

CLINICS-D-25-00756_Supplementary Material**Supplementary Table 1** Statistics of clinical information for each data.

	TCGA-BRCA	GSE10893-GPL887	GSE159956	GSE18229-GPL887
Age				
≤ 65	776 (70.74%)	45 (48.91%)	NA	47 (50%)
> 65	321 (29.26%)	17 (18.48%)	NA	17 (18.09%)
Unknown	NA	30 (32.61%)	NA	30 (31.91%)
Gender				
Female	1085 (98.91%)	NA	NA	NA
Male	12 (1.09%)	NA	NA	NA
Stage				
Stage I	183 (16.68%)	NA	NA	NA
Stage II	621 (56.61%)	NA	NA	NA
Stage III	249 (22.70%)	NA	NA	NA
Stage IV	20 (1.82%)	NA	NA	NA
Unknown	24 (2.19%)	NA	NA	NA
Grade				
Grade 1	NA	6 (6.52%)	NA	6 (6.38%)
Grade 2	NA	15 (16.30%)	NA	15 (15.96%)
Grade 3	NA	34 (36.96%)	NA	36 (38.30%)
Unknown	NA	37 (40.22%)	NA	37 (39.36%)
T				
T1	281 (25.62%)	NA	NA	NA
T2	635 (57.89%)	NA	NA	NA
T3	138 (12.58%)	NA	NA	NA
T4	40 (3.65%)	NA	NA	NA
Unknown	3 (0.27%)	NA	NA	NA
M				
M0	912 (83.14%)	NA	NA	NA
M1	22 (2.01%)	NA	NA	NA
Unknown	163 (14.86%)	NA	NA	NA
N				

N0	516 (47.04%)	NA	NA	NA
N1	364 (33.18%)	NA	NA	NA
N2	120 (10.94%)	NA	NA	NA
N3	77 (7.02%)	NA	NA	NA
Unknown	20 (1.82%)	NA	NA	NA

Supplementary Table 2 Results of multiple factor Cox regression analyses.

Gene	Coefficient
TBC1D4	-0.32117
RBP4	-0.10025
CDKN1C	-0.20901
TH	0.297607
IFNG	-0.3634
NOS1	0.697048
TFRC	0.206439
ADRB1	-0.22902

Supplementary Information

Additional File 1

Figure S1 Least absolute shrinkage and selection operator (Lasso) regression analyses to exclude overfitting genes. (A) Distribution plot of the partial likelihood deviation from the Lasso regression. (B) Cross-validation for tuning parameter selection in the Lasso regression.

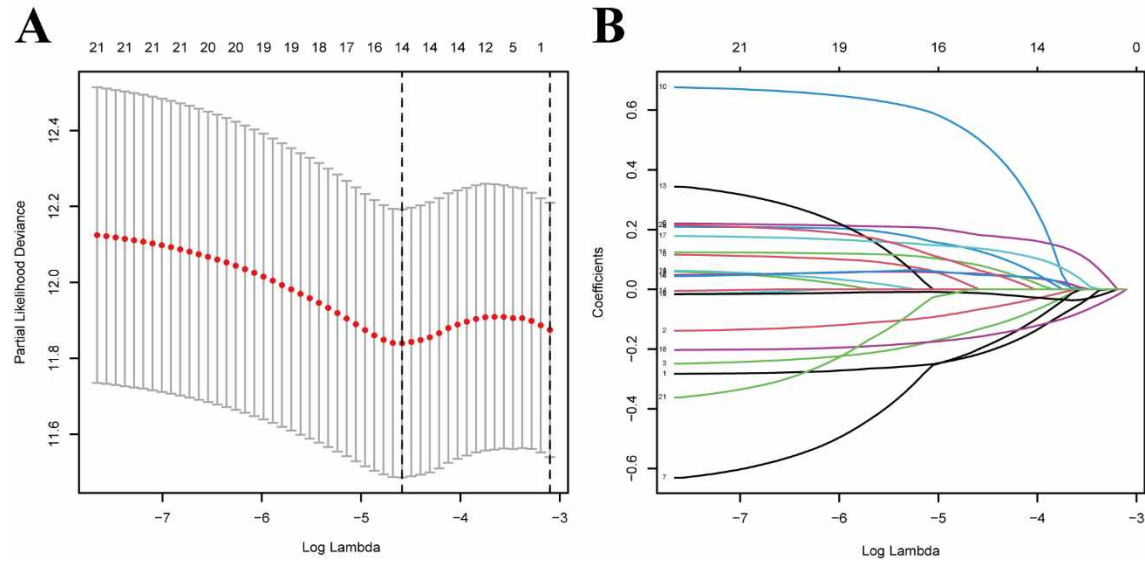


Figure S2 ROC curve analysis of risk scores and other clinical traits. A Multivariate ROC curve analysis of risk scores and age, gender, stage, T-stage, M-stage, and N-stage.

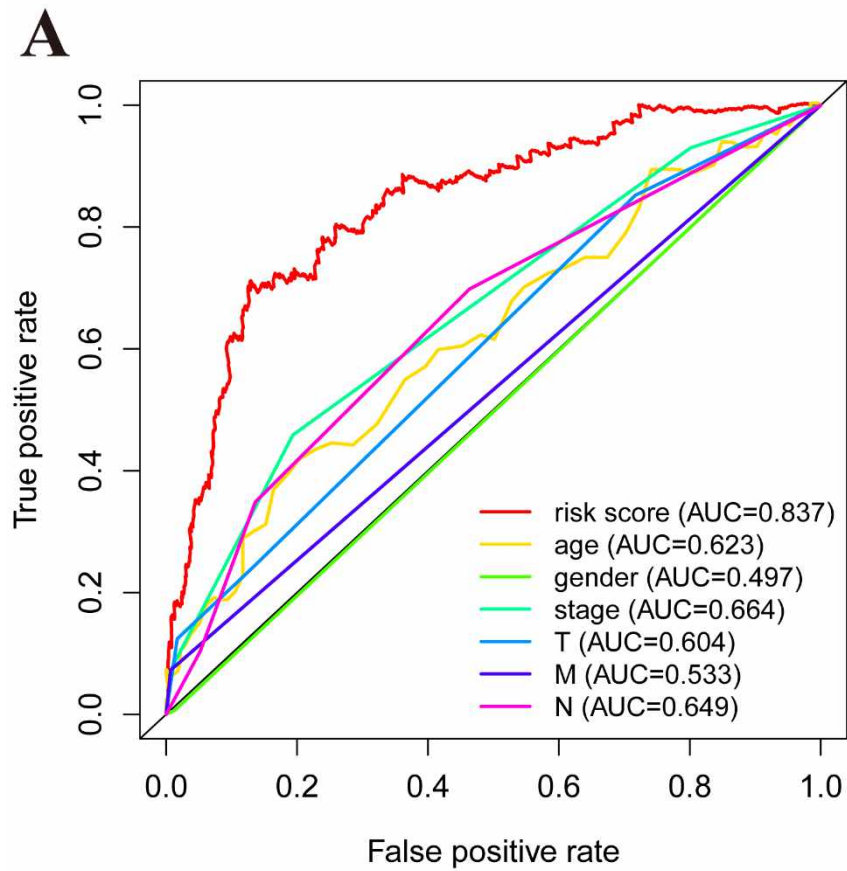


Figure S3 Drug sensitivity analyses. A-D: Acetalax, BI-2536, Cisplatin, Cytarabine, Docetaxel, Erlotinib, Gefitinib, Gemcitabine, Lapatinib, OSI-027, Paclitaxel and Vinorelbine drug sensitivity box plots in high and low risk groups.

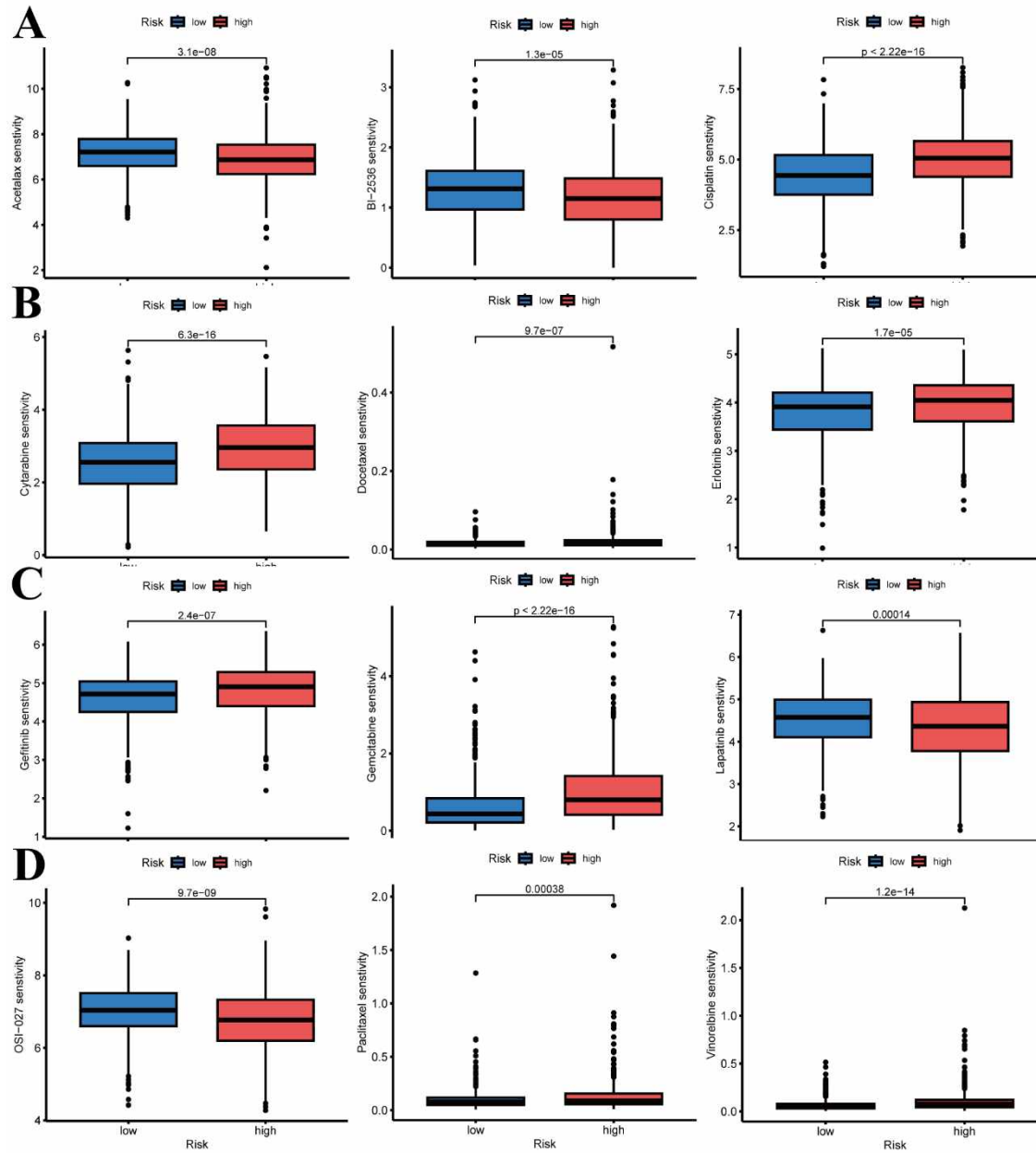


Figure S4 Kyoto encyclopedia of genes and genomes (KEGG) signaling pathway analysis of BRCA-GSE110686 data. (A) Heatmap of upregulated KEGG gene set. (B) Heatmap of downregulated KEGG gene set.

