	2.15E-09	2.80E-09
FANCI	0.880719	2.13209	1.275514	2.32E-26	1.43E-25
UPK1A	0.074715	0.347748	2.218562	4.11E-08	5.13E-08
BCO2	5.329012	1.760738	-1.59769	6.26E-25	2.46E-24

Table S2 (continued)

Table S2 (continued)

gene	conMean	treatMean	logFC	pValue	fdr
PRR11	0.109931	1.23872	3.494186	9.82E-24	3.06E-23
GMNN	0.548413	10.94823	4.319291	2.69E-28	5.90E-27
PRC1	0.329856	2.960605	3.165984	2.42E-28	5.90E-27
BCAN	0.173971	0.702088	2.012807	2.02E-21	5.04E-21
LCAT	45.88514	9.957143	-2.20422	1.77E-26	1.10E-25
SPARCL1	0.066112	26.77415	8.66171	2.74E-15	4.46E-15
WDR62	0.2259	0.849885	1.911585	1.21E-26	8.34E-26
KCNH4	0.053671	0.175715	1.711018	9.59E-15	1.53E-14
KIF18B	0.040063	1.188678	4.890942	7.58E-28	9.17E-27
KIF19	0.501837	0.24003	-1.064	6.92E-21	1.60E-20
AKR1B10	6.167714	208.7615	5.080976	1.15E-09	1.51E-09
TTC39A	0.248972	1.297075	2.381207	1.76E-17	3.37E-17
GLP2R	0.260314	0.114166	-1.18912	9.50E-19	1.96E-18
TERT	0	0.939635	Inf	9.15E-13	1.37E-12
LRAT	1.474371	0.481465	-1.6146	9.54E-25	3.54E-24
FERMT1	0.141558	0.863249	2.608387	1.75E-06	2.02E-06
CCNE2	0.45629	0.954661	1.065039	1.61E-21	4.13E-21
FITM1	3.128096	1.3153	-1.24989	1.39E-20	3.11E-20
SLC7A10	0.275615	0.984645	1.83695	7.61E-07	8.98E-07
HIST1H3H	0.170112	2.014558	3.565903	2.68E-15	4.39E-15
MT1F	60.20013	10.57133	-2.50961	9.52E-27	6.88E-26
DYDC2	0.059835	0.671964	3.489331	4.21E-11	5.79E-11
ADRA2C	0.00933	1.935463	7.696562	4.71E-12	6.74E-12
HJURP	0.133453	1.88652	3.82132	6.71E-28	8.64E-27
ANGPTL6	7.103794	2.625283	-1.43612	3.51E-29	1.81E-27
NKPD1	0.018546	0.044101	1.2497	1.74E-09	2.28E-09
PKMYT1	0.355972	1.437709	2.013935	4.72E-28	7.20E-27
ECT2	0.400966	2.222478	2.470618	1.23E-24	4.41E-24
TRIM16L	0.320882	4.18306	3.704443	2.21E-13	3.39E-13
BDKRB1	0.164212	0.39557	1.268376	5.68E-15	9.10E-15
SLC6A7	0.037054	0.094638	1.352795	4.36E-09	5.62E-09
CAGE1	0.046971	0.104224	1.149845	8.51E-07	9.96E-07
IQGAP3	0.230242	2.246248	3.286294	3.67E-26	1.96E-25
CCDC155	0.038716	0.093729	1.275566	0.001363	0.001443

Table S2 (continued)

Table S2 (continued)

gene	conMean	treatMean	logFC	pValue	fdr
RAD54L	0.267144	0.97473	1.867387	1.82E-25	8.25E-25
CNTNAP4	0.076567	0.364232	2.250066	0.028635	0.029642
BLM	0.164885	0.661975	2.005317	2.11E-22	6.00E-22
MND1	0.241854	1.541771	2.672377	7.63E-27	5.72E-26
TMEM155	0.039806	0.098161	1.302166	8.40E-07	9.86E-07
NUF2	0.184491	1.831442	3.311358	1.74E-28	5.90E-27
ASF1B	0.093824	3.079952	5.036814	3.14E-26	1.82E-25
OR2B6	0.080812	0.330107	2.030299	2.38E-15	3.91E-15
HIST1H4E	0.218822	0.737377	1.752645	2.46E-17	4.67E-17
MFSD2A	24.37192	6.829485	-1.83537	3.44E-18	6.97E-18
MRAP2	0.015493	1.400257	6.497913	2.86E-17	5.37E-17
SLC26A6	0.739488	3.339663	2.175104	1.25E-29	1.29E-27
DTL	0.120552	1.880986	3.963764	3.35E-26	1.90E-25
TRAM1L1	0.044896	0.433655	3.271898	2.68E-08	3.36E-08
AADAT	8.699237	2.427923	-1.84117	7.44E-26	3.61E-25
CHAF1B	0.27502	1.271058	2.208421	6.03E-24	1.94E-23
CDC25A	0.175584	0.919295	2.388369	3.35E-21	8.07E-21
SPC25	0.176919	1.54862	3.129826	4.19E-27	3.43E-26
NTF3	1.871852	0.482896	-1.95468	1.89E-27	1.86E-26
EDARADD	0.204389	0.553282	1.436698	5.70E-05	6.28E-05
DPF1	0.0407	0.085679	1.073912	1.75E-16	3.11E-16
CDRT1	0.115322	0.248892	1.109848	3.33E-09	4.31E-09
MYBL2	0	5.756456	Inf	6.38E-19	1.34E-18
RNF157	0.292232	1.876634	2.682962	4.31E-17	7.92E-17
DYDC1	0.024611	0.082503	1.745123	5.23E-08	6.47E-08
C21orf62	0.158121	0.056999	-1.47201	1.36E-20	3.07E-20
ADH4	511.6001	124.0821	-2.04372	5.64E-22	1.51E-21
PADI4	0.268474	0.125414	-1.09809	3.70E-13	5.59E-13
GNAO1	2.292639	0.896881	-1.35402	4.13E-17	7.63E-17
RRM2	0.162038	4.357017	4.748936	4.70E-26	2.45E-25
COL24A1	0.089275	0.275864	1.627633	5.40E-12	7.68E-12
DCX	0.003992	0.029109	2.86612	7.84E-07	9.22E-07
PRDM9	0.006805	0.045411	2.738484	4.37E-10	5.79E-10
LPA	9.504567	3.082742	-1.62441	2.38E-22	6.72E-22

Table S2 (continued)

Table S2 (*continued*)

gene	conMean	treatMean	logFC	pValue	fdr
KCNJ5	0.167049	0.755853	2.177838	1.42E-17	2.74E-17
CST2	0.058397	0.519969	3.154464	3.34E-07	3.99E-07
FUT2	0.066396	0.673373	3.342238	4.89E-16	8.39E-16
EPHA2	10.73155	4.072777	-1.39777	2.54E-13	3.88E-13
SLC25A47	162.0699	31.83659	-2.34786	2.37E-25	1.04E-24
RPS6KL1	0.242699	0.818577	1.753951	5.05E-21	1.19E-20
THY1	0.530496	6.199475	3.546732	1.05E-26	7.32E-26
RXFP4	0.001164	0.045579	5.291249	5.97E-07	7.09E-07
KPNA7	0.146004	0.689252	2.239022	1.91E-13	2.95E-13
PTP4A3	0.282298	6.63365	4.554514	1.18E-22	3.50E-22
EDIL3	0.090728	0.965943	3.412317	1.56E-22	4.53E-22
DLL3	0.011792	0.06191	2.392375	1.60E-06	1.86E-06
PHYHIPL	0.628596	2.246911	1.837737	5.85E-08	7.20E-08
ADRA1A	5.001141	1.346761	-1.89276	1.94E-24	6.72E-24
MYBPHL	0.002037	0.247092	6.92225	1.64E-10	2.20E-10
EXTL1	0.023205	0.087017	1.906826	2.00E-13	3.08E-13
ORC6	0.291223	0.99971	1.779385	1.73E-26	1.10E-25
MSX1	0.203942	0.939481	2.203703	8.45E-24	2.68E-23
SP5	0.139479	3.448012	4.627647	4.05E-12	5.83E-12
MT1E	302.6544	62.19184	-2.28287	3.38E-26	1.90E-25
SLCO1C1	0.053786	0.108955	1.018448	6.41E-26	3.23E-25
TPX2	0.310881	5.8912	4.244127	1.48E-21	3.82E-21
ZIC4	0.033878	0.293757	3.116201	3.82E-05	4.24E-05

Table S3 Univariate Cox regression analysis for prognostic genes

geneName	HR	HR.95L	HR.95H	pvalue
CDCA8	1.161443	1.111036	1.214138	3.82E-11
KIF2C	1.149721	1.100378	1.201277	4.55E-10
NCAPG	1.241995	1.158143	1.331918	1.23E-09
EZH2	1.268453	1.172108	1.372716	3.63E-09
TPX2	1.063372	1.041855	1.085334	3.83E-09
TTK	1.42605	1.266796	1.605326	4.25E-09
HJURP	1.240704	1.154514	1.333328	4.33E-09
NDC80	1.235031	1.150845	1.325375	4.62E-09
MCM10	1.668145	1.404275	1.981599	5.73E-09
CDC20	1.035574	1.023397	1.047895	6.94E-09
PRR11	1.293862	1.184636	1.413159	1.03E-08
TRIP13	1.186421	1.113934	1.263624	1.07E-07
CDCA2	1.66532	1.37961	2.010199	1.09E-07
CBX2	1.272652	1.164052	1.391383	1.17E-07
GINS1	1.234745	1.141974	1.335052	1.21E-07
PBK	1.148177	1.089459	1.210059	2.48E-07
SPC25	1.276769	1.163513	1.40105	2.53E-07
ORC1	1.365331	1.211747	1.53838	3.15E-07
CDCA3	1.312349	1.181954	1.457129	3.56E-07
KIF23	1.24065	1.141357	1.348581	4.05E-07
SKA3	1.395679	1.225774	1.589135	4.81E-07
WDHD1	1.660105	1.362603	2.022561	4.89E-07
SHCBP1	1.286119	1.164907	1.419945	6.29E-07
UBE2C	1.02246	1.013382	1.031619	1.05E-06
RRM2	1.075061	1.04413	1.106909	1.18E-06
ZWINT	1.071171	1.041765	1.101406	1.29E-06
IQGAP3	1.197815	1.113011	1.28908	1.45E-06
MELK	1.195048	1.111444	1.284941	1.47E-06
EXO1	1.370201	1.2042	1.559085	1.75E-06
KIF18B	1.243475	1.135927	1.361204	2.34E-06
BUB1B	1.223424	1.124856	1.330629	2.54E-06
CENPL	1.518228	1.275717	1.806839	2.57E-06
GPRIN1	1.517847	1.275369	1.806427	2.62E-06
KIFC1	1.090491	1.051699	1.130714	2.77E-06
NUF2	1.16044	1.090022	1.235408	3.18E-06

Table S3 (continued)

Table S3 (continued)

geneName	HR	HR.95L	HR.95H	pvalue
TACC3	1.092139	1.05226	1.13353	3.42E-06
AKR1B15	1.103243	1.057986	1.150437	4.28E-06
FAM83D	1.114742	1.063797	1.168127	5.33E-06
ECT2	1.165551	1.090537	1.245725	6.38E-06
MAD2L1	1.311657	1.165301	1.476395	6.98E-06
UBE2T	1.065509	1.036186	1.095661	8.33E-06
CLSPN	1.782421	1.381119	2.300326	8.95E-06
EPS8L3	1.057431	1.031663	1.083843	9.14E-06
ORC6	1.350585	1.181341	1.544077	1.08E-05
CDK1	1.082631	1.044804	1.121828	1.21E-05
FLVCR1	1.289836	1.150534	1.446004	1.27E-05
CDC7	1.334669	1.171751	1.520239	1.39E-05
DEPDC1	1.330772	1.167418	1.516985	1.90E-05
MYBL2	1.029306	1.015767	1.043025	1.91E-05
TRIM16L	1.04094	1.021875	1.06036	2.10E-05
STMN1	1.034763	1.018426	1.051362	2.57E-05
FANCB	3.487667	1.941422	6.265418	2.92E-05
TOP2A	1.047175	1.024689	1.070154	3.15E-05
SKA1	1.142587	1.072821	1.216889	3.37E-05
E2F2	1.831304	1.374415	2.440074	3.60E-05
CENPF	1.154581	1.077969	1.236639	4.08E-05
CDC25A	1.323112	1.15613	1.514212	4.75E-05
RAD54L	1.321091	1.153239	1.513373	5.91E-05
NEK2	1.129188	1.064147	1.198203	5.97E-05
TRAIP	1.336809	1.159584	1.541119	6.32E-05
ZIC2	1.178347	1.08611	1.278417	7.94E-05
BIRC5	1.037407	1.018654	1.056505	7.95E-05
DSCC1	1.211351	1.100579	1.333271	8.90E-05

Table S4 Risk score model for OS

geneName	coef	HR	HR.95L	HR.95H	pvalue
CDC48	0.192995	1.212877	0.941793	1.561987	0.13483
AKR1B15	0.175446	1.191777	1.031897	1.37643	0.016978
EZH2	0.141074	1.15151	0.882519	1.50249	0.298674
EPS8L3	0.147772	1.159249	0.979418	1.372099	0.085769
CBX2	0.071536	1.074157	0.898003	1.284866	0.433762
TRIM16L	0.183376	1.201267	1.015561	1.42093	0.03234
FLVCR1	0.153859	1.166326	0.958221	1.419626	0.124939
GPRIN1	0.102045	1.107433	0.902035	1.359601	0.329594