

Supplementary Table 8. Genes enclosed in the prognostic signatures related to variants in non-coding regions

AAK1 signature ER+HER2-

Gene	P-value	Fold change
<i>ANAPC10</i>	1.30E-04	1.251
<i>ARHGEF18</i>	9.66E-05	0.808
<i>ARL6IP4</i>	6.17E-04	0.703
<i>ARMC8</i>	8.94E-04	1.162
<i>ASCC1</i>	2.02E-05	1.275
<i>ASMTL</i>	3.76E-04	0.721
<i>ATAD2</i>	3.34E-04	1.726
<i>BIN1</i>	5.44E-04	0.645
<i>BIN3</i>	5.18E-04	0.724
<i>C17orf59</i>	8.96E-04	0.663
<i>C21orf2</i>	6.47E-05	0.737
<i>CARD10</i>	3.57E-04	0.688
<i>CCDC25</i>	5.85E-04	0.728
<i>CCRN4L</i>	5.63E-05	1.432
<i>CENPQ</i>	2.10E-04	1.363
<i>CHMP7</i>	1.67E-04	0.750
<i>CLDN5</i>	4.56E-04	0.419
<i>CLN8</i>	2.00E-05	0.634
<i>COX7A1</i>	9.24E-04	0.510
<i>CROCC</i>	3.20E-05	0.547
<i>CTDP1</i>	1.33E-05	0.734
<i>DDX52</i>	7.49E-04	1.315
<i>DNAJC9</i>	9.64E-04	1.272
<i>DPM1</i>	6.13E-04	1.301
<i>EIF2S1</i>	4.26E-04	1.157
<i>ELMO2</i>	4.68E-04	1.274
<i>ELOVL6</i>	6.83E-04	1.626
<i>EMILIN1</i>	2.28E-04	0.488
<i>EPHX2</i>	7.96E-04	0.591
<i>FBXL8</i>	2.23E-05	0.546
<i>FKBP2</i>	5.26E-04	0.569
<i>FLT4</i>	5.14E-04	0.671
<i>GDPD5</i>	5.17E-04	0.713
<i>GLO1</i>	9.43E-04	1.520
<i>INF2</i>	1.68E-05	0.605
<i>KHDRBS1</i>	6.37E-04	1.099
<i>KIF15</i>	2.57E-04	1.859
<i>KIF18A</i>	3.76E-04	1.639
<i>MAD1L1</i>	6.93E-04	0.774
<i>MAFK</i>	2.85E-04	0.671
<i>MCM6</i>	7.92E-04	1.329
<i>MLYCD</i>	5.46E-04	0.805
<i>MPG</i>	7.46E-05	0.637
<i>MXD4</i>	5.63E-04	0.749
<i>NOC3L</i>	6.47E-05	1.239
<i>NOL11</i>	6.63E-04	1.270

AAK1 signature ER+HER2-

<i>NUDT18</i>	2.67E-06	0.483
<i>P4HA1</i>	7.00E-04	1.349
<i>PBXIP1</i>	3.06E-04	0.654
<i>PDLIM2</i>	4.36E-04	0.687
<i>PLD2</i>	3.33E-04	0.745
<i>POLR2D</i>	7.58E-04	1.344
<i>POLR2K</i>	8.70E-04	1.487
<i>POLR3D</i>	8.22E-04	0.801
<i>PRMT2</i>	4.31E-04	0.804
<i>PSMD12</i>	1.03E-04	1.325
<i>PTK2B</i>	5.88E-04	0.716
<i>RCN2</i>	8.04E-04	1.178
<i>RHOBTB2</i>	1.95E-05	0.578
<i>RPS3</i>	9.47E-04	0.754
<i>RRBP1</i>	3.48E-04	0.708
<i>SLC38A10</i>	2.82E-04	0.665
<i>SMNDC1</i>	2.56E-04	1.254
<i>SORBS3</i>	3.22E-04	0.712
<i>STK11</i>	3.17E-04	0.804
<i>TFG</i>	9.82E-04	1.205
<i>THUMPD2</i>	3.54E-04	1.210
<i>TLK2</i>	4.17E-04	1.251
<i>TRADD</i>	3.71E-04	0.704
<i>TRIOBP</i>	1.63E-04	0.726
<i>TRPM4</i>	2.32E-04	0.604
<i>TUBGCP5</i>	3.27E-04	1.152
<i>UBE2W</i>	3.94E-04	1.456
<i>ZBTB7B</i>	9.29E-04	0.681
<i>ZNF143</i>	2.18E-06	1.199
<i>ZNF219</i>	1.69E-04	0.561

CA5A signature ER+HER2-

Gene	P-value	Fold change
<i>ABAT</i>	6.83E-04	1.658
<i>CCDC25</i>	6.41E-04	1.435
<i>DDX19A</i>	4.31E-05	0.816
<i>INTS9</i>	3.91E-04	1.464
<i>IQCK</i>	5.20E-04	1.462
<i>KCNAB2</i>	5.21E-04	0.485
<i>LMAN2L</i>	8.70E-04	1.336
<i>ORAI3</i>	8.40E-04	1.459
<i>POLR2C</i>	5.63E-04	0.796
<i>RHBDF1</i>	9.65E-04	1.472
<i>SF3B3</i>	2.63E-04	0.779
<i>STC2</i>	9.97E-04	3.302
<i>SYK</i>	5.37E-04	0.563

CRTC3 signature ER+HER2-

Gene	P-value	Fold change
AMDHD2	2.34E-05	0.725
ANAPC2	3.71E-05	0.796
APBA3	6.21E-06	0.707
ARFGAP1	1.55E-05	0.788
ARFRP1	8.04E-07	0.750
ARHGEF18	2.44E-05	0.801
ARL6IP4	1.18E-06	0.717
ARMC6	2.95E-05	0.772
ASPSCR1	5.94E-07	0.710
ATAD3A	2.13E-06	0.661
ATXN10	2.03E-05	1.272
AURKAIP1	1.50E-06	0.664
BBC3	7.99E-06	0.617
C19orf60	1.93E-05	0.590
CASKIN2	2.11E-05	0.764
CCDC9	4.46E-08	0.570
CCDC94	2.60E-05	0.781
CDC34	2.14E-06	0.695
CDC37	2.72E-07	0.740
CHMP6	9.03E-06	0.826
CROCC	2.41E-06	0.531
CSNK1G3	7.87E-07	1.334
CTDP1	3.87E-07	0.702
DAPK3	1.81E-05	0.753
DAZAP1	1.25E-05	0.794
DDX54	1.90E-06	0.806
DRAP1	1.65E-05	0.683
DUS1L	3.81E-06	0.700
E4F1	2.40E-05	0.721
EHBP1L1	2.33E-05	0.624
EHD1	3.11E-05	0.761
EIF3G	1.03E-05	0.787
EPN1	2.52E-06	0.765
ESRRA	6.96E-06	0.738
FBXW11	2.44E-05	1.239
FKBP2	1.79E-06	0.541
FKBP8	6.74E-06	0.725
GADD45GIP1	1.93E-05	0.701
GDPD5	3.84E-05	0.668
GIPC1	4.00E-06	0.712
GLTSCR2	3.41E-05	0.661
HGS	1.45E-06	0.761
HIP1R	5.76E-06	0.662
ICAM3	8.28E-07	0.707
INF2	3.29E-06	0.635
IRF3	9.65E-07	0.672
KIAA1279	2.68E-06	1.275
KIF1C	2.68E-05	0.668

CRTC3 signature ER+HER2-

<i>KRI1</i>	6.49E-06	0.737
<i>MAD1L1</i>	3.63E-05	0.764
<i>MAFK</i>	9.30E-06	0.665
<i>MAP3K11</i>	3.12E-05	0.743
<i>MAPK9</i>	3.39E-06	1.257
<i>MRPL12</i>	1.17E-05	0.745
<i>NARFL</i>	3.72E-05	0.737
<i>NCKAP1</i>	2.98E-05	1.273
<i>NFKB2</i>	2.22E-05	0.711
<i>NOS3</i>	1.49E-05	0.659
<i>NOSIP</i>	1.04E-05	0.723
<i>NR1H2</i>	2.56E-05	0.743
<i>NT5C</i>	1.09E-06	0.692
<i>NUBP2</i>	2.75E-05	0.681
<i>OGFR</i>	2.34E-06	0.651
<i>PIN1</i>	3.11E-05	0.745
<i>PPAN</i>	1.06E-07	0.586
<i>PPP3CB</i>	9.41E-06	1.225
<i>PRPF6</i>	4.68E-06	0.762
<i>PUS1</i>	5.04E-06	0.722
<i>RHOT2</i>	2.78E-05	0.705
<i>RPS3</i>	3.80E-06	0.727
<i>RRP1</i>	9.86E-09	0.698
<i>RRP9</i>	2.99E-06	0.723
<i>SAC3D1</i>	2.99E-05	0.693
<i>SAFB</i>	1.14E-07	0.783
<i>SAFB2</i>	3.71E-06	0.796
<i>SART1</i>	3.51E-07	0.600
<i>SERPINF2</i>	3.63E-05	0.500
<i>SIRT7</i>	3.14E-06	0.705
<i>SLC12A9</i>	2.14E-06	0.722
<i>SLC38A10</i>	6.87E-07	0.631
<i>SNCG</i>	2.23E-05	0.303
<i>SNX2</i>	8.67E-06	1.262
<i>SUPT5H</i>	4.55E-06	0.784
<i>TAF1B</i>	1.94E-05	1.206
<i>TBC1D19</i>	8.65E-06	1.322
<i>TIMM44</i>	8.40E-06	0.760
<i>TNIP2</i>	6.24E-06	0.834
<i>TRADD</i>	1.52E-05	0.727
<i>TRAF2</i>	1.70E-05	0.751
<i>TSC22D4</i>	9.44E-06	0.682
<i>TSR2</i>	1.83E-06	0.789
<i>WDR4</i>	2.40E-05	0.784
<i>ZBTB17</i>	7.92E-06	0.728
<i>ZCCHC4</i>	3.52E-05	1.217
<i>ZGPAT</i>	1.84E-07	0.611
<i>ZNF143</i>	9.41E-06	1.126
<i>ZNF205</i>	3.34E-05	0.671
<i>ZNF219</i>	1.17E-06	0.554
<i>ZNF593</i>	6.70E-06	0.722
<i>ZNF787</i>	8.32E-08	0.640

CTNNA2 signature ER+HER2-

Gene	P-value	Fold change
<i>AP4M1</i>	9.07E-04	1.196
<i>ATP5I</i>	7.02E-04	1.380
<i>BET1L</i>	5.40E-05	1.248
<i>C11orf24</i>	2.99E-04	1.418
<i>GEMIN8</i>	7.39E-04	1.290
<i>IFNAR1</i>	5.31E-04	0.842
<i>IFNAR2</i>	8.87E-04	0.736
<i>KDELRL1</i>	9.85E-04	1.167
<i>MAP3K4</i>	2.04E-04	0.839
<i>MGST3</i>	3.72E-04	1.459
<i>MOSPD3</i>	9.98E-04	1.249
<i>MRPL17</i>	2.17E-04	1.264
<i>OSTM1</i>	4.16E-05	0.728
<i>PSENEN</i>	1.03E-04	1.415
<i>RAB3D</i>	8.62E-04	1.404
<i>RNGTT</i>	6.88E-04	0.757
<i>RPLP2</i>	3.47E-04	1.422
<i>RRAGD</i>	9.68E-04	0.657
<i>SHARPIN</i>	3.60E-04	1.487
<i>TAF10</i>	2.28E-04	1.478
<i>ZC3H3</i>	4.67E-04	1.381

DOCK2 signature ER+HER2-

Gene	P-value	Fold change
NEIL1	8.08E-04	0.647
PCYT1A	6.04E-04	1.230
PDK3	5.27E-05	1.351

FAM118A signature ER+HER2-

Gene	P-value	Fold change
ABI2	2.90E-04	1.250
ARFGAP1	2.62E-04	0.801
ARFRP1	9.22E-05	0.780
ARHGEF5	3.66E-04	0.668
ARL5A	1.65E-04	1.205
ARL6IP4	9.53E-05	0.722
ASPCR1	1.40E-04	0.738
ATAD3A	2.18E-05	0.662
AURKAIP1	6.37E-05	0.674
AXIN1	1.52E-04	0.694
AZI2	1.43E-04	1.244
BANP	5.59E-04	0.791
BBC3	3.11E-04	0.554
CALM1	5.88E-04	1.253
CCDC9	2.28E-05	0.572
CDC37	1.21E-04	0.760
CENPQ	3.97E-04	1.289
CNTLN	2.16E-04	1.602
COPS2	1.22E-04	1.138
CPSF3L	4.21E-04	0.746
CROCC	4.17E-04	0.627
CTDP1	1.67E-04	0.739
DAPK3	6.16E-04	0.787
DDX54	1.93E-04	0.810
DUS1L	3.56E-04	0.711
E4F1	1.82E-04	0.792
EIF2B4	1.86E-04	0.836
EIF3G	2.84E-04	0.814
EPN1	2.15E-04	0.748
ERBB2	8.60E-05	0.698
FAM149B1	2.34E-04	1.259
FKBP2	3.81E-04	0.569
GCDH	2.66E-04	0.823
GLTPD1	4.82E-04	0.740
GNB1L	4.30E-04	0.720
GPATCH3	3.25E-04	0.812
GPN3	3.23E-04	1.189
HCFC2	1.15E-04	1.332
HNRNPM	1.73E-04	0.836
ICAM3	4.95E-04	0.745
IRF3	2.83E-04	0.771
ITCH	2.78E-05	1.265
KIAA1279	5.35E-04	1.246
KRI1	2.65E-04	0.790
LAS1L	6.08E-04	0.809
LONP1	5.52E-04	0.806
MAPK14	5.18E-04	1.132
MPG	5.92E-04	0.732

FAM118A signature ER+HER2-

NARFL	3.71E-04	0.720
NCKAP1	3.37E-06	1.341
NFKB2	3.56E-04	0.779
NOC2L	1.64E-04	0.825
NUBP2	2.52E-04	0.662
OGFR	5.58E-05	0.659
PAF1	2.93E-04	0.815
PJA2	3.65E-04	1.341
PPAN	1.43E-05	0.610
PPM1G	4.83E-04	0.840
PPP3CB	3.23E-05	1.266
PRKD2	2.50E-04	0.771
PRPF6	2.67E-04	0.776
PSIP1	4.04E-04	1.373
PTPN11	1.21E-04	1.289
PUS1	7.36E-05	0.689
RAB11FIP2	3.46E-04	1.341
RHOT2	2.83E-04	0.715
RPS3	5.27E-04	0.754
RRP1	1.28E-06	0.713
RRP9	2.31E-05	0.731
SAFB	1.12E-05	0.780
SAFB2	2.97E-04	0.809
SCRN3	2.01E-04	1.246
SH2D3A	4.57E-04	0.717
SIRT7	1.99E-04	0.708
SLC12A9	3.21E-04	0.754
SLC35A5	5.87E-04	1.287
SMPD2	3.21E-05	0.695
SNAPC4	4.41E-04	0.809
STX4	3.34E-04	0.700
SUPT5H	7.54E-05	0.838
TBC1D19	2.11E-04	1.312
TBL3	4.19E-04	0.755
TCF12	8.42E-05	1.274
TCOF1	1.17E-04	0.761
TM9SF3	4.98E-04	1.282
TOMM40	6.36E-04	0.787
TRAPPC6A	1.93E-04	0.741
TRMT1	3.13E-04	0.757
TSC22D4	4.75E-04	0.683
TSR2	2.88E-04	0.813
TSSC4	9.22E-05	0.767
TUFM	1.81E-04	0.771
ZBTB17	2.76E-04	0.784
ZBTB48	5.04E-04	0.728
ZGPAT	1.55E-05	0.657
ZNF205	3.17E-04	0.651
ZNF212	1.84E-04	0.792
ZNF394	3.20E-04	0.863
ZNF593	1.07E-04	0.739
ZNF787	8.29E-05	0.682

FASTKD1 signature ER+HER2-

Gene	P-value	Fold change
ARHGEF18	3.50E-05	0.785
ASCC1	4.75E-05	1.242
ATP5C1	7.51E-04	1.281
CCDC9	2.34E-04	0.665
CHMP7	1.38E-04	0.736
CLDN5	3.17E-04	0.440
CMAS	9.74E-04	1.246
CROCC	4.30E-04	0.573
DDX1	8.63E-04	1.148
DNAJB6	8.46E-04	1.291
ECD	2.59E-04	1.155
EML3	5.21E-04	0.654
EPHX1	1.58E-04	0.643
FAM46A	2.35E-04	1.600
GBE1	4.75E-04	1.300
GLTSCR2	7.40E-04	0.619
HERC4	5.39E-04	1.164
HNRNPM	5.54E-04	0.826
HPRT1	4.43E-04	1.489
IGFBP4	7.61E-04	0.690
INF2	1.05E-04	0.594
IRF3	7.87E-04	0.704
KIAA1279	3.70E-04	1.270
LTBP4	5.09E-04	0.746
MRPS35	8.61E-04	1.192
NARS	8.21E-04	1.236
P4HA1	2.52E-05	1.369
PFDN4	3.58E-04	1.315
PIGP	4.39E-04	1.315
PPP1R3D	4.30E-04	1.463
PTCD3	9.40E-04	1.136
PTK2B	2.83E-04	0.675
PVRIG	9.99E-04	0.625
RHOBTB2	4.01E-05	0.648
SAFB	6.60E-05	0.789
SAFB2	2.55E-04	0.785
SEH1L	5.56E-04	1.155
SEMA3G	5.39E-04	0.506
STARD3	4.44E-04	0.791
TBKBP1	4.13E-04	0.615
TFG	3.32E-04	1.431
TMEM160	3.40E-04	0.665
TRIOBP	8.39E-04	0.745
TRPM4	7.92E-04	0.521
TSG101	9.43E-04	1.210
YWHAE	2.33E-04	1.248
ZBTB17	3.34E-04	0.684
ZNF219	4.39E-04	0.485

HDLBP signature ER+HER2-

Gene	P-value	Fold change
<i>CIB1</i>	6.33E-04	0.761
<i>CTSD</i>	9.36E-04	0.636
<i>EDF1</i>	9.02E-04	0.785
<i>MAN1B1</i>	7.12E-04	0.753
<i>NR1H3</i>	5.39E-04	0.724
<i>PMPCA</i>	9.39E-04	0.782
<i>PPIB</i>	9.93E-04	0.749
<i>RRP1</i>	2.78E-04	0.720
<i>YIPF2</i>	9.02E-04	0.774
<i>ZNF136</i>	3.68E-04	1.275

HUS1 signature ER+HER2-

Gene	P-value	Fold change
<i>KIN</i>	7.74E-04	1.123
<i>PPL</i>	9.10E-04	0.612
<i>SSB</i>	9.12E-04	1.165
<i>ZNF143</i>	9.45E-04	1.133

PDZD7 signature ER+HER2-

Gene	P-value	Fold change
<i>FGF2</i>	9.23E-04	0.528
<i>GALNT14</i>	9.68E-04	3.674
<i>PTGDS</i>	9.90E-04	0.356

PPP1R12A signature ER+HER2-

Gene	P-value	Fold change
<i>ACVRL1</i>	4.44E-04	0.653
<i>B3GALNT1</i>	1.37E-04	1.731
<i>CABYR</i>	3.15E-05	2.590
<i>CD97</i>	7.73E-04	0.628
<i>CENPQ</i>	7.53E-04	1.345
<i>CHST2</i>	5.81E-04	0.663
<i>CLEC1A</i>	6.87E-04	0.652
<i>EMILIN1</i>	8.63E-04	0.426
<i>ERG</i>	7.20E-04	0.514
<i>GGT5</i>	3.90E-04	0.601
<i>GRAP</i>	3.50E-04	0.669
<i>GSN</i>	4.31E-04	0.609
<i>HOXD9</i>	5.86E-04	0.562
<i>LSP1</i>	5.39E-04	0.532
<i>NRXN2</i>	6.44E-04	0.408
<i>PLCG2</i>	5.36E-04	0.595
<i>PTGIR</i>	5.53E-04	0.532
<i>RAD1</i>	3.48E-04	1.259
<i>RMI1</i>	3.99E-04	1.529
<i>RPL11</i>	4.03E-04	0.736
<i>SPATA2</i>	5.54E-04	1.377
<i>SPTBN5</i>	3.53E-04	0.420
<i>TNIP1</i>	1.35E-04	0.768
<i>TNIP2</i>	2.98E-04	0.823
<i>TPT1</i>	4.98E-04	0.676
<i>UPP1</i>	9.22E-04	0.679

RYR3 signature ER+HER2-

Gene	P-value	Fold change
AAAS	1.42E-04	1.277
AES	9.91E-04	1.306
AFG3L2	2.24E-04	0.737
ATOX1	7.41E-04	1.380
BCL3	3.21E-04	1.360
C19orf24	4.68E-04	1.567
C2orf44	4.18E-04	0.815
CASK	9.19E-04	0.725
CD63	7.16E-04	1.317
CNPY2	9.14E-04	1.400
CREB1	8.39E-04	0.759
DPM2	4.78E-04	1.385
GPR137	5.40E-04	1.539
HIGD2A	5.87E-04	1.388
HTATSF1	1.81E-04	0.839
KDELR1	2.62E-04	1.349
MED1	6.88E-04	0.769
MLF2	5.57E-05	1.366
NAB2	9.91E-04	1.310
NAPA	5.00E-04	1.391
NCL	7.35E-04	0.837
NOC3L	7.49E-05	0.725
PIK3C3	6.63E-04	0.737
PSENEN	6.97E-04	1.421
RAB11FIP2	6.50E-04	0.726
RBCK1	9.40E-04	1.343
RNMT	1.61E-04	0.798
SCAND1	8.26E-04	1.653
SERTAD3	3.16E-04	1.270
SH3BGRL3	6.98E-04	1.482
SSSCA1	9.42E-04	1.505
TAF10	1.07E-04	1.267
TRIM44	8.06E-04	0.695
UBR5	9.91E-04	0.728
UQCRQ	4.84E-04	1.407
UTP20	4.75E-04	0.646
VPS4B	2.31E-04	0.826
WBP1	5.70E-05	1.362
WDR3	9.61E-05	0.821
YIPF2	1.93E-04	1.543
ZNF124	9.37E-04	0.727

STAG2 signature ER+HER2-

Gene	P-value	Fold change
<i>BCAR3</i>	1.57E-04	1.758
<i>CLCA2</i>	6.59E-04	4.127
<i>F3</i>	1.64E-04	2.160
<i>GADD45A</i>	4.75E-04	1.643
<i>TMPRSS3</i>	3.41E-04	3.143

TMEM50A signature ER+HER2-

Gene	P-value	Fold change
AMDHD2	2.97E-04	0.697
AMPD2	3.01E-04	0.802
ANAPC2	3.92E-04	0.810
APOE	2.57E-04	0.641
ARFRP1	2.79E-04	0.815
ARL6IP4	1.40E-04	0.730
ASPSR1	1.47E-04	0.715
ATAD3A	1.41E-04	0.690
AURKAIP1	6.98E-05	0.679
BIN1	2.45E-06	0.484
BRF1	1.48E-04	0.771
BUB3	1.58E-04	1.246
CADM4	1.01E-04	0.656
CASK	1.99E-04	1.334
CCDC9	1.81E-05	0.590
CCS	3.52E-04	0.726
CD79B	1.61E-05	0.388
CDC37	1.53E-05	0.781
CENPQ	1.68E-04	1.316
CHMP6	3.68E-04	0.826
CSNK1G3	1.80E-04	1.225
CUL1	1.25E-04	1.157
DDIT4	3.32E-04	0.578
DDX54	1.73E-04	0.787
DUS1L	1.04E-04	0.749
DYNLT3	2.52E-04	1.337
ECHDC2	6.73E-05	0.723
EEF1D	1.39E-04	0.736
EHBP1L1	5.91E-05	0.634
EIF3G	6.80E-05	0.799
ERP29	3.38E-04	0.739
EVPL	1.50E-04	0.592
FKBP2	2.09E-05	0.680
FKBP8	1.83E-04	0.778
GADD45GIP1	1.26E-04	0.681
GLTSCR2	6.28E-05	0.749
HIP1R	3.81E-04	0.724
ICAM3	3.20E-05	0.750
IFT52	1.83E-04	1.179
IRF3	3.90E-04	0.723
KIAA1279	5.60E-06	1.255
KIF1C	3.48E-05	0.649
KLHDC4	1.49E-04	0.734
KRI1	1.60E-05	0.821
LSP1	1.18E-04	0.508
NARFL	2.42E-04	0.783
NECAP1	2.23E-04	1.301
NFKB2	1.11E-04	0.777

TMEM50A signature ER+HER2-

NT5C	1.05E-05	0.737
P4HA1	7.58E-05	1.353
PACSIN3	2.23E-04	0.659
PAF1	2.59E-04	0.814
PBXIP1	6.63E-05	0.687
PIGF	1.58E-04	1.164
PLCG2	3.91E-04	0.693
PLEKHA5	3.57E-04	1.235
PLEKHH3	1.60E-04	0.758
PPAN	3.25E-06	0.606
PPP3CB	2.07E-05	1.215
PSTPIP1	3.48E-04	0.539
PTPRCAP	3.38E-04	0.461
PUS1	2.76E-04	0.766
RAB11A	3.50E-04	1.180
RAB28	1.54E-04	1.127
RAD1	1.09E-04	1.195
RHOT2	2.88E-04	0.721
RPS3	1.02E-05	0.741
RRBP1	4.71E-05	0.709
RRP1	3.63E-06	0.786
SAC3D1	3.18E-04	0.730
SAFB	3.67E-05	0.789
SAFB2	4.70E-05	0.798
SAR1A	3.27E-04	1.114
SART1	7.25E-05	0.614
SCRN1	6.26E-05	1.574
SEMA3G	1.53E-04	0.537
SFXN1	2.63E-04	1.451
SLC35A5	3.21E-04	1.243
SLC38A10	2.55E-05	0.648
SNCG	1.96E-04	0.323
SNX2	3.70E-04	1.140
SNX24	3.33E-04	1.281
ST14	1.34E-04	0.693
SUPT5H	3.75E-04	0.822
TBL3	2.58E-04	0.793
TMED1	2.95E-04	0.782
TMEM209	1.32E-04	1.219
TNIP2	7.58E-05	0.834
TRPM4	2.91E-04	0.634
U2AF1	6.63E-05	0.828
UBQLN2	3.26E-04	1.169
VPS26A	2.73E-04	1.095
ZBTB17	1.87E-04	0.799
ZBTB7B	1.72E-04	0.743
ZFP30	1.91E-04	1.213
ZGPAT	6.73E-05	0.693
ZNF143	1.29E-04	1.119
ZNF219	3.06E-04	0.586
ZNF593	1.10E-04	0.742
ZNF787	1.41E-04	0.691

TTC27 signature ER+HER2-

Gene	P-value	Fold change
<i>ALDH1A1</i>	9.59E-04	0.472
<i>ARMC6</i>	1.55E-04	0.748
<i>ASPSCR1</i>	2.80E-04	0.669
<i>BRD9</i>	2.75E-04	0.811
<i>CDC37</i>	9.15E-04	0.780
<i>CNOT4</i>	4.43E-04	1.197
<i>CUL1</i>	1.02E-04	1.237
<i>HPRT1</i>	9.57E-04	1.379
<i>IMPACT</i>	6.86E-04	1.466
<i>KIAA1279</i>	2.06E-04	1.246
<i>POT1</i>	8.33E-04	1.339
<i>RAB11A</i>	2.40E-04	1.278
<i>RPS3</i>	5.43E-04	0.756
<i>SF3B5</i>	3.81E-04	0.812
<i>USP47</i>	8.74E-04	1.155
<i>WASL</i>	1.47E-04	1.261
<i>YWHAE</i>	8.29E-04	1.211
<i>ZNF143</i>	2.69E-05	1.138
<i>ZNF287</i>	1.67E-04	1.294

CROCC signature ER-HER2-

Gene	P-value	Fold change
<i>HIC1</i>	3.95E-04	1.842
<i>RAD52</i>	5.09E-04	0.752
<i>TULP3</i>	7.69E-04	0.698