Supplementary Materials for "Alternative preprocessing of RNA-Sequencing data in The Cancer Genome Atlas leads to improved analysis results "

Supplementary Figures



Figure S1: Western blots showing expression levels for HER2-activated and GFPcontrol cells. Lysates of HER2-adenovirus-vector (HER2) and green fluorescent protein (GFP) infected HMEC cells (18 hour infection) were generated, and expression of HER2 protein components were visualized by SDS-PAGE/Western blot. Western blots are shown for HER2 and phospho-Tyr1173-HER2 (P-HER2). GAPDH signal is used as an indication of loading equivalency.



Figure S2: ERBB2 (HER2) raw gene counts produced using the TCGA and Rsubread pipelines. Log-transformed gene counts for the ERBB2 gene are shown for HER2-activated human mammary epithelial cells (n=5) and for GFP-treated control cells (n=12). For HER2-activated cells, the values were much more variable for the TCGA pipeline processed gene counts data (coefficient of variation = 0.53) than for the Rsubread data (coefficient of variation = 0.15). For the GFP-treated cells the coefficients of variation were similar for both methods (TCGA = 0.14, Rsubread = 0.18). In addition, the standardized mean difference between HER2-activated levels and GFP levels was greater for the Rsubread data (23.8) than for the TCGA data (10.0).



Figure S3: Empirical cumulative distribution of total mapped reads using normalized gene counts. In all cases, the cumulative distributions were more consistent for the Rsubread data than for the TCGA Level 3 data. The outlier samples for the TCGA Level 3 data are the same samples (GFP sample 4, HER2 samples 2 and 4) that showed visually different expression patterns in the heat maps (see Figure 1). GFP samples (n=12) are represented in blue and HER2 samples (n=5) are represented in brown color.



Figure S4: ERBB2 (HER2) normalized expression levels produced using the TCGA Level 3 and Rsubread pipelines. For HER2-activated cells, the values were more highly variable for the TCGA Level 3 data (coefficient of variation = 0.30) than for the Rsubread data (coefficient of variation for FPKM = 0.09, coefficient of variation for TPM = 0.06). In addition, the standardized mean difference between HER2-activated level and control levels was greater for the Rsubread data (FPKM = 66.9, TPM = 67.2) than for the TCGA Level data (25.8).



Figure S5: Histogram of coefficients of variation across (A) control and (B) HER2 overexpressed samples using 19584 common genes across the normalized gene

expression datasets. In all cases there were some genes with high coefficient of variation in expression values. However, Rsubread FPKM and TPM normalized data had a higher number of genes and a lower median coefficient of variation than the TCGA Level 3 upper quartile normalized data.



Figure S6: Distribution of number of zero expressing genes per HMEC GFP sample (n=12) for the TCGA Level 3 (median: 4452) and Rsubread TPM (median: 4174) methods.



Figure S7: The number of genes per sample that each pipeline determined to have zero expression. We limited this analysis to the TCGA tumor samples (n=3380) and genes (n=19,584) that were common between the TCGA Pan-Cancer 12 dataset and our *Rsubread* processed dataset. The TCGA Level 3 samples had a higher number of zeroes per sample than the *Rsubread* samples (p-value<0.001). Vertical lines show the median value for each pipeline (TCGA Level 3 = 2742.5, *Rsubread* TPM =1910). In addition, the TCGA Level 3 data contained more extreme outliers.



Figure S8: Scatter plots for two biological samples from patient TCGA-50-5946.



Figure S9: Signature-based estimates of HER2 activation in TCGA breast-cancer samples (n = 662). We compared samples that had been identified via immunohistochemistry as either HER2 positive or negative. The standardized mean difference between HER2⁺ and HER2⁻ samples was higher for the Rsubread processed data (FPKM = 0.52, TPM = 0.59) than for the TCGA Level 3 data (0.44). For visual consistency across the comparisons, we converted the signature predictions to rank-based values (a higher rank indicates that a given sample was more likely to be HER2 positive).



Figure S10: A. Gene expression patterns for four genes (non-coding RNA) that are consistent with LUAD and LUSC histological classification. The "Discordant LUSC" samples were identified by Cline et al. as exhibiting LUAD-like properties; however, expression levels for these genes, which are not included in the TCGA Level 3 data, are consistent with histological classification. B. Histograms showing expression levels for MIR320A gene in LUAD, LUSC and discordant LUSC samples. Expression levels for "LUSC Discordant" samples are highly concordant with LUSC samples.

1. Supplementary Tables

Table S1: Analyses scenarios, datasets and number of samples used in comparing TCGALevel 3 and Rsubread FPKM/TPM pipeline.

Analysis Name	Goal	Datasets used	Number of samples used
Gene counts and normalized expression	To compare gene level differences before and after normalization for the HER2 gene	Our experimental HMEC dataset	17
Effect of upper quartile normalization	To compare the number of zero-expressed genes in the dataset with common genes and samples	Common samples between TCGA PanCan 12 Level 3 and Rsubread TPM dataset	3380
HER2 gene expression signature	To compare gene expression based signatures with 200 genes	Our experimental HMEC dataset	17
HER2 status prediction using HER2 signatures	To predict HER2 status in TCGA BRCA samples where the HER2 status is known from immunohistochemistry	TCGA BRCA dataset and clinical dataset	662
Classifying TCGA lung samples	To compare accuracy in classifying gene expression based lung adeno (LUAD) versus lung squamous carcinoma (LUSC) samples	TCGA LUAD and LUSC RNA-Seq datasets	575

Table S2: Comparison of standardized means

Comparison of Hedge's standardized mean differences with all HMEC samples and with 2 HMEC outlier samples removed. For the *Rsubread* data, we used TPM values.

	All samples included [GFP n=12 and HER2 n=5]		Outlier samples removed [GFP n=12 and HER2 n=3]		
	TCGA Level 3	Rsubread	TCGA Level 3	Rsubread	
Normalized HER2 expression	25.8	67.2	64.77	81.86	
HER2 predictions	0.44	0.59	0.40	0.55	

Table S3: Comparison of Pearson's correlation coefficients for biological replicatesPearson correlation coefficients for 13 samples that had been profiled twice with RNA-Seq in our data set and in the PANCAN12 data set.

Replicate_1	Replicate_2	TCGA Level 3	Rsubread TPM
TCGA-06-0125-01A-01R-1849-01	TCGA-06-0125-02A-11R-2005-01	0.89	0.88
TCGA-06-0190-01A-01R-1849-01	TCGA-06-0190-02A-01R-2005-01	0.72	0.88
TCGA-06-0210-01A-01R-1849-01	TCGA-06-0210-02A-01R-2005-01	0.79	0.83
TCGA-06-0211-01B-01R-1849-01	TCGA-06-0211-02A-02R-2005-01	0.89	0.88
TCGA-14-1034-01A-01R-1849-01	TCGA-14-1034-02B-01R-2005-01	0.75	0.78
TCGA-19-4065-01A-01R-2005-01	TCGA-19-4065-02A-11R-2005-01	0.63	0.82
TCGA-50-5066-01A-01R-1628-07	TCGA-50-5066-02A-11R-2090-07	0.68	0.80
TCGA-50-5946-01A-11R-1755-07	TCGA-50-5946-02A-11R-2090-07	0.65	0.89
TCGA-BH-A18V-01A-11R-A12D-07	TCGA-BH-A18V-06A-11R-A213-07	0.80	0.89
TCGA-BH-A1FE-01A-11R-A13Q-07	TCGA-BH-A1FE-06A-11R-A213-07	0.69	0.65
TCGA-E2-A15A-01A-11R-A12D-07	TCGA-E2-A15A-06A-11R-A12D-07	0.90	0.93
TCGA-E2-A15E-01A-11R-A12D-07	TCGA-E2-A15E-06A-11R-A12D-07	0.83	0.86
TCGA-E2-A15K-01A-11R-A12P-07	TCGA-E2-A15K-06A-11R-A12P-07	0.79	0.85

Table S4: Coefficients for HER2 signature genes

This table lists the 200 HER2-signature genes, along with coefficients identified using the two pipelines. Among these genes, 91-92 (~46%) genes were common between the TCGA Level 3 pipeline and *Rsubread* processed (FPKM and TPM) datasets, and 188 (94%) were common between FPKM and TPM data processed by *Rsubread*.

		Rsubread					
TCGA RNA	-Seq Level 3	FP	KM	TPM			
Name	Coefficient	Name	Coefficient	Name	Coefficient		
Intercept	4.524853	Intercept	0.168851	Intercept	-0.504928		
ERBB2	0.164782	ERBB2	0.257577	ERBB2	0.305527		
HSPA7	-0.125612	HSPA7	-0.187866	HSPA6	-0.15878		
GDF6	-0.111343	HSPA6	-0.136333	HSPA7	-0.151412		
HSPA6	-0.097087	GDF6	0.09874	CCL2	-0.106984		
CCL2	-0.093873	DNAJA4	-0.080598	DNAJA4	-0.09334		
CXCL10	-0.092074	KPRP	0.074612	TNFAIP2	-0.075825		
LOC338651	0.079326	EEF1A2	0.069003	HSPA1A	-0.073306		
TNFSF14	-0.07371	TNFAIP2	-0.06772	EEF1A2	0.07144		
CD248	-0.059249	PDGFB	0.066514	PDGFB	0.06787		
IFIT1	-0.057644	TSPAN18	0.066512	EPGN	-0.067303		
DNAJA4	-0.053322	HSPA1A	-0.062749	HSPA1B	-0.066745		
GNAO1	-0.050292	ATP6V0A4	0.058443	ATP6V0A4	0.062446		
CRHR1	0.048706	CFB	-0.058034	CFB	-0.060075		
EEF1A2	0.045896	HSPA1B	-0.057605	CALB2	0.05829		
HSPA1B	-0.045632	EPGN	-0.057545	CRYAB	-0.054796		
CCL20	-0.044527	CALB2	0.054193	SAA2	-0.050794		
TNFAIP2	-0.04433	PNMA2	0.048449	PNMA2	0.0504		
LOC91948	0.042751	SAA2	-0.047311	KRT80	0.050203		
ATP6V0A4	0.038768	CRYAB	-0.046179	TNFRSF11B	0.048283		
CFB	-0.03783	KRT80	0.045195	UCA1	0.046302		
CALB2	0.036782	SRMS	0.043627	CXCL5	-0.045923		
PADI1	0.035659	GPR1	-0.04332	ANGPTL7	-0.04499		
PDGFB	0.034971	UCA1	0.041757	KPRP	0.044522		
LOC285629	-0.034876	TNFRSF11B	0.041583	SOD2	-0.044234		
CRYAB	-0.032468	FAM83A	0.040141	SYTL5	0.043949		
GABRA2	0.030593	EPHA3	-0.039923	KRT19	0.043441		

FPKM TPM OD2 -0.028653 CXCL5 -0.039762 AKAP12 0.043351 LBP1 -0.028346 RGS2 -0.039762 SRMS 0.042485 RT18 0.028246 DDAH1 0.039198 PAD11 0.042177 PR1 -0.027639 ULBP1 -0.038466 GPR1 -0.041418 XCL5 -0.027617 AKAP12 0.038418 RGS2 -0.041195 PHA3 -0.026868 SOD2 -0.037183 MYADM 0.040819 .8 -0.025943 KRT19 0.036641 SHC4 0.040855 PHA4 -0.025054 PPPIR3C -0.035985 BST2 -0.039644 LR3 -0.025054 PPPIR3C -0.034678 KRT18 0.038871 PSAP52 0.02498 PTK6 0.034658 KRT18 0.038871 CZA12 -0.024874 SPON1 0.034473 SAA1 -0.038474 LC2A12 -0.024874 SPON1 0.034751 SPON1 0.038082 </th <th></th> <th></th> <th></th> <th colspan="5">Rsubread</th>				Rsubread				
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GS2 -0.024874 SPON1 0.034473 SAA1 -0.038474 LC2A12 -0.024861 MYADM 0.034361 SPON1 0.038178 RT19 0.024626 BST2 -0.034136 HSP90AA1 -0.038082 RANK1 -0.024277 GRAMD2 -0.034067 TSPAN18 0.037454 IGP 0.023534 HSP90AA1 -0.032999 ANGPTL4 0.036491 HC4 0.022446 KRT18 0.032801 PAQR7 -0.036256 ITLG -0.02152 EPHA4 -0.032767 ULBP1 -0.035296 GRL1 -0.021984 KLK6 0.032407 PGM2L1 0.035069 IYCL1 -0.021942 CXCR1 0.031954 CRHR1 0.034918 NGPTL4 0.02165 PGM2L1 0.031075 PIK3C2B -0.03484 ARP9 -0.021303 ANGPTL4 0.031075 PIK3C2B -0.034825 NAJB4 -0.02162 PAQR7 -0.03003 CXCR1 0.034384 IK3C2B -0.021143 FAM198B -0.03023 FAM198B -0.03023	RPSAP52	0.02498	PTK6	0.034658	KRT18	0.038599		
LC2A12 -0.024861 MYADM 0.034361 SPON1 0.038178 RT19 0.024626 BST2 -0.034136 HSP90AA1 -0.038082 RANK1 -0.024277 GRAMD2 -0.034067 TSPAN18 0.037454 IGP 0.023918 SAA1 -0.033523 EPHA4 -0.037243 AA1 -0.023534 HSP90AA1 -0.032999 ANGPTL4 0.036491 HC4 0.022152 EPHA4 -0.032631 PAQR7 -0.035505 RT8 0.022084 PIK3C2B -0.032631 HSPH1 -0.035296 GNL1 -0.021984 KLK6 0.032407 PGM2L1 0.034918 NGPTL4 0.02165 PGM2L1 0.031133 SERPINB13 -0.03484 ARP9 -0.02165 PGM2L1 0.031075 PIK3C2B -0.034825 NAJB4 -0.021262 PAQR7 -0.03003 SERPINB13 -0.034934 IK3C2B -0.021143 FAM198B -0.03023 FAM198B -0.034254 IK3C2B -0.021143 FAM198B -0.030033 DDAH1 0.033964	RGS2	-0.024874	SPON1	0.034473	SAA1	-0.038474		
RT19 0.024626 BST2 -0.034136 HSP90AA1 -0.038082 RANK1 -0.024277 GRAMD2 -0.034067 TSPAN18 0.037454 IGP 0.023918 SAA1 -0.033523 EPHA4 -0.037243 AA1 -0.023534 HSP90AA1 -0.032999 ANGPTL4 0.036491 HC4 0.022466 KRT18 0.032801 PAQR7 -0.036256 ITLG -0.022152 EPHA4 -0.032767 ULBP1 -0.035296 GRL1 -0.021984 KLK6 0.032407 PGM2L1 0.035069 IYCL1 -0.021942 CXCR1 0.031055 PGM2L1 0.03484 NGPTL4 0.02165 PGM2L1 0.031075 PIK3C2B -0.034825 NAJB4 -0.021262 PAQR7 -0.031038 PTK6 0.034722 PON1 0.021236 DAPK1 -0.03003 GRAMD2 -0.034033 KXC2B -0.021143 FAM198B -0.03003 DAH1 0.0349254 ARP14 -0.021042 SERPINB13 -0.030003 DDAH1 0.033964	SLC2A12	-0.024861	MYADM	0.034361	SPON1	0.038178		
RANK1 -0.024277 GRAMD2 -0.034067 TSPAN18 0.037454 IGP 0.023918 SAA1 -0.033523 EPHA4 -0.037243 AA1 -0.023534 HSP90AA1 -0.032999 ANGPTL4 0.036491 HC4 0.022446 KRT18 0.032801 PAQR7 -0.036256 ITLG -0.02152 EPHA4 -0.032631 HSPH1 -0.03505 RT8 0.022084 PIK3C2B -0.032631 HSPH1 -0.035069 IYCL1 -0.021984 KLK6 0.031133 SERPINB13 -0.03484 NGPTL4 0.02165 PGM2L1 0.031075 PIK3C2B -0.03484 ARP9 -0.021303 ANGPTL4 0.031075 PIK3C2B -0.03484 IK3C2B -0.021162 PAQR7 -0.031038 PTK6 0.034722 PON1 0.021236 DAPK1 -0.03003 CXCR1 0.034384 IK3C2B -0.021143 FAM198B -0.03023 FAM198B -0.034033 ERPINB1 0.020839 GBP6 -0.030003 DDAH1 0.033665	KRT19	0.024626	BST2	-0.034136	HSP90AA1	-0.038082		
IGP0.023918SAA1-0.033523EPHA4-0.037243AA1-0.023534HSP90AA1-0.032999ANGPTL40.036491HC40.022446KRT180.032801PAQR7-0.036256ITLG-0.022152EPHA4-0.032767ULBP1-0.035296RT80.022084PIK3C2B-0.032631HSPH1-0.035069GNL1-0.021984KLK60.032407PGM2L10.034918NGPTL40.02165PGM2L10.031954CRHR10.034918NGPTL40.02165PGM2L10.031075PIK3C2B-0.03484ARP9-0.021262PAQR7-0.031038PTK60.034722PON10.021236DAPK1-0.030705CXCR10.034384IK3C2B-0.021143FAM198B-0.03023GRAMD2-0.034033ARP14-0.021042SERPINB13-0.030003DDAH10.033964XCL2-0.020713VWA10.029805GPRC5A0.033659ERPINB13-0.02062HSPH1-0.029464SLC1A10.033261NAJB1-0.020121KITLG-0.028275VWA10.033251NAJB1-0.020262HSPH1-0.028275VWA10.0322422	TRANK1	-0.024277	GRAMD2	-0.034067	TSPAN18	0.037454		
AA1 -0.023534 HSP90AA1 -0.032999 ANGPTL4 0.036491 HC4 0.022446 KRT18 0.032801 PAQR7 -0.036256 ITLG -0.022152 EPHA4 -0.032767 ULBP1 -0.035505 RT8 0.022084 PIK3C2B -0.032631 HSPH1 -0.035505 GNL1 -0.021984 KLK6 0.032407 PGM2L1 0.035069 IYCL1 -0.021942 CXCR1 0.031954 CRHR1 0.034918 NGPTL4 0.02165 PGM2L1 0.031075 PIK3C2B -0.034845 ARP9 -0.021262 PAQR7 -0.031038 PIK3C2B -0.034825 NAJB4 -0.021262 PAQR7 -0.031038 PIK6 0.034254 IK3C2B -0.021143 FAM198B -0.03023 GRAMD2 -0.034033 IK3C2B -0.021042 SERPINB13 -0.030003 DAH1 0.033964 KCL2 -0.020713 VWA1 0.029805 GRAMD2 -0.034033 ERPINB13 -0.02062 HSPH1 -0.029464 SLC1A1 0.033565 </td <td>MGP</td> <td>0.023918</td> <td>SAA1</td> <td>-0.033523</td> <td>EPHA4</td> <td>-0.037243</td>	MGP	0.023918	SAA1	-0.033523	EPHA4	-0.037243		
HC40.022446KRT180.032801PAQR7-0.036256ITLG-0.022152EPHA4-0.032767ULBP1-0.035505RT80.022084PIK3C2B-0.032631HSPH1-0.035296GNL1-0.021984KLK60.032407PGM2L10.035069IYCL1-0.021942CXCR10.031954CRHR10.034918NGPTL40.02165PGM2L10.031075PIK3C2B-0.03484ARP9-0.021303ANGPTL40.031075PIK3C2B-0.034825PON10.021262PAQR7-0.031038PTK60.034722PON10.021236DAPK1-0.030705CXCR10.034384IK3C2B-0.021143FAM198B-0.030208GRAMD2-0.034033ERPINB10.020839GBP6-0.030003DDAH10.033964XCL2-0.020713VWA10.029805GPRC5A0.033659RIM22-0.020121KITLG-0.029464SLC1A10.033251NA IB1-0.019926GPRC5A0.023423DNA1A10.0232432	SAA1	-0.023534	HSP90AA1	-0.032999	ANGPTL4	0.036491		
ITLG -0.022152 EPHA4 -0.032767 ULBP1 -0.035505 RT8 0.022084 PIK3C2B -0.032631 HSPH1 -0.035296 GNL1 -0.021984 KLK6 0.032407 PGM2L1 0.035069 IYCL1 -0.021942 CXCR1 0.031954 CRHR1 0.034918 NGPTL4 0.02165 PGM2L1 0.031075 PIK3C2B -0.03484 ARP9 -0.021262 PAQR7 -0.031038 PTK6 0.034722 PON1 0.021042 SERPINB13 -0.030705 CXCR1 0.034384 IK3C2B -0.021143 FAM198B -0.03023 FAM198B -0.034254 ARP14 -0.021042 SERPINB13 -0.030003 DDAH1 0.033964 XCL2 -0.020713 VWA1 0.029805 GPRC5A 0.033659 ERPINB13 -0.020613 SLC1A1 0.029764 DAPK1 -0.033565 RIM22 -0.020121 KITLG -0.028275 VWA1 0.033251 NAIB1 -0.019926 GPRC5A 0.027433 DNA1A1 0.023423 <td>SHC4</td> <td>0.022446</td> <td>KRT18</td> <td>0.032801</td> <td>PAQR7</td> <td>-0.036256</td>	SHC4	0.022446	KRT18	0.032801	PAQR7	-0.036256		
RT80.022084PIK3C2B-0.032631HSPH1-0.035296GNL1-0.021984KLK60.032407PGM2L10.035069IYCL1-0.021942CXCR10.031954CRHR10.034918NGPTL40.02165PGM2L10.031133SERPINB13-0.03484ARP9-0.021303ANGPTL40.031075PIK3C2B-0.034825PON10.021236DAPK1-0.030705CXCR10.034384IK3C2B-0.021143FAM198B-0.03023FAM198B-0.034254ARP14-0.021042SERPINB13-0.030003DDAH10.033964XCL2-0.020713VWA10.029805GPRC5A0.033659ERPINB13-0.020613SLC1A10.029464SLC1A10.033251NAJB1-0.020121KITLG-0.028275VWA10.033251NAJB1-0.019926GPRC5A0.027836DNA1A10.022423	KITLG	-0.022152	EPHA4	-0.032767	ULBP1	-0.035505		
GNL1-0.021984KLK60.032407PGM2L10.035069IYCL1-0.021942CXCR10.031954CRHR10.034918NGPTL40.02165PGM2L10.031133SERPINB13-0.03484ARP9-0.021303ANGPTL40.031075PIK3C2B-0.034825NAJB4-0.021262PAQR7-0.031038PTK60.034722PON10.021236DAPK1-0.030705CXCR10.034384IK3C2B-0.021143FAM198B-0.03023FAM198B-0.034254ARP14-0.021042SERPINB13-0.030003DDAH10.033964XCL2-0.020713VWA10.029805GPRC5A0.033659ERPINB13-0.020613SLC1A10.029464SLC1A10.033251NAJB1-0.02121KITLG-0.028275VWA10.032213	KRT8	0.022084	PIK3C2B	-0.032631	HSPH1	-0.035296		
IYCL1-0.021942CXCR10.031954CRHR10.034918NGPTL40.02165PGM2L10.031133SERPINB13-0.03484ARP9-0.021303ANGPTL40.031075PIK3C2B-0.034825NAJB4-0.021262PAQR7-0.031038PTK60.034722PON10.021236DAPK1-0.030705CXCR10.034384IK3C2B-0.021143FAM198B-0.03023FAM198B-0.034254ARP14-0.021042SERPINB13-0.030003GRAMD2-0.034033ERPINB10.020839GBP6-0.030003DDAH10.033964XCL2-0.020713VWA10.029805GPRC5A0.033659ERPINB13-0.020613SLC1A10.029764DAPK1-0.033565RIM22-0.020121KITLG-0.028275VWA10.033251NAIB1-0.019926GPRC5A0.027836DNA1A10.022423	CGNL1	-0.021984	KLK6	0.032407	PGM2L1	0.035069		
NGPTL4 0.02165 PGM2L1 0.031133 SERPINB13 -0.03484 ARP9 -0.021303 ANGPTL4 0.031075 PIK3C2B -0.034825 NAJB4 -0.021262 PAQR7 -0.031038 PTK6 0.034722 PON1 0.021236 DAPK1 -0.030705 CXCR1 0.034384 IK3C2B -0.021143 FAM198B -0.03023 FAM198B -0.034033 ARP14 -0.021042 SERPINB13 -0.030003 GRAMD2 -0.034033 ERPINB1 0.020839 GBP6 -0.030003 DDAH1 0.033659 ERPINB13 -0.020613 SLC1A1 0.029764 DAPK1 -0.03362 NX9 0.020262 HSPH1 -0.028275 VWA1 0.033251 NAIB1 -0.019926 GPRC5A 0.027836 DNAIA1 0.022423	MYCL1	-0.021942	CXCR1	0.031954	CRHR1	0.034918		
ARP9-0.021303ANGPTL40.031075PIK3C2B-0.034825NAJB4-0.021262PAQR7-0.031038PTK60.034722PON10.021236DAPK1-0.030705CXCR10.034384IK3C2B-0.021143FAM198B-0.03023FAM198B-0.034254ARP14-0.021042SERPINB13-0.030003GRAMD2-0.034033ERPINB10.020839GBP6-0.030003DDAH10.033964XCL2-0.020713VWA10.029805GPRC5A0.033659ERPINB13-0.020613SLC1A10.029764DAPK1-0.03362NX90.020262HSPH1-0.029464SLC1A10.033251NAIB1-0.019926GPRC5A0.027836DNA1A10.022423	ANGPTL4	0.02165	PGM2L1	0.031133	SERPINB13	-0.03484		
NAJB4 -0.021262 PAQR7 -0.031038 PTK6 0.034722 PON1 0.021236 DAPK1 -0.030705 CXCR1 0.034384 IK3C2B -0.021143 FAM198B -0.03023 FAM198B -0.034254 ARP14 -0.021042 SERPINB13 -0.030003 GRAMD2 -0.034033 ERPINB1 0.020839 GBP6 -0.030003 DDAH1 0.033964 XCL2 -0.020713 VWA1 0.029805 GPRC5A 0.033659 ERPINB13 -0.020613 SLC1A1 0.029764 DAPK1 -0.03362 NX9 0.020262 HSPH1 -0.028275 VWA1 0.033251 NAIB1 -0.019926 GPRC5A 0.027836 DNA141 0.022423	PARP9	-0.021303	ANGPTL4	0.031075	PIK3C2B	-0.034825		
PON10.021236DAPK1-0.030705CXCR10.034384IK3C2B-0.021143FAM198B-0.03023FAM198B-0.034254ARP14-0.021042SERPINB13-0.030208GRAMD2-0.034033ERPINB10.020839GBP6-0.030003DDAH10.033964XCL2-0.020713VWA10.029805GPRC5A0.033659ERPINB13-0.020613SLC1A10.029764DAPK1-0.03362NX90.020262HSPH1-0.029464SLC1A10.033251NAIB1-0.019926GPRC5A0.027836DNA1A10.022423	DNAJB4	-0.021262	PAQR7	-0.031038	PTK6	0.034722		
IK3C2B -0.021143 FAM198B -0.03023 FAM198B -0.034254 ARP14 -0.021042 SERPINB13 -0.030208 GRAMD2 -0.034033 ERPINB1 0.020839 GBP6 -0.030003 DDAH1 0.033964 XCL2 -0.020713 VWA1 0.029805 GPRC5A 0.033659 ERPINB13 -0.020613 SLC1A1 0.029764 DAPK1 -0.03362 NX9 0.020262 HSPH1 -0.028275 VWA1 0.033251 NAIB1 -0.019926 GPRC5A 0.022423	SPON1	0.021236	DAPK1	-0.030705	CXCR1	0.034384		
ARP14 -0.021042 SERPINB13 -0.030208 GRAMD2 -0.034033 ERPINB1 0.020839 GBP6 -0.030003 DDAH1 0.033964 XCL2 -0.020713 VWA1 0.029805 GPRC5A 0.033659 ERPINB13 -0.020613 SLC1A1 0.029764 DAPK1 -0.03362 NX9 0.020262 HSPH1 -0.029464 SLC1A1 0.033565 RIM22 -0.020121 KITLG -0.028275 VWA1 0.033251 NAIB1 -0.019926 GPRC5A 0.027836 DNAIA1 0.022423	PIK3C2B	-0.021143	FAM198B	-0.03023	FAM198B	-0.034254		
ERPINB1 0.020839 GBP6 -0.030003 DDAH1 0.033964 XCL2 -0.020713 VWA1 0.029805 GPRC5A 0.033659 ERPINB13 -0.020613 SLC1A1 0.029764 DAPK1 -0.03362 NX9 0.020262 HSPH1 -0.029464 SLC1A1 0.033251 RIM22 -0.020121 KITLG -0.027836 DNA1A1 0.022433	PARP14	-0.021042	SERPINB13	-0.030208	GRAMD2	-0.034033		
XCL2 -0.020713 VWA1 0.029805 GPRC5A 0.033659 ERPINB13 -0.020613 SLC1A1 0.029764 DAPK1 -0.03362 NX9 0.020262 HSPH1 -0.029464 SLC1A1 0.033655 RIM22 -0.020121 KITLG -0.028275 VWA1 0.033251 NAIB1 -0.019926 GPRC5A 0.027836 DNAIA1 0.022433	SERPINB1	0.020839	GBP6	-0.030003	DDAH1	0.033964		
ERPINB13 -0.020613 SLC1A1 0.029764 DAPK1 -0.03362 NX9 0.020262 HSPH1 -0.029464 SLC1A1 0.033565 RIM22 -0.020121 KITLG -0.028275 VWA1 0.033251 NAIB1 -0.019926 GPRC5A 0.027836 DNAIA1 0.022433	CXCL2	-0.020713	VWA1	0.029805	GPRC5A	0.033659		
NX9 0.020262 HSPH1 -0.029464 SLC1A1 0.033565 RIM22 -0.020121 KITLG -0.028275 VWA1 0.033251 NAIB1 -0.019926 GPRC5A 0.027836 DNA1A1 0.022433	SERPINB13	-0.020613	SLC1A1	0.029764	DAPK1	-0.03362		
RIM22 -0.020121 KITLG -0.028275 VWA1 0.033251 NA IB1 -0.019926 GPRC5A 0.027836 DNA IA1 0.022433	SNX9	0.020262	HSPH1	-0.029464	SLC1A1	0.033565		
NAIB1 -0.019926 GPRC5A 0.027836 DNAIA1 0.022422	TRIM22	-0.020121	KITLG	-0.028275	VWA1	0.033251		
-0.01/20 OTROA 0.02/050 DNAJAT -0.052455	DNAJB1	-0.019926	GPRC5A	0.027836	DNAJA1	-0.032433		

FFKM TPM CANK4 -0.019885 HSPB8 -0.027616 SNX9 0.03237 BBP6 -0.019667 SNX9 0.027574 KITLG -0.0322 ALPH 0.019478 DNAJA1 -0.026591 HSPB8 -0.0322 APOL6 -0.019334 C10orf10 0.026544 GBP6 -0.0312 AS3 -0.019105 GM2A -0.026028 CCNA1 0.03031 ISP90AA1 -0.019126 CSorf84 0.025904 GM2A -0.03010 M2A -0.019126 CCNA1 0.025808 CSorf84 0.02997 INGASE -0.01773 TRIM22 -0.025731 ALDH1A3 0.02968 RT75 0.01765 KRT8 0.025158 SREK1IP1 0.02975 SILC 0.017765 KRT8 0.02518 KRT8 0.02975 CNA1 0.017623 DNAJB4 -0.02518 KRT8 0.02977 ERMT2 0.017321 TCF4 -0.024333 DNAJB4 -0.02867	Rsubread							
KANK4 -0.019885 HSPB8 -0.027616 SNX9 0.03237 BP6 -0.019667 SNX9 0.027574 KITLG -0.03223 ALPH 0.019478 DNAJA1 -0.026591 HSPB8 -0.03223 APOL6 -0.019334 C10orf10 0.026544 GBP6 -0.0323 AS3 -0.019165 GM2A -0.026028 CCNA1 0.03031 SRT81 0.019156 CSorf84 0.025731 ALDH1A3 0.02997 NGASE -0.017973 TRIM22 -0.025731 ALDH1A3 0.02968 CRT75 0.017856 APOL6 -0.025483 TRIM22 -0.02975 SBLC 0.01765 KRT8 0.02518 SREK1IP1 0.02907 CRA1 0.017623 DNAJB4 -0.024505 NOTCH1 -0.02872 FERMT2 0.01731 TCF4 -0.024332 DNAJB4 -0.02867 LC13A5 0.017066 ALDH1A3 0.0223917 MAFF 0.02690 LAUR <t< th=""><th>TCGA RNA</th><th>A-Seq Level 3</th><th>FI</th><th>PKM</th><th></th><th colspan="3">ТРМ</th></t<>	TCGA RNA	A-Seq Level 3	FI	PKM		ТРМ		
BBP6 -0.019667 SNX9 0.027574 KITLG -0.02224 ALPH 0.019478 DNAJA1 -0.026591 HSPB8 -0.03224 APOL6 -0.019334 C10orf10 0.026544 GBP6 -0.03224 AS3 -0.019302 SREK1IP1 0.026213 C10orf10 0.03031 CRT81 0.019156 CSorf84 0.025904 GM2A -0.03010 iM2A -0.019126 CCNA1 0.025808 CSorf84 0.02997 INGASE -0.01775 KRT8 0.025118 SREK1IP1 0.02954 BLC 0.01765 KRT8 0.02518 SREK1IP1 0.0297 CNA1 0.01765 KRT8 0.02518 SREK1IP1 0.0297 EACAM1 0.01763 DNAJB4 -0.024505 NOTCH1 -0.0287 EACAM1 0.01703 MAFF 0.023981 EMP1 0.02743 TTSS1L -0.01703 MAFF 0.023182 DNAJB1 -0.02616 LOR4 -0.01	KANK4	-0.019885	HSPB8	-0.027616		SNX9	0.032379	
ALPH 0.019478 DNAJA1 -0.026591 HSPB8 -0.0215 APOL6 -0.019334 C10orf10 0.026544 GBP6 -0.01328 DAS3 -0.019302 SREK1IP1 0.026213 C10orf10 0.03031 ISP90AA1 -0.019165 GM2A -0.026028 CCNA1 0.03031 ISRT81 0.019156 CSorf84 0.025904 GM2A -0.03010 iM2A -0.019126 CCNA1 0.025808 CSorf84 0.02997 INGASE -0.01775 KRT8 0.025158 SREK1IP1 0.02935 CNA1 0.01765 KRT8 0.025158 SREK1IP1 0.02877 FELC 0.017321 TCF4 -0.024805 NOTCH1 -0.02877 FEACAM1 0.01703 MAFF 0.023917 MAFF 0.027433 TTSSIL -0.01703 MAFF 0.023182 DNAJB1 -0.02616 LC13A5 0.016033 IL7R -0.023182 DNAJB1 -0.026467 PS3AIP1	GBP6	-0.019667	SNX9	0.027574		KITLG	-0.03225	
APOL6 -0.019334 C10orf10 0.026544 GBP6 -0.0122 DAS3 -0.019302 SREK1IP1 0.026213 C10orf10 0.03031 ISP90AA1 -0.019165 GM2A -0.026028 CCNA1 0.03031 GM2A -0.019166 CSorf84 0.025904 GM2A -0.03010 GM2A -0.019126 CCNA1 0.025808 CSorf84 0.02997 CNGASE -0.01765 KRT8 0.025158 SREK1IP1 0.02935 CNA1 0.01765 KRT8 0.025158 SREK1IP1 0.02872 CRA1 0.01763 DNAJB4 -0.025433 DNAJB4 -0.02872 CRA1 0.01765 KRT8 0.025158 SREK1IP1 0.02872 CRAA 0.01703 DNAJB4 -0.024333 DNAJB4 -0.02872 CRAAM1 0.01703 MAFF 0.023981 EMP1 0.02714 CF4 -0.016884 PARP14 -0.023182 DNAJB1 -0.02667 GPA11	MLPH	0.019478	DNAJA1	-0.026591		HSPB8	-0.03215	
DAS3 -0.019302 SREK1IP1 0.026213 C10orf10 0.03051 ISP90AA1 -0.019165 GM2A -0.026028 CCNA1 0.03031 GM2A -0.019165 CSorf84 0.025904 GM2A -0.03010 GM2A -0.019126 CCNA1 0.025808 CSorf84 0.02997 GMASE -0.017973 TRIM22 -0.025731 ALDH1A3 0.02968 GRT75 0.01765 KRT8 0.025118 SREK1IP1 0.02977 CNA1 0.017623 DNAJB4 -0.025483 TRIM22 -0.02973 CRT75 0.01765 KRT8 0.025118 KRT8 0.02907 ERMT2 0.017321 TCF4 -0.024505 NOTCH1 -0.02872 CRAAM1 0.01703 MAFF 0.023981 EMP1 0.02714 CF4 -0.016684 PARP14 -0.023182 DNAJB1 -0.02667 GP110 0.01615 KMO -0.02182 DNAJB1 -0.026161 ISPH1 <	APOL6	-0.019334	C10orf10	0.026544		GBP6	-0.03128	
ISP90AA1 -0.019165 GM2A -0.026028 CCNA1 0.03031 GRT81 0.019156 C8orf84 0.025904 GM2A -0.03010 GM2A -0.019126 CCNA1 0.025808 C8orf84 0.02997 INGASE -0.017973 TRIM22 -0.025731 ALDH1A3 0.02968 GRT75 0.017856 APOL6 -0.025483 TRIM22 -0.02954 CNA1 0.017653 KRT8 0.025158 SREK1IP1 0.02977 CNA1 0.017623 DNAJB4 -0.025018 KRT8 0.02907 FERMT2 0.01731 NOTCH1 -0.024433 DNAJB4 -0.02872 FEACAM1 0.01713 NOTCH1 -0.024305 NOTCH1 -0.02872 FEACAM1 0.017036 MAFF 0.023981 EMP1 0.02714 CF4 -0.016884 PARP14 -0.023182 DNAJB1 -0.02667 FP3AIP1 -0.016151 KMD -0.02182 DNAJB1 -0.026161 ISPH1 <td>OAS3</td> <td>-0.019302</td> <td>SREK1IP1</td> <td>0.026213</td> <td></td> <td>C10orf10</td> <td>0.030517</td>	OAS3	-0.019302	SREK1IP1	0.026213		C10orf10	0.030517	
CRT81 0.019156 C8orf84 0.025904 GM2A -0.03010 SM2A -0.019126 CCNA1 0.025808 C8orf84 0.02997 SNGASE -0.017973 TRIM22 -0.025731 ALDH1A3 0.02968 SRT75 0.017856 APOL6 -0.025483 TRIM22 -0.02975 SRT75 0.01765 KRT8 0.025158 SREK1IP1 0.02907 CNA1 0.017623 DNAJB4 -0.024055 NOTCH1 -0.02872 SEACAM1 0.01731 NOTCH1 -0.024333 DNAJB4 -0.02872 SEACAM1 0.01706 ALDH1A3 0.024322 FERMT2 0.027433 TSS1L -0.017003 MAFF 0.023981 EMP1 0.02667 TCF4 -0.016884 PARP14 -0.023917 MAFF 0.026616 PS3AIP1 -0.01615 EMP1 0.022149 PARP14 -0.026168 SPH1 -0.016161 KHDRBS3 0.022093 PLAUR 0.02509 SAB6B <td>HSP90AA1</td> <td>-0.019165</td> <td>GM2A</td> <td>-0.026028</td> <td>11</td> <td>CCNA1</td> <td>0.03031</td>	HSP90AA1	-0.019165	GM2A	-0.026028	11	CCNA1	0.03031	
SM2A -0.019126 CCNA1 0.025808 C8orf84 0.02997 KIGASE -0.017973 TRIM22 -0.025731 ALDH1A3 0.02968 CRT75 0.017856 APOL6 -0.025483 TRIM22 -0.02954 CBLC 0.01765 KRT8 0.025158 SREK1IP1 0.02935 CCNA1 0.017623 DNAJB4 -0.025018 KRT8 0.02977 CRM12 0.017321 TCF4 -0.024505 NOTCH1 -0.02872 PEACAM1 0.01703 MAFF 0.023917 MAJB4 -0.02867 LC13A5 0.017066 ALDH1A3 0.024332 FERMT2 0.027433 ATSS1L -0.017003 MAFF 0.023917 MAFF 0.02660 LAUR 0.016528 FERMT2 0.023165 TCF4 -0.02667 SP110 0.016161 KHDRBS3 0.022993 PLAUR 0.026081 SP4F1 0.016161 KHDRBS3 0.02203 PLAUR 0.02505 SP2 <t< td=""><td>KRT81</td><td>0.019156</td><td>C8orf84</td><td>0.025904</td><td></td><td>GM2A</td><td>-0.03010</td></t<>	KRT81	0.019156	C8orf84	0.025904		GM2A	-0.03010	
NGASE -0.017973 TRIM22 -0.025731 ALDH1A3 0.02968 CRT75 0.017856 APOL6 -0.025483 TRIM22 -0.02954 CBLC 0.017765 KRT8 0.025158 SREK1IP1 0.02954 CNA1 0.017623 DNAJB4 -0.025018 KRT8 0.02907 ERMT2 0.017321 TCF4 -0.024505 NOTCH1 -0.02872 YEACAM1 0.01713 NOTCH1 -0.024433 DNAJB4 -0.02867 LC13A5 0.017066 ALDH1A3 0.024322 FERMT2 0.02743 TSS1L -0.017003 MAFF 0.023981 EMP1 0.02743 TCF4 -0.016884 PARP14 -0.023182 DNAJB1 -0.026467 YEAF1 0.01613 IL7R -0.023169 PARP14 -0.026467 YEAF1 0.016161 KHDRBS3 0.022039 PLAUR 0.02522 YEAF1 0.016115 EMP1 0.022023 PLAU 0.02522 YEAF1 0.01605 KMO -0.022195 KANK4 -0.02605 Y	GM2A	-0.019126	CCNA1	0.025808		C8orf84	0.029972	
CRT75 0.017856 APOL6 -0.025483 TRIM22 -0.02954 CBLC 0.017765 KRT8 0.025158 SREK1IP1 0.02935 CCNA1 0.017623 DNAJB4 -0.024505 NOTCH1 -0.024505 ERMT2 0.017321 TCF4 -0.024433 DNAJB4 -0.02872 EACAM1 0.01703 NOTCH1 -0.024433 DNAJB4 -0.02872 CEACAM1 0.01703 MAFF 0.023981 EMP1 0.02714 CF4 -0.016884 PARP14 -0.023917 MAFF 0.02660 LAUR 0.016528 FERMT2 0.023165 TCF4 -0.02667 PR110 0.01633 IL7R -0.023182 DNAJB1 -0.02667 SPR11 -0.016244 LOC644961 0.022169 PARP14 -0.02616 SPB1 -0.016115 EMP1 0.022438 KHDRBS3 0.02523 SPB2 0.015384 DNAJB1 -0.022019 KANK4 -0.02467 SPA8	ENGASE	-0.017973	TRIM22	-0.025731		ALDH1A3	0.02968	
BLC 0.017765 KRT8 0.025158 SREK1IP1 0.02935 CNA1 0.017623 DNAJB4 -0.025018 KRT8 0.02907 ERMT2 0.017321 TCF4 -0.024505 NOTCH1 -0.02872 CEACAM1 0.01706 ALDH1A3 0.024322 FERMT2 0.02714 CEACAM1 -0.017003 MAFF 0.023981 EMP1 0.027432 ATSS1L -0.016884 PARP14 -0.023917 MAFF 0.02660 LAUR 0.016528 FERMT2 0.023165 TCF4 -0.02663 PR110 0.016161 KHDRBS3 0.022993 PLAUR 0.026163 SPR11 -0.016115 EMP1 0.022449 LOC644961 0.022019 AB6B 0.016005 KMO -0.022438 KHDRBS3 0.02505 SPR2 0.015384 DNAJB1 -0.022019 KANK4 -0.02467 ASA3 0.014898 KANK4 -0.021458 KCNN4 0.024467 ASA3 <td< td=""><td>KRT75</td><td>0.017856</td><td>APOL6</td><td>-0.025483</td><td></td><td>TRIM22</td><td>-0.02954</td></td<>	KRT75	0.017856	APOL6	-0.025483		TRIM22	-0.02954	
XCNA1 0.017623 DNAJB4 -0.025018 KRT8 0.02907 YERMT2 0.017321 TCF4 -0.024505 NOTCH1 -0.02872 YEACAM1 0.01713 NOTCH1 -0.024433 DNAJB4 -0.02872 YEACAM1 0.017066 ALDH1A3 0.024322 FERMT2 0.027433 ATSS1L -0.017003 MAFF 0.023981 EMP1 0.02743 CF4 -0.016884 PARP14 -0.023917 MAFF 0.02660 LAUR 0.016528 FERMT2 0.023182 DNAJB1 -0.02642 PS3AIP1 -0.016244 LOC644961 0.023169 PARP14 -0.026163 ISPH1 -0.016115 EMP1 0.022493 PLAUR 0.026163 ISPH1 -0.016115 EMP1 0.022019 KANK4 -0.02509 ISPA8 -0.015048 RAPH1 0.022019 KANK4 -0.024613 ISPA8 -0.015048 RAPH1 0.02169 APOL6 -0.024613 ISPA8 <td>CBLC</td> <td>0.017765</td> <td>KRT8</td> <td>0.025158</td> <td></td> <td>SREK1IP1</td> <td>0.029351</td>	CBLC	0.017765	KRT8	0.025158		SREK1IP1	0.029351	
ERMT2 0.017321 TCF4 -0.024505 NOTCH1 -0.02872 DEACAM1 0.01713 NOTCH1 -0.024433 DNAJB4 -0.02867 ALC13A5 0.017066 ALDH1A3 0.024322 FERMT2 0.02743 ATSS1L -0.017003 MAFF 0.023981 EMP1 0.02743 CF4 -0.016884 PARP14 -0.023917 MAFF 0.02660 LAUR 0.016528 FERMT2 0.023615 TCF4 -0.02667 SPR110 0.01633 IL7R -0.023182 DNAJB1 -0.02646 P53AIP1 -0.016161 KHDRBS3 0.022993 PLAUR 0.02668 SPH1 -0.016115 EMP1 0.022449 LOC644961 0.02522 OXL4 0.015594 PLAUR 0.022019 KANK4 -0.02509 ISPA8 -0.015048 RAPH1 0.02169 KON4 -0.02445 ASA3 0.014734 SMO -0.020861 IGFL3 -0.02445 ANCR -0.01448 DFNB31 -0.020759 RAPH1 0.024465 ASM	CCNA1	0.017623	DNAJB4	-0.025018		KRT8	0.029074	
EACAM1 0.01713 NOTCH1 -0.024433 DNAJB4 -0.02863 LC13A5 0.017066 ALDH1A3 0.024322 FERMT2 0.02743 ATSS1L -0.017003 MAFF 0.023981 EMP1 0.02743 CF4 -0.016884 PARP14 -0.023917 MAFF 0.02660 LAUR 0.016528 FERMT2 0.023615 TCF4 -0.02667 PR110 0.01633 IL7R -0.023182 DNAJB1 -0.02646 P53AIP1 -0.016244 LOC644961 0.023169 PARP14 -0.026616 RP4F1 0.016161 KHDRBS3 0.022039 PLAUR 0.02666 GAB6B 0.016005 KMO -0.022019 KANK4 -0.02509 ISPA8 -0.015298 IFIT5 -0.021954 ESR1 -0.02467 INC5B -0.01548 RAPH1 0.02169 KCNN4 -0.02445 ISPA8 -0.014898 KANK4 -0.021954 ESR1 -0.02467 INACR	FERMT2	0.017321	TCF4	-0.024505		NOTCH1	-0.02872	
LC13A5 0.017066 ALDH1A3 0.024322 FERMT2 0.027433 MTSS1L -0.017003 MAFF 0.023981 EMP1 0.027433 CCF4 -0.016884 PARP14 -0.023917 MAFF 0.02667 ILAUR 0.016528 FERMT2 0.023182 DNAJB1 -0.02667 iPR110 0.01633 IL7R -0.023182 DNAJB1 -0.02667 iPS3AIP1 -0.016244 LOC644961 0.023169 PARP14 -0.026164 iPAF1 0.016161 KHDRBS3 0.022993 PLAUR 0.026164 iSPH1 -0.016115 EMP1 0.022449 LOC644961 0.02505 iSPA8 -0.015594 PLAUR 0.022023 PLAU 0.02505 iSPA8 -0.015048 RAPH1 0.02169 APOL6 -0.02467 iNC5B -0.014898 KANK4 -0.021458 KCNN4 0.02445 iNPEP 0.014734 SMO -0.020851 IGFL3 -0.02467 iMACR -0.01448 DFNB31 -0.020655 IFIT5 -0.02409	CEACAM1	0.01713	NOTCH1	-0.024433		DNAJB4	-0.02867	
ATSS1L-0.017003MAFF0.023981EMP10.02714CCF4-0.016884PARP14-0.023917MAFF0.02690PLAUR0.016528FERMT20.023615TCF4-0.02667SPR1100.01633IL7R-0.023182DNAJB1-0.02646P53AIP1-0.016244LOC6449610.023169PARP14-0.02616SPR110.016161KHDRBS30.022993PLAUR0.026166ISPH1-0.016115EMP10.022449LOC6449610.02608AB6B0.016005KMO-0.022438KHDRBS30.02505OXL40.015594PLAUR0.022023PLAU0.02509ISPA8-0.015298IFIT5-0.021954ESR1-0.02461ASA30.014898KANK4-0.021458KCNN40.02446INC5B-0.014734SMO-0.020834MTSS1L-0.024168IMACR-0.01428MTSS1L-0.020655IFIT5-0.02409C3HAV1-0.014277PLAU0.020509DUSP100.02404CT20.014259KCNN40.02505PMP220.02380	SLC13A5	0.017066	ALDH1A3	0.024322		FERMT2	0.027438	
CF4 -0.016884 PARP14 -0.023917 MAFF 0.02690 LAUR 0.016528 FERMT2 0.023615 TCF4 -0.02667 GPR110 0.01633 IL7R -0.023182 DNAJB1 -0.02646 P53AIP1 -0.016244 LOC644961 0.023169 PARP14 -0.02616 RPAF1 0.016115 EMP1 0.022449 LOC644961 0.022643 ISPH1 -0.016115 EMP1 0.022438 KHDRBS3 0.02565 OXL4 0.015594 PLAUR 0.022023 PLAU 0.02505 SBP2 0.015384 DNAJB1 -0.021954 ESR1 -0.02467 ASA3 0.014783 DUSP10 0.020861 IGFL3 -0.02445 SNO -0.020834 MTSS1L -0.02465 MTSS1L -0.02465 NAFF 0.014277 PLAU 0.020861 IGFL3 -0.02465 SOBL1 -0.01428 MTSS1L -0.02065 IFT5 -0.02405 CT2 0.014259 KCNN4 0.020505 PMP22 0.02380	ATSS1L	-0.017003	MAFF	0.023981	1.1	EMP1	0.027141	
PLAUR 0.016528 FERMT2 0.023615 TCF4 -0.02667 SPR110 0.01633 IL7R -0.023182 DNAJB1 -0.02640 P53AIP1 -0.016244 LOC644961 0.023169 PARP14 -0.02616 APAF1 0.016161 KHDRBS3 0.022993 PLAUR 0.02616 ISPH1 -0.016115 EMP1 0.022449 LOC644961 0.02502 AB6B 0.016005 KMO -0.022023 PLAU 0.02502 OXL4 0.015594 PLAUR 0.022019 KANK4 -0.02607 ISPA8 -0.015298 IFIT5 -0.021954 ESR1 -0.02467 ASA3 0.014898 KANK4 -0.021458 KCNN4 0.02446 INC5B -0.015048 RAPH1 0.02169 APOL6 -0.02467 ASA3 0.014783 DUSP10 0.020861 IGFL3 -0.02446 IMACR -0.01448 DFNB31 -0.02065 IFIT5 -0.02409 C3HAV1 -0.014277 PLAU 0.020509 DUSP10 0.024043 CT	CF4	-0.016884	PARP14	-0.023917		MAFF	0.026901	
GPR110 0.01633 IL7R -0.023182 DNAJB1 -0.02644 P53AIP1 -0.016244 LOC644961 0.023169 PARP14 -0.02616 NPAF1 0.016161 KHDRBS3 0.022993 PLAUR 0.02608 ISPH1 -0.016115 EMP1 0.022449 LOC644961 0.02608 AB6B 0.016005 KMO -0.022438 KHDRBS3 0.02522 OXL4 0.015594 PLAUR 0.022023 PLAU 0.02522 NSBP2 0.015384 DNAJB1 -0.021954 ESR1 -0.02467 INC5B -0.015048 RAPH1 0.02169 APOL6 -0.02467 ASA3 0.014783 DUSP10 0.020861 IGFL3 -0.02445 MACR -0.01448 DFNB31 -0.02065 IFIT5 -0.02409 C3HAV1 -0.01428 MTSS1L -0.02065 IFIT5 -0.02409 C72 0.014259 KCNN4 0.020505 PMP22 0.02380	PLAUR	0.016528	FERMT2	0.023615		TCF4	-0.02667	
P53AIP1-0.016244LOC6449610.023169PARP14-0.02631APAF10.016161KHDRBS30.022993PLAUR0.026163ISPH1-0.016115EMP10.022449LOC6449610.026083AB6B0.016005KMO-0.022438KHDRBS30.02565.OXL40.015594PLAUR0.022023PLAU0.025223.OSBP20.015384DNAJB1-0.022019KANK4-0.02505ISPA8-0.015298IFIT5-0.021954ESR1-0.02467.NC5B-0.015048RAPH10.02169APOL6-0.02467.ASA30.014898KANK4-0.021458KCNN40.024463.NPEP0.014734SMO-0.020834MTSS1L-0.024164.MACR-0.01428MTSS1L-0.020655IFIT5-0.02409.OBLL1-0.014277PLAU0.020509DUSP100.024043.CT20.014259KCNN40.020505PMP220.02380	GPR110	0.01633	IL7R	-0.023182		DNAJB1	-0.02646	
APAF1 0.016161 KHDRBS3 0.022993 PLAUR 0.026164 ISPH1 -0.016115 EMP1 0.022449 LOC644961 0.02608 AB6B 0.016005 KMO -0.022438 KHDRBS3 0.02565 .OXL4 0.015594 PLAUR 0.022023 PLAU 0.02502 .OSBP2 0.015384 DNAJB1 -0.022019 KANK4 -0.02509 ISPA8 -0.015298 IFIT5 -0.021954 ESR1 -0.02467 JNC5B -0.015048 RAPH1 0.02169 APOL6 -0.02467 ASA3 0.014783 DUSP10 0.020861 IGFL3 -0.024463 .NPEP 0.014734 SMO -0.020759 RAPH1 0.024463 .MACR -0.01448 DFNB31 -0.020759 RAPH1 0.024463 .C3HAV1 -0.01428 MTSS1L -0.020655 IFIT5 -0.02409 .C0BLL1 -0.014259 KCNN4 0.020505 PMP22 0.02380	TP53AIP1	-0.016244	LOC644961	0.023169		PARP14	-0.02631	
ISPH1 -0.016115 EMP1 0.022449 LOC644961 0.02608 AB6B 0.016005 KMO -0.022438 KHDRBS3 0.02565 OXL4 0.015594 PLAUR 0.022023 PLAU 0.02509 DSBP2 0.015384 DNAJB1 -0.022019 KANK4 -0.02509 ISPA8 -0.015298 IFIT5 -0.021954 ESR1 -0.02461 JNC5B -0.015048 RAPH1 0.02169 APOL6 -0.02461 ASA3 0.014783 DUSP10 0.020861 IGFL3 -0.02445 NPEP 0.014734 SMO -0.020759 RAPH1 0.02445 C3HAV1 -0.01428 MTSS1L -0.020655 IFIT5 -0.02404 C0BLL1 -0.014259 KCNN4 0.020505 PMP22 0.02380	APAF1	0.016161	KHDRBS3	0.022993		PLAUR	0.026168	
AAB6B0.016005KMO-0.022438KHDRBS30.02565.OXL40.015594PLAUR0.022023PLAU0.02522.OSBP20.015384DNAJB1-0.022019KANK4-0.02509ISPA8-0.015298IFIT5-0.021954ESR1-0.02467.INC5B-0.015048RAPH10.02169APOL6-0.02461.ASA30.014898KANK4-0.021458KCNN40.02446.CNN40.014783DUSP100.020861IGFL3-0.02445.NPEP0.014734SMO-0.020834MTSS1L-0.02465.MACR-0.01448DFNB31-0.020759RAPH10.024164.OBLL1-0.014277PLAU0.020509DUSP100.024044.CT20.014259KCNN40.020505PMP220.02380	ISPH1	-0.016115	EMP1	0.022449	1.1	LOC644961	0.026082	
OXL4 0.015594 PLAUR 0.022023 PLAU 0.02522 OSBP2 0.015384 DNAJB1 -0.022019 KANK4 -0.02509 ISPA8 -0.015298 IFIT5 -0.021954 ESR1 -0.02467 JNC5B -0.015048 RAPH1 0.02169 APOL6 -0.02467 XASA3 0.014898 KANK4 -0.021458 KCNN4 0.024467 XASA3 0.014783 DUSP10 0.020861 IGFL3 -0.024467 NPEP 0.014734 SMO -0.020834 MTSS1L -0.02421 MACR -0.01428 MTSS1L -0.020655 IFIT5 -0.024047 'OBLL1 -0.014259 KCNN4 0.020505 PMP22 0.02380	RAB6B	0.016005	КМО	-0.022438		KHDRBS3	0.02565	
DSBP2 0.015384 DNAJB1 -0.022019 KANK4 -0.02509 ISPA8 -0.015298 IFIT5 -0.021954 ESR1 -0.02467 JNC5B -0.015048 RAPH1 0.02169 APOL6 -0.02461 XASA3 0.014898 KANK4 -0.021458 KCNN4 0.02446 XCNN4 0.014783 DUSP10 0.020861 IGFL3 -0.02445 NPEP 0.014734 SMO -0.020834 MTSS1L -0.024168 MACR -0.01428 MTSS1L -0.02465 IFIT5 -0.02404 'OBLL1 -0.014277 PLAU 0.020509 DUSP10 0.024044 CT2 0.014259 KCNN4 0.020505 PMP22 0.02380	LOXL4	0.015594	PLAUR	0.022023		PLAU	0.025228	
ISPA8 -0.015298 IFIT5 -0.021954 ESR1 -0.02467 JNC5B -0.015048 RAPH1 0.02169 APOL6 -0.02461 ASA3 0.014898 KANK4 -0.021458 KCNN4 0.024661 CNN4 0.014783 DUSP10 0.020861 IGFL3 -0.02421 NPEP 0.014734 SMO -0.020834 MTSS1L -0.02465 MACR -0.01428 MTSS1L -0.020655 IFIT5 -0.02404 'OBLL1 -0.014259 KCNN4 0.020505 PMP22 0.02380	OSBP2	0.015384	DNAJB1	-0.022019		KANK4	-0.02509	
JNC5B -0.015048 RAPH1 0.02169 APOL6 -0.02461 ASA3 0.014898 KANK4 -0.021458 KCNN4 0.02446 CNN4 0.014783 DUSP10 0.020861 IGFL3 -0.02445 NPEP 0.014734 SMO -0.020834 MTSS1L -0.02416 MACR -0.01448 DFNB31 -0.020655 IFIT5 -0.02409 C3HAV1 -0.014277 PLAU 0.020509 DUSP10 0.024045 CT2 0.014259 KCNN4 0.020505 PMP22 0.02380	ISPA8	-0.015298	IFIT5	-0.021954		ESR1	-0.02467	
RASA3 0.014898 KANK4 -0.021458 KCNN4 0.02446 CNN4 0.014783 DUSP10 0.020861 IGFL3 -0.02445 NPEP 0.014734 SMO -0.020834 MTSS1L -0.02421 MACR -0.01448 DFNB31 -0.020759 RAPH1 0.024163 C3HAV1 -0.01428 MTSS1L -0.020665 IFIT5 -0.02403 C0BLL1 -0.014277 PLAU 0.020509 DUSP10 0.024043 CT2 0.014259 KCNN4 0.020505 PMP22 0.02380	JNC5B	-0.015048	RAPH1	0.02169		APOL6	-0.02461	
KCNN40.014783DUSP100.020861IGFL3-0.02445NPEP0.014734SMO-0.020834MTSS1L-0.02421MACR-0.01448DFNB31-0.020759RAPH10.024165C3HAV1-0.01428MTSS1L-0.020665IFIT5-0.02409C0BLL1-0.014277PLAU0.020509DUSP100.024045CT20.014259KCNN40.020505PMP220.02380	RASA3	0.014898	KANK4	-0.021458		KCNN4	0.024463	
ANPEP 0.014734 SMO -0.020834 MTSS1L -0.02421 AMACR -0.01448 DFNB31 -0.020759 RAPH1 0.024163 C3HAV1 -0.01428 MTSS1L -0.020665 IFIT5 -0.02409 COBLL1 -0.014277 PLAU 0.020509 DUSP10 0.024043 CT2 0.014259 KCNN4 0.020505 PMP22 0.02380	CNN4	0.014783	DUSP10	0.020861		IGFL3	-0.02445	
AMACR-0.01448DFNB31-0.020759RAPH10.024164C3HAV1-0.01428MTSS1L-0.020665IFIT5-0.02409COBLL1-0.014277PLAU0.020509DUSP100.024044CT20.014259KCNN40.020505PMP220.02380	ANPEP	0.014734	SMO	-0.020834		MTSS1L	-0.02421	
CC3HAV1-0.01428MTSS1L-0.020665IFIT5-0.02409COBLL1-0.014277PLAU0.020509DUSP100.024044CT20.014259KCNN40.020505PMP220.02380	AMACR	-0.01448	DFNB31	-0.020759		RAPH1	0.024168	
COBLL1 -0.014277 PLAU 0.020509 DUSP10 0.024043 CT2 0.014259 KCNN4 0.020505 PMP22 0.02380	ZC3HAV1	-0.01428	MTSS1L	-0.020665		IFIT5	-0.02409	
CT2 0.014259 KCNN4 0.020505 PMP22 0.02380	COBLL1	-0.014277	PLAU	0.020509		DUSP10	0.024043	
	ECT2	0.014259	KCNN4	0.020505		PMP22	0.023801	

		Rsubread			
TCGA RNA	A-Seq Level 3	FPKM		Т	PM
SMURF2	0.014218	PMP22	0.02033	VASP	0.023373
CBR1	-0.014049	STX2	0.020322	ARRDC4	-0.023118
TUFT1	0.013455	VASP	0.02023	SMO	-0.023104
C1R	-0.013313	IGFL3	-0.020208	FAM176A	0.022803
SESN2	-0.013303	POU2F1	0.020096	CBR1	-0.022764
TWF2	0.013165	WWTR1	0.01976	WWTR1	0.022599
INPP4B	0.013134	FAM176A	0.019732	PGF	0.022576
SMO	-0.013129	PGF	0.019637	STX2	0.022286
ITGB3	0.013106	ARRDC4	-0.019625	ZPLD1	0.022175
CAST	0.013084	TNS3	-0.019394	KMO	-0.022123
FBXW7	-0.013061	CBR1	-0.019365	FAM214B	0.021843
VASP	0.012979	RASA3	0.019126	TUFT1	0.021717
SASH1	-0.012828	APAF1	0.01874	TNS3	-0.021558
MT2A	0.012725	HERC3	0.018697	MAP6	0.021499
NAV3	0.012684	HMGB3	0.018691	ST3GAL4	0.021422
NET1	0.012572	ZXDB	0.01865	HMGB3	0.021401
CGN	0.012481	ST3GAL4	0.018588	HS6ST1	-0.021304
SYTL2	-0.01244	HS6ST1	-0.018541	DLC1	-0.021275
CYBASC3	-0.012341	IGF2BP3	0.018523	POU2F1	0.021216
ST3GAL4	0.012295	TUFT1	0.018493	APAF1	0.021057
TNS3	-0.012073	FAM214B	0.018467	STOX2	-0.020845
BCAR3	0.011678	NET1	0.017866	RASA3	0.020767
SEC24D	0.011623	XPC	-0.017726	HERC3	0.020487
DTX4	-0.011553	FBXO22	-0.017678	DFNB31	-0.020337
PYGB	0.011389	MR1	-0.017472	FBXO22	-0.02015
MYO1E	0.011297	CYBASC3	-0.017218	BRMS1	-0.020097
PTPRE	0.011089	KCNJ5	-0.017167	IER3	0.020017
GFPT1	0.011087	IER3	0.017056	NET1	0.019989
АСТВ	0.011033	NME7	0.016958	CYBASC3	-0.019984
STIM2	-0.011012	PYGB	0.016808	PYGB	0.01983
XPC	-0.011008	NAV3	0.016742	XPC	-0.019811
MFI2	0.01095	BRMS1	-0.016648	BCAR3	0.019647
NFATC3	-0.010879	ARV1	-0.016434	ZXDB	0.019586
C19orf66	-0.010511	BCAR3	0.016403	CELF2	0.019402

FTCGA RNA-Seq Level 3 FPLM TPM 2DZD2 -0.010452 ARHGAP12 0.016383 IGF2BP3 0.019325 ARHGEF2 0.010316 PD73CC 0.016377 TIMP1 -0.01044 FRIOBP 0.010316 PODXL2 0.016365 ARHGAP12 0.019345 SLC34A2 -0.010288 PDZD2 -0.016253 NME7 0.018926 MAP3K2 -0.010081 RBMS2 0.016093 CASPI -0.018877 QRAS2 0.010074 CASPI -0.015829 MRI -0.018876 ARHGAP12 0.009956 TIMP1 -0.015828 LRRC8C 0.018716 SH2D3A 0.009927 LRRC8C 0.015714 TWF2 0.018592 NAV2 -0.009866 CAST 0.015215 SHPB40 0.01824 KOCI 0.009567 DAB2 0.015248 CAST 0.01824 MDR1 0.009570 DAB2 0.01546 PODXL2 0.01764 VLK2 0.009276 SESN1 -0.0149				Rsubread			
PDZD2 -0.010452 ARHGAP12 0.016383 IGF2BP3 0.019325 ARHGEF2 0.010354 PPP3CC 0.016377 TIMP1 -0.01044 FRIOBP 0.010316 PODXL2 0.016365 ARHGAP12 0.01904 SLC34A2 -0.010219 TWF2 0.016132 ARV1 -0.018926 MAP3K2 -0.010081 RBMS2 0.016093 CASP1 -0.018827 MAP3K2 -0.0100956 TIMP1 -0.015829 KCNJ5 -0.01876 GFL3 -0.009956 TIMP1 -0.015827 MR1 -0.018829 VAV2 -0.009866 CAST 0.01525 PPP3CC 0.018547 SMOC1 0.00957 DAB2 0.015248 CAST 0.018294 VDR1 0.009567 DAB2 0.015146 POXL2 0.018244 GFL2 0.00957 DAB2 0.015146 POXL2 0.018244 VDR1 0.009567 DAB2 0.015146 POXL2 0.017676 SCAP29	TCGA RNA-	Seq Level 3	FF	YKM	TPM		
ARHGEF2 0.010354 PPP3CC 0.016377 TIMP1 -0.019043 FRIOBP 0.010316 PODXL2 0.016365 ARHGAP12 0.01901 SIC34A2 -0.010288 PDZD2 -0.016253 NME7 0.018926 FRMD4A -0.010219 TWF2 0.016093 CASP1 -0.018876 MAP3K2 -0.010081 RBMS2 0.016093 CASP1 -0.018826 GFL3 -0.009956 TIMP1 -0.015829 KCNJ5 -0.01876 SH2D3A 0.009911 SH3KBP1 0.015714 TWF2 0.018547 SMOC1 0.009764 TP53AIP1 -0.0153 ANKRD33B -0.018294 VDR1 0.009567 DAB2 0.015248 CAST 0.018294 VDR1 0.009567 DAB2 -0.01514 PODXL2 0.017847 MBD4 -0.009276 SESN1 -0.01497 DAB2 0.017646 VLK2 0.00927 TRIOBP 0.01497 DAB2 0.017676 CAP29	PDZD2	-0.010452	ARHGAP12	0.016383	IGF2BP3	0.019325	
FRIOBP 0.010316 PODXL2 0.016365 ARHGAP12 0.01911 SLC34A2 -0.010288 PDZD2 -0.016253 NME7 0.018951 FRMD4A -0.010219 TWF2 0.016093 CASP1 -0.018922 MAP3K2 -0.010074 CASP1 -0.015992 MR1 -0.018826 GFL3 -0.009956 TIMP1 -0.015829 KCNJ5 -0.01862 SH2D3A 0.009911 SH3KBP1 0.015714 TWF2 0.01847 SH2D3A 0.009974 TP53AIP1 -0.0153 ANKRD33B -0.018542 MAV2 -0.009866 CAST 0.015248 CAST 0.01844 MDR1 0.00957 DAB2 0.015248 CAST 0.01842 WDR1 0.009529 INPP4B 0.015146 PODXL2 0.017847 MBD4 -0.009337 HMGN3 -0.01497 DAB2 0.01766 SCAP29 0.00927 TRIOBP 0.014671 RBMS2 0.01761 VEK9 <t< td=""><td>ARHGEF2</td><td>0.010354</td><td>PPP3CC</td><td>0.016377</td><td>TIMP1</td><td>-0.019048</td></t<>	ARHGEF2	0.010354	PPP3CC	0.016377	TIMP1	-0.019048	
SLC34A2 -0.010288 PDZD2 -0.016253 NME7 0.018951 RMD4A -0.010219 TWF2 0.016132 ARV1 -0.018926 MAP3K2 -0.010081 RBMS2 0.016093 CASP1 -0.018876 NPAS2 0.010074 CASP1 -0.015992 MR1 -0.018826 GFL3 -0.009956 TIMP1 -0.015829 KCNJ5 -0.01866 SH2D3A 0.009911 SH3KBP1 0.015714 TWF2 0.018547 SMOC1 0.009567 DAB2 0.01521 SH3KBP1 0.015248 CAST 0.018294 VDR1 0.009562 FGFR2 -0.01521 SH3KBP1 0.017747 ASA1 0.009529 INPP4B 0.01514 PODXL2 0.017847 MBD4 -0.009376 SESN1 -0.014994 TNS4 0.01766 CAP29 0.00927 TRIOBP 0.01471 MF12 0.01754 JDB1 -0.00937 GFPT1 0.014671 RBMS2 0.01764	TRIOBP	0.010316	PODXL2	0.016365	ARHGAP12	0.01901	
RMD4A -0.010219 TWF2 0.016132 ARV1 -0.018926 MAP3K2 -0.010081 RBMS2 0.016093 CASP1 -0.018872 NPAS2 0.010074 CASP1 -0.015992 MR1 -0.018826 GFL3 -0.009956 TIMP1 -0.015829 KCNJ5 -0.01862 ARHGAP12 0.009927 LRRC8C 0.015714 TWF2 0.018592 NAV2 -0.009866 CAST 0.015525 PPP3CC 0.018547 SMOC1 0.009567 DAB2 0.015248 CAST 0.018294 VDR1 0.009562 FGFR2 -0.01521 SH3KBP1 0.01747 RASA1 0.009529 INP4B 0.01512 INP4B 0.01766 SCAP29 0.009276 SESN1 -0.014971 MF12 0.01746 GFL1 0.009237 GFPT1 0.014671 MF12 0.01766 SCAL 0.009237 GFPT1 0.014671 MF12 0.017427 CSGALNACT2 0.009	SLC34A2	-0.010288	PDZD2	-0.016253	NME7	0.018951	
MAP3K2 -0.010081 RBMS2 0.016093 CASP1 -0.018873 NPAS2 0.010074 CASP1 -0.015922 MR1 -0.018826 GFL3 -0.009956 TIMP1 -0.015829 KCNJ5 -0.01862 ARHGAP12 0.009927 LRRC8C 0.015525 PP93CC 0.018547 SH2D3A 0.009764 TP53AIP1 -0.0153 ANKRD33B -0.018294 VAV2 -0.009866 CAST 0.01521 SH3KBP1 0.017947 SMOC1 0.009567 DAB2 0.01521 SH3KBP1 0.017947 VAR1 0.009529 INPP4B 0.015146 PODXL2 0.017847 MBD4 -0.009337 HMGN3 -0.01521 INP4B 0.01766 CASP2 0.00927 TRIOBP 0.014974 TNS4 0.01766 CAP29 0.009237 GFPT1 0.014771 MF12 0.01754 CSGALNACT2 0.009083 MF12 0.014658 FGFR2 -0.017304 NPB2	FRMD4A	-0.010219	TWF2	0.016132	ARV1	-0.018928	
NPAS2 0.010074 CASP1 -0.015992 MR1 -0.018826 GFL3 -0.009956 TIMP1 -0.015829 KCNJ5 -0.01866 ARHGAP12 0.009927 LRRC8C 0.015828 LRRC8C 0.018592 NAV2 -0.009866 CAST 0.015525 PP3CC 0.018547 SMOC1 0.009567 DAB2 0.015248 CAST 0.018294 VDR1 0.009567 DAB2 0.015248 CAST 0.018294 VDR1 0.009567 DAB2 -0.01521 SH3KBP1 0.017947 XASA1 0.009529 INP4B 0.015146 PODXL2 0.017847 MBD4 -0.009337 HMGN3 -0.014994 TNS4 0.01766 SCAP29 0.00927 TRIOBP 0.014671 RBMS2 0.017501 VCDN -0.009177 TNS4 0.014658 FGFR2 -0.017465 VEK9 -0.009083 MF12 0.014651 TP53A1P1 -0.017344 VP1B1 -0.0	MAP3K2	-0.010081	RBMS2	0.016093	CASP1	-0.018873	
GFL3 -0.009956 TIMP1 -0.015829 KCNJ5 -0.018767 ARHGAP12 0.009927 LRRC8C 0.015828 LRRC8C 0.018716 SH2D3A 0.009911 SH3KBP1 0.015714 TWF2 0.018592 NAV2 -0.009866 CAST 0.015325 PP3CC 0.018547 SMOC1 0.009567 DAB2 0.015248 CAST 0.018294 VDR1 0.009562 FGFR2 -0.01521 SH3KBP1 0.017947 RASA1 0.009529 INP4B 0.015146 PODXL2 0.017866 SCAP29 0.00927 TRIOBP 0.014994 TNS4 0.01766 SCAP29 0.00927 TRIOBP 0.014671 RBMS2 0.017501 VCDN -0.009337 GFPT1 0.014671 RBMS2 0.01764 SCAP29 0.00927 TNS4 0.014671 RBMS2 0.01764 VEK9 -0.00983 MF12 0.014658 FGFR2 -0.017465 SCALNACT2	NPAS2	0.010074	CASP1	-0.015992	MR1	-0.018826	
ARHGAP12 0.009927 LRRC8C 0.015828 LRRC8C 0.01816 SH2D3A 0.009911 SH3KBP1 0.015714 TWF2 0.018592 NAV2 -0.009866 CAST 0.015525 PPP3CC 0.018547 SMOC1 0.009764 TP53AIP1 -0.0153 ANKRD33B -0.01824 HERPUD1 0.009567 DAB2 0.015218 CAST 0.018294 WDR1 0.009529 INPP4B 0.015146 PODXL2 0.01747 RASA1 0.009276 SESN1 -0.014994 TNS4 0.01766 SCAP29 0.00927 TRIOBP 0.01497 DAB2 0.017514 ME12 0.00927 TRIOBP 0.014671 MF12 0.01754 ACBN -0.009237 GFPT1 0.014671 MF12 0.01766 NCDN -0.0090177 TNS4 0.014658 FGFR2 -0.017465 VEK9 -0.009083 MF12 0.014651 TP53AIP1 -0.017304 APB2 0	IGFL3	-0.009956	TIMP1	-0.015829	KCNJ5	-0.018762	
SH2D3A 0.009911 SH3KBP1 0.015714 TWF2 0.018592 NAV2 -0.009866 CAST 0.015525 PP93CC 0.018547 SMOC1 0.009764 TP53AIP1 -0.0153 ANKRD33B -0.018547 SMOC1 0.009567 DAB2 0.015248 CAST 0.018294 WDR1 0.009562 FGFR2 -0.01521 SH3KBP1 0.017947 RASA1 0.009529 INPP4B 0.015146 PODXL2 0.017847 MBD4 -0.009337 HMGN3 -0.01512 INPP4B 0.01766 SCAP29 0.00927 TRIOBP 0.01497 DAB2 0.01751 ATG16L1 0.009237 GFPT1 0.014671 MF12 0.01766 SCALNACT2 0.0090177 TNS4 0.014658 FGFR2 -0.01766 SCGALNACT2 0.009018 CROT -0.014554 TP53AIP1 -0.01766 CAPP2 -0.008881 ZNFX1 -0.013815 ARHGEF2 0.016632 SCGALNAC	ARHGAP12	0.009927	LRRC8C	0.015828	LRRC8C	0.018716	
NAV2 -0.009866 CAST 0.015525 PPP3CC 0.018547 SMOC1 0.009764 TP53AIP1 -0.0153 ANKRD33B -0.018244 HERPUD1 0.009567 DAB2 0.015248 CAST 0.018294 WDR1 0.009562 FGFR2 -0.01521 SH3KBP1 0.017947 RASA1 0.009337 IMP4B 0.015146 PODXL2 0.017847 MBD4 -0.009276 SESN1 -0.014994 TNS4 0.01766 SCAP29 0.00927 TRIOBP 0.014771 MF12 0.017547 ATG16L1 0.009237 GFPT1 0.014671 MBS2 0.017501 NCDN -0.009177 TNS4 0.014658 FGFR2 -0.017465 NEK9 -0.009083 MF12 0.014631 GFPT1 0.017347 APBB2 -0.008881 ZNFX1 -0.013815 ARHGEF2 0.017643 APBB2 -0.008881 ZNFX1 -0.013264 NAV3 0.017121 APBB2	SH2D3A	0.009911	SH3KBP1	0.015714	TWF2	0.018592	
SMOC1 0.009764 TP53AIP1 -0.0153 ANKRD33B -0.018542 HERPUD1 0.009567 DAB2 0.015248 CAST 0.018294 WDR1 0.009562 FGFR2 -0.01521 SH3KBP1 0.017947 RASA1 0.009529 INPP4B 0.015146 PODXL2 0.017847 MBD4 -0.009337 HMGN3 -0.01512 INPP4B 0.01766 SCAP29 0.009276 SESN1 -0.014994 TNS4 0.01766 CAD51 0.00927 TRIOBP 0.014771 MFI2 0.01754 ATG16L1 0.009237 GFPT1 0.014671 RBMS2 0.017501 NCDN -0.009177 TNS4 0.014658 FGFR2 -0.017465 NEK9 -0.009083 MFI2 0.014631 GFPT1 0.017347 APBB2 -0.008881 ZNFX1 -0.013045 NAV3 0.01721 APBB2 -0.008881 ZNFX1 -0.013023 RHGEF2 0.016278 CRAFD1	NAV2	-0.009866	CAST	0.015525	PPP3CC	0.018547	
HERPUD10.009567DAB20.015248CAST0.018294WDR10.009562FGFR2-0.01521SH3KBP10.017947RASA10.009529INPP4B0.015146PODXL20.017847MBD4-0.009337HMGN3-0.01592INPP4B0.01766PLEK20.009276SESN1-0.014994TNS40.017663CAP290.009237TRIOBP0.01497DAB20.01754ATG16L10.009237GFPT10.014671MF120.01756VCDN-0.009217TNS40.014658FGFR2-0.01766NCDN-0.009217TNS40.014658FGFR2-0.01766NCDN-0.009177TNS40.014658FGFR2-0.017304NEK9-0.009083MF120.014554TP53AIP1-0.017304ATP1B1-0.008895KIAA1671-0.013815ARHGEF20.017663APB22-0.008881ZNFX1-0.013815ARHGEF20.016327CALM20.008674NFE2L1-0.013277DNAJB90.016228CGM10.008555FBXW2-0.013023TRIOBP0.016057CGFR2-0.008331MICALCL0.01279ZNFX1-0.015835VISCH-0.008191SLC20A20.012767CROT-0.015664P14KB-0.008191IGFBP4-0.012603B2M-0.015314	SMOC1	0.009764	TP53AIP1	-0.0153	ANKRD33B	-0.018542	
WDR1 0.009562 FGFR2 -0.01521 SH3KBP1 0.017947 RASA1 0.009529 INPP4B 0.015146 PODXL2 0.017847 MBD4 -0.009337 HMGN3 -0.01512 INPP4B 0.01766 PLEK2 0.009276 SESN1 -0.014994 TNS4 0.01766 GCAP29 0.00927 TRIOBP 0.01497 DAB2 0.01754 ATG16L1 0.009237 GFPT1 0.014671 MFI2 0.01754 JDB1 -0.009177 TNS4 0.014658 FGFR2 -0.017465 NCDN -0.009177 TNS4 0.014658 FGFR2 -0.017465 NEK9 -0.009083 MFI2 0.014631 GFPT1 0.01721 APBB2 -0.008895 KIAA1671 -0.013815 ARHGEF2 0.017063 CAPN2 0.00888 DNAJB9 0.013602 SESN1 -0.016845 CALM2 0.008555 FBXW2 -0.013264 NFE2L1 -0.016225 CGR1	HERPUD1	0.009567	DAB2	0.015248	CAST	0.018294	
RASA1 0.009529 INPP4B 0.015146 PODXL2 0.017847 MBD4 -0.009337 HMGN3 -0.01512 INPP4B 0.01766 PLEK2 0.009276 SESN1 -0.014994 TNS4 0.01766 SCAP29 0.00927 TRIOBP 0.01497 DAB2 0.01754 ATG16L1 0.009237 GFPT1 0.014671 MFI2 0.01754 LDB1 -0.009222 ARHGEF2 0.014671 RBMS2 0.017501 NCDN -0.009177 TNS4 0.014658 FGFR2 -0.017465 NEK9 -0.009083 MF12 0.014631 GFPT1 0.01727 CSGALNACT2 0.009018 CROT -0.014554 TP53AIP1 -0.017304 ATP1B1 -0.008881 ZNFX1 -0.013946 NAV3 0.017121 APBB2 -0.008881 ZNFX1 -0.013277 DNAJB9 0.016278 CALM2 0.008674 NFE2L1 -0.013264 NFE2L1 -0.016225 CGM1	WDR1	0.009562	FGFR2	-0.01521	SH3KBP1	0.017947	
MBD4 -0.009337 HMGN3 -0.01512 INPP4B 0.017676 PLEK2 0.009276 SESN1 -0.014994 TNS4 0.017676 BCAP29 0.00927 TRIOBP 0.01497 DAB2 0.01751 ATG16L1 0.009237 GFPT1 0.014771 MFI2 0.01751 LDB1 -0.009222 ARHGEF2 0.014671 RBMS2 0.017501 NCDN -0.009177 TNS4 0.014658 FGFR2 -0.017465 NEK9 -0.009083 MFI2 0.014631 GFPT1 0.01721 CSGALNACT2 0.009018 CROT -0.013946 NAV3 0.017121 APBB2 -0.008881 ZNFX1 -0.013946 NAV3 0.01721 APBB2 0.008674 NFE2L1 -0.013277 DNAJB9 0.016278 GRAFD1 -0.008555 FBXW2 -0.013264 NFE2L1 -0.016225 CGM1 0.008555 FBXW2 -0.013264 NFE2L1 -0.016278 GFR2	RASA1	0.009529	INPP4B	0.015146	PODXL2	0.017847	
PLEK2 0.009276 SESN1 -0.014994 TNS4 0.01766 BCAP29 0.00927 TRIOBP 0.01497 DAB2 0.01751 ATG16L1 0.009237 GFPT1 0.014671 MFI2 0.017501 LDB1 -0.009177 TNS4 0.014671 RBMS2 0.01766 NCDN -0.009177 TNS4 0.014658 FGFR2 -0.017469 NEK9 -0.009083 MFI2 0.014631 GFPT1 0.017469 SCGALNACT2 0.009018 CROT -0.014554 TP53AIP1 -0.017304 ATP1B1 -0.008895 KIAA1671 -0.013946 NAV3 0.017011 APBB2 -0.00888 DNAJB9 0.013602 SESN1 -0.016845 CALM2 0.008674 NFE2L1 -0.013264 NFE2L1 -0.016225 GFR2 -0.008354 FASSF1 0.012832 KIAA1671 -0.016325 COPEY1 -0.008319 MICALCL 0.012706 ZNFX1 -0.015845 VISCH<	MBD4	-0.009337	HMGN3	-0.01512	INPP4B	0.017676	
BCAP29 0.00927 TRIOBP 0.01497 DAB2 0.017551 ATG16L1 0.009237 GFPT1 0.014771 MFI2 0.01754 LDB1 -0.009222 ARHGEF2 0.014671 RBMS2 0.017501 NCDN -0.009177 TNS4 0.014658 FGFR2 -0.017469 NEK9 -0.009083 MF12 0.014651 GFPT1 0.017304 CSGALNACT2 0.009018 CROT -0.013946 NAV3 0.017121 ATP1B1 -0.008895 KIAA1671 -0.013946 NAV3 0.017613 APBB2 -0.008881 ZNFX1 -0.013815 ARHGEF2 0.016645 CALM2 0.008674 NFE2L1 -0.013277 DNAJB9 0.016278 GFR2 -0.008354 FBXW2 -0.013023 TRIOBP 0.016197 GFR2 -0.008354 RASSF1 0.012832 KIAA1671 -0.01657 OPEY1 -0.008311 MICALCL 0.012767 CROT -0.015664 VIKB </td <td>PLEK2</td> <td>0.009276</td> <td>SESN1</td> <td>-0.014994</td> <td>TNS4</td> <td>0.01766</td>	PLEK2	0.009276	SESN1	-0.014994	TNS4	0.01766	
ATG16L10.009237GFPT10.014771MF120.01754LDB1-0.009222ARHGEF20.014671RBMS20.017501NCDN-0.009177TNS40.014658FGFR2-0.017469NEK9-0.009083MF120.014631GFPT10.017427CSGALNACT20.009018CROT-0.014554TP53AIP1-0.017304ATP1B1-0.008895KIAA1671-0.013946NAV30.017121APB2-0.008881ZNFX1-0.013815ARHGEF20.016845CAPN20.008674NFE2L1-0.013277DNAJB90.016278CGFR2-0.008354FBXW2-0.013023TRIOBP0.016197GGR2-0.008354RASSF10.012832KIAA1671-0.015835VISCH-0.008191SLC20A20.012767CROT-0.015664VIKB-0.008141LDB1-0.012603B2M-0.015314	BCAP29	0.00927	TRIOBP	0.01497	DAB2	0.017551	
LDB1-0.009222ARHGEF20.014671RBMS20.017501NCDN-0.009177TNS40.014658FGFR2-0.017469NEK9-0.009083MF120.014631GFPT10.017427CSGALNACT20.009018CROT-0.014554TP53AIP1-0.017304ATP1B1-0.008895KIAA1671-0.013946NAV30.017121APBB2-0.008881ZNFX1-0.013815ARHGEF20.016845CAPN20.008674NFE2L1-0.013277DNAJB90.016228CALM20.008674NFE2L1-0.013264NFE2L1-0.016845PGM10.008555FBXW2-0.013023TRIOBP0.016197GFR2-0.008354RASSF10.012832KIAA1671-0.015835VISCH-0.008191SLC20A20.012767CROT-0.015664VIKB-0.008141LDB1-0.012603B2M-0.015314	ATG16L1	0.009237	GFPT1	0.014771	MFI2	0.01754	
NCDN-0.009177TNS40.014658FGFR2-0.017469NEK9-0.009083MFI20.014631GFPT10.017427CSGALNACT20.009018CROT-0.014554TP53AIP1-0.017304ATP1B1-0.008895KIAA1671-0.013946NAV30.017121APBB2-0.008881ZNFX1-0.013815ARHGEF20.016845CAPN20.008674NFE2L1-0.013277DNAJB90.016278CALM20.008555FBXW2-0.013023TRIOBP0.016197PGR10.008555FBXW2-0.013023TRIOBP0.016197GFR2-0.008331MICALCL0.01279ZNFX1-0.015835NISCH-0.008141LDB1-0.012706SLC20A20.015314OR3A-0.007819IGFBP4-0.012603B2M-0.015314	LDB1	-0.009222	ARHGEF2	0.014671	RBMS2	0.017501	
NEK9 -0.009083 MFI2 0.014631 GFPT1 0.017427 CSGALNACT2 0.009018 CROT -0.014554 TP53AIP1 -0.017304 ATP1B1 -0.008895 KIAA1671 -0.013946 NAV3 0.017121 APBB2 -0.008881 ZNFX1 -0.013815 ARHGEF2 0.017063 CAPN2 0.008674 DNAJB9 0.013602 SESN1 -0.016845 CALM2 0.008674 NFE2L1 -0.013277 DNAJB9 0.016278 CGM1 0.008555 FBXW2 -0.013023 TRIOBP 0.016197 GFR2 -0.008331 MICALCL 0.01279 ZNFX1 -0.015835 VISCH -0.008141 LDB1 -0.012706 SLC20A2 0.015334 OR3A -0.007819 IGFBP4 -0.012603 B2M -0.015314	NCDN	-0.009177	TNS4	0.014658	FGFR2	-0.017469	
CSGALNACT2 0.009018 CROT -0.014554 TP53AIP1 -0.017304 ATP1B1 -0.008895 KIAA1671 -0.013946 NAV3 0.017121 APBB2 -0.008881 ZNFX1 -0.013815 ARHGEF2 0.017063 CAPN2 0.008674 DNAJB9 0.013602 SESN1 -0.016845 CALM2 0.008579 PIK3R1 -0.013264 NFE2L1 -0.016225 PGM1 0.008555 FBXW2 -0.013023 TRIOBP 0.016197 GFR2 -0.008354 RASSF1 0.012832 KIAA1671 -0.015835 OOPEY1 -0.008191 SLC20A2 0.012767 CROT -0.015844 VISCH -0.008141 LDB1 -0.012603 B2M -0.015314	NEK9	-0.009083	MFI2	0.014631	GFPT1	0.017427	
ATP1B1-0.008895KIAA1671-0.013946NAV30.017121APBB2-0.008881ZNFX1-0.013815ARHGEF20.017063CAPN20.00888DNAJB90.013602SESN1-0.016845CALM20.008674NFE2L1-0.013277DNAJB90.016278FRAFD1-0.008589PIK3R1-0.013264NFE2L1-0.016229CGM10.008555FBXW2-0.013023TRIOBP0.016197GFR2-0.008354RASSF10.012832KIAA1671-0.016057OPEY1-0.008331MICALCL0.01279ZNFX1-0.015835VISCH-0.008191SLC20A20.012767CROT-0.015664PI4KB-0.008141LDB1-0.012603B2M-0.015314	CSGALNACT2	0.009018	CROT	-0.014554	TP53AIP1	-0.017304	
APBB2 -0.008881 ZNFX1 -0.013815 ARHGEF2 0.017063 CAPN2 0.00888 DNAJB9 0.013602 SESN1 -0.016845 CALM2 0.008674 NFE2L1 -0.013277 DNAJB9 0.016278 FRAFD1 -0.008589 PIK3R1 -0.013264 NFE2L1 -0.013023 TRIOBP 0.016197 PGM1 0.008555 FBXW2 -0.013023 TRIOBP 0.016197 PGFR2 -0.008354 RASSF1 0.012832 KIAA1671 -0.016057 OOPEY1 -0.008331 MICALCL 0.01279 ZNFX1 -0.015835 VISCH -0.008141 LDB1 -0.012706 SLC20A2 0.015334 OR3A -0.007819 IGFBP4 -0.012603 B2M -0.015314	ATP1B1	-0.008895	KIAA1671	-0.013946	NAV3	0.017121	
CAPN2 0.00888 DNAJB9 0.013602 SESN1 -0.016843 CALM2 0.008674 NFE2L1 -0.013277 DNAJB9 0.016278 FRAFD1 -0.008589 PIK3R1 -0.013264 NFE2L1 -0.016229 PGM1 0.008555 FBXW2 -0.013023 TRIOBP 0.016197 FGFR2 -0.008354 RASSF1 0.012832 KIAA1671 -0.016057 OOPEY1 -0.008331 MICALCL 0.01279 ZNFX1 -0.015835 VISCH -0.008191 SLC20A2 0.012767 CROT -0.015664 PI4KB -0.008141 LDB1 -0.012603 B2M -0.015314	APBB2	-0.008881	ZNFX1	-0.013815	ARHGEF2	0.017063	
CALM2 0.008674 NFE2L1 -0.013277 DNAJB9 0.016278 IRAFD1 -0.008589 PIK3R1 -0.013264 NFE2L1 -0.016225 PGM1 0.008555 FBXW2 -0.013023 TRIOBP 0.016197 FGFR2 -0.008354 RASSF1 0.012832 KIAA1671 -0.016057 OOPEY1 -0.008331 MICALCL 0.01279 ZNFX1 -0.015664 VISCH -0.008191 SLC20A2 0.012767 CROT -0.015664 PI4KB -0.007819 IGFBP4 -0.012603 B2M -0.015314	CAPN2	0.00888	DNAJB9	0.013602	SESN1	-0.016845	
TRAFD1 -0.008589 PIK3R1 -0.013264 NFE2L1 -0.016229 PGM1 0.008555 FBXW2 -0.013023 TRIOBP 0.016197 FGFR2 -0.008354 RASSF1 0.012832 KIAA1671 -0.016057 OOPEY1 -0.008331 MICALCL 0.01279 ZNFX1 -0.015835 NISCH -0.008191 SLC20A2 0.012767 CROT -0.015664 PI4KB -0.008141 LDB1 -0.012706 SLC20A2 0.015334	CALM2	0.008674	NFE2L1	-0.013277	DNAJB9	0.016278	
PGM1 0.008555 FBXW2 -0.013023 TRIOBP 0.016197 FGFR2 -0.008354 RASSF1 0.012832 KIAA1671 -0.016057 COPEY1 -0.008331 MICALCL 0.01279 ZNFX1 -0.015835 NISCH -0.008191 SLC20A2 0.012767 CROT -0.015664 PI4KB -0.008141 LDB1 -0.012603 B2M -0.015314	TRAFD1	-0.008589	PIK3R1	-0.013264	NFE2L1	-0.016229	
FGFR2 -0.008354 RASSF1 0.012832 KIAA1671 -0.016057 DOPEY1 -0.008331 MICALCL 0.01279 ZNFX1 -0.015835 VISCH -0.008191 SLC20A2 0.012767 CROT -0.015664 PI4KB -0.008141 LDB1 -0.012706 SLC20A2 0.012334 TOR3A -0.007819 IGFBP4 -0.012603 B2M -0.015314	PGM1	0.008555	FBXW2	-0.013023	TRIOBP	0.016197	
DOPEY1 -0.008331 MICALCL 0.01279 ZNFX1 -0.015835 NISCH -0.008191 SLC20A2 0.012767 CROT -0.015664 PI4KB -0.008141 LDB1 -0.012706 SLC20A2 0.015334 FOR3A -0.007819 IGFBP4 -0.012603 B2M -0.015314	FGFR2	-0.008354	RASSF1	0.012832	KIAA1671	-0.016057	
NISCH -0.008191 SLC20A2 0.012767 CROT -0.015664 PI4KB -0.008141 LDB1 -0.012706 SLC20A2 0.015334 FOR3A -0.007819 IGFBP4 -0.012603 B2M -0.015314	DOPEY1	-0.008331	MICALCL	0.01279	ZNFX1	-0.015835	
PI4KB-0.008141LDB1-0.012706SLC20A20.015334FOR3A-0.007819IGFBP4-0.012603B2M-0.015314	NISCH	-0.008191	SLC20A2	0.012767	CROT	-0.015664	
TOR3A -0.007819 IGFBP4 -0.012603 B2M -0.015314	PI4KB	-0.008141	LDB1	-0.012706	SLC20A2	0.015334	
	TOR3A	-0.007819	IGFBP4	-0.012603	B2M	-0.015314	

			Rs	ubread		
TCGA RNA	-Seq Level 3	FP	KM	TPM		
LRIG3	0.007766	SEC24D	0.012592	UBB	-0.015001	
POLR2A	-0.007749	B2M	-0.012511	FBXW2	-0.014918	
NEU1	-0.007665	CCDC50	0.012451	LDB1	-0.014863	
KPNA4	0.007656	SLC41A1	-0.012315	SEC24D	0.014746	
PIK3CD	0.007606	TOR3A	-0.01228	MICALCL	0.014702	
ANKRD13A	-0.007496	HERPUD1	0.012254	MYO1E	0.014521	
TBRG1	-0.007462	TRAFD1	-0.012195	RASSF1	0.014486	
EPS15	0.007458	MYO1E	0.012108	TOR3A	-0.01446	
TRIM5	-0.007361	MEF2D	0.012092	PIK3R1	-0.014459	
PCSK7	-0.007332	FRMD4A	-0.011928	TRAFD1	-0.014282	
ANKFY1	-0.00732	LRRFIP1	0.011781	ANKRD13A	-0.014195	
C20orf194	0.007244	ANKRD13A	-0.011763	SLC41A1	-0.014065	
C19orf42	-0.007162	PI4KB	-0.011583	MEF2D	0.013983	
ITGA5	0.007095	PRRC1	0.011518	PI4KB	-0.013683	
ARHGEF12	-0.006996	UBB	-0.011513	LRRFIP1	0.013638	
STK40	-0.006932	FAM129B	0.011441	PRRC1	0.013535	
MLLT6	-0.006786	PNMAL1	-0.010498	FRMD4A	-0.012667	
Clorf85	-0.006767	LPP	0.010416	PNMAL1	-0.012235	
PTPN12	0.00648	APBB2	-0.010189	LPP	0.011861	
MAP2K4	-0.006351	PRDM4	-0.010085	CAPN2	0.011646	
ZNF532	-0.006134	ADAR	-0.010018	ADAR	-0.011625	
AFAP1L2	0.006103	SEC14L1	0.009938	PRDM4	-0.011432	
ARID1B	-0.005924	CAPN2	0.009793	APBB2	-0.01135	
SEC14L1	0.005811	ASAP2	0.009678	SEC14L1	0.011315	
PLEKHA6	-0.005776	PPP2R5B	0.00955	UBP1	-0.010824	
ELOVL1	0.005764	NFATC3	-0.009429	ASAP2	0.010731	
CLASP1	-0.005727	PRPSAP2	-0.009416	PRPSAP2	-0.010671	
SMEK1	-0.005478	DCAF7	0.009216	PPP2R5B	0.010646	
NUMA1	-0.005168	MEX3C	0.009174	NFATC3	-0.010535	
ZMYND8	0.005151	AFAP1	0.009148	AFAP1	0.010482	
PDXK	-0.005071	UBP1	-0.008794	DCAF7	0.010296	
MYO10	0.004929	ARHGEF12	-0.008606	MYL12A	0.009901	
UBP1	-0.00478	SDC1	0.008466	ARHGEF12	-0.009895	
RCC2	0.004742	ADCY9	-0.008152	STAT3	-0.009518	

			Rs	ubread	
TCGA RNA-Seq Level 3		FPKM		TPM	
SGK1	0.004731	STAT3	-0.008103	ANKRD27	0.008986
RFWD3	-0.004666	ANKRD27	0.007958	IFFO2	0.008553
C20orf3	-0.004354	IFFO2	0.007081	GTF2I	-0.00815
WDR91	-0.004333	GTF2I	-0.006848	CYB561	0.00765

HER2 status	Method used	Coefficient of variation
HER2 (-)	TCGA	0.62
	Rsubread FPKM	0.21
	Rsubread TPM	0.30
HER2 (+)	TCGA	0.72
	Rsubread FPKM	0.14
	Rsubread TPM	0.20

Table S5: Coefficients of variation for HER status predictions in TCGA breast cancer samples.