

Supplementary Table S1. Primers used in this study

Genes	Primer	Primer sequences 5'-3'
<i>C19orf59</i>	Sense	GTGAAGAATGCTGAGATGTC CAAGG
	Antisense	ATGCTCTGCTGAACGGAATCCC
<i>GAPDH</i>	Sense	CAG GAGGCATTGCTGATGAT
	Antisense	GAAGGCTGGGGCTCATTT

Supplementary Table S2. List of the 95 candidate genes

Gene	HR	z	P value	Lower	Upper
<i>OLR1</i>	1.153807079	1.707113574	0.087800945	0.979032468	1.359782049
<i>TREM2</i>	1.100993718	1.37272088	0.169839136	0.959676046	1.263121208
<i>SPP1</i>	1.050249939	1.142770017	0.253134091	0.965547473	1.142382912
<i>DCSTAMP</i>	0.957191573	-0.173606066	0.862175064	0.584092161	1.568614969
<i>TMEM26</i>	1.542020457	1.355078561	0.175392528	0.824213205	2.884966021
<i>SDS</i>	1.087692701	0.992996354	0.320711731	0.921405282	1.283990265
<i>CHRNA1</i>	0.863526623	-0.686307027	0.492519519	0.567925263	1.312986544
<i>SNX10</i>	0.882618613	-1.235688035	0.216574547	0.724039146	1.075930246
<i>TNFSF11</i>	1.104951543	0.692734933	0.488475912	0.833127862	1.465462828
<i>HTRA4</i>	0.962352033	-0.177336155	0.859244354	0.629704467	1.470723942
<i>CSF2</i>	1.090238171	0.928257883	0.353273816	0.908441794	1.308415439
<i>CLEC5A</i>	1.149426403	1.07061589	0.284342176	0.890756501	1.483212365
<i>IL8</i>	1.021378289	0.494593749	0.620886916	0.939251943	1.110685601
<i>FCGR1A</i>	1.088589995	0.695037551	0.487031769	0.856858535	1.382991624
<i>PARP14</i>	0.854018285	-1.402406023	0.160794036	0.684995274	1.06474783
<i>FCGR3A</i>	1.066827491	1.020866312	0.307317782	0.942228141	1.20790374
<i>PLA2G7</i>	1.052872331	0.694731386	0.487223655	0.910436676	1.217591707
<i>CHIT1</i>	0.999176492	-0.00999318	0.992026729	0.850096729	1.174400075
<i>APOC1</i>	1.081316784	1.407673862	0.159227665	0.9697925	1.205666147
<i>CCR8</i>	0.876142228	-0.688373731	0.491217462	0.60127183	1.276669164
<i>MSR1</i>	1.146273557	1.450810169	0.146832727	0.953219916	1.378425948
<i>CCL7</i>	1.09260261	0.769523252	0.441582746	0.87196592	1.3690678
<i>ITGAX</i>	1.045228751	0.467260451	0.640313548	0.868215841	1.25833127
<i>MPP1</i>	0.96563529	-0.325838424	0.744546605	0.78245967	1.191692746
<i>FMNL2</i>	1.086820049	0.625935981	0.531356933	0.837411488	1.410510646
<i>CHI3L1</i>	0.953052764	-0.883386198	0.377027645	0.856611359	1.060352004
<i>TDRD6</i>	1.091097445	0.299815153	0.764318156	0.617078551	1.92924164
<i>PIK3AP1</i>	0.994985993	-0.053716532	0.957161011	0.828255394	1.195280022
<i>SLC11A1</i>	1.08106547	0.696262992	0.486264145	0.868079343	1.346308446
<i>GPR84</i>	1.0902262	0.61361821	0.539467648	0.827340768	1.436642813
<i>TMEM52B</i>	1.512905516	1.473665601	0.140571649	0.872295191	2.623977667

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Gene	HR	z	P value	Lower	Upper
<i>BBC3</i>	0.82605451	-1.798914902	0.072032143	0.670791516	1.017255044
<i>HAVCR2</i>	1.038402047	0.37668739	0.706405935	0.853518754	1.263333473
<i>ME1</i>	1.160136157	1.63297996	0.102473211	0.970695193	1.386548438
<i>MICB</i>	0.860251975	-1.542215073	0.123021338	0.710465555	1.041617647
<i>P2RY6</i>	1.194871117	1.508389605	0.131454842	0.948095301	1.505879192
<i>CD80</i>	0.97952015	-0.102637111	0.918250988	0.659787784	1.454194434
<i>ASAH2B</i>	1.040059195	0.178755335	0.858129818	0.676121703	1.599894107
<i>STAC3</i>	0.807583224	-1.116586305	0.26417125	0.554972509	1.175176523
<i>APOE</i>	1.076574573	1.389754468	0.164603449	0.970180304	1.194636508
<i>FCGR1B</i>	1.200647751	0.451321476	0.651757869	0.54266978	2.656412932
<i>OSCAR</i>	0.979432183	-0.190618306	0.848824647	0.790991088	1.212766385
<i>FCGR2A</i>	1.15992459	1.747989386	0.080465865	0.982170201	1.369849189
<i>C2</i>	1.02798871	0.338872858	0.734705512	0.876295274	1.205941443
<i>LILRB4</i>	1.011844433	0.132901652	0.894271161	0.850548119	1.203728671
<i>SUCNR1</i>	1.030678912	0.325547505	0.744766735	0.859238658	1.236325914
<i>ADAM8</i>	1.069902652	0.779022924	0.435966211	0.90264352	1.26815477
<i>HS3ST2</i>	1.096491928	0.930534451	0.352094435	0.903114623	1.331275697
<i>TLR2</i>	1.178609205	1.409972345	0.158547849	0.937908739	1.481081901
<i>C19orf59</i>	1.376514847	2.578303845	0.009928665	1.0796501	1.755006668
<i>IFI30</i>	0.976991203	-0.110525787	0.9119924	0.646577632	1.476252447
<i>ZMYND15</i>	0.902160206	-0.797797014	0.424988295	0.700532277	1.161820895
<i>IL4I1</i>	0.944207176	-0.679403077	0.496882501	0.800093288	1.114279052
<i>STEAP1</i>	1.055145019	0.711779132	0.476601557	0.910163709	1.223220613
<i>SLAMF8</i>	1.004455067	0.055926682	0.955400215	0.859558	1.173777665
<i>HSD3B7</i>	0.933609396	-0.720409012	0.471273203	0.774454484	1.12547157
<i>HAMP</i>	1.429337025	1.665353299	0.095842291	0.9387626	2.176273674
<i>BATF2</i>	0.822687991	-2.661399809	0.00778165	0.712542629	0.949859705
<i>IFI6</i>	1.021619688	0.397594071	0.690929432	0.919384794	1.135223025
<i>HK3</i>	0.922497685	-0.609179314	0.54240559	0.711615077	1.195874014
<i>OSM</i>	1.081711433	0.951321986	0.34144095	0.920096258	1.27171436
<i>EMR2</i>	1.020718911	0.146568442	0.883472664	0.775907395	1.342772477
<i>CD300LF</i>	1.043087889	0.370393169	0.711089563	0.834400265	1.303969317
<i>CLDN14</i>	0.78208103	-0.783438415	0.433369705	0.422858184	1.446467778
<i>SLC37A2</i>	1.261719961	2.015748951	0.043826234	1.006454407	1.581728142
<i>ATP6V0D2</i>	1.242198528	1.364286011	0.172477567	0.9096495	1.696320598
<i>MMP9</i>	0.979402407	-0.35877841	0.719760865	0.874144225	1.097335025
<i>TNFAIP2</i>	0.829559385	-2.583000769	0.00979451	0.719895542	0.955928651
<i>OAS2</i>	0.972341801	-0.401560417	0.688007566	0.847939513	1.114995308
<i>IFITM1</i>	0.964984719	-0.600825672	0.547956104	0.859061544	1.08396833
<i>MS4A14</i>	1.247882052	0.979528185	0.327319069	0.801193374	1.9436127

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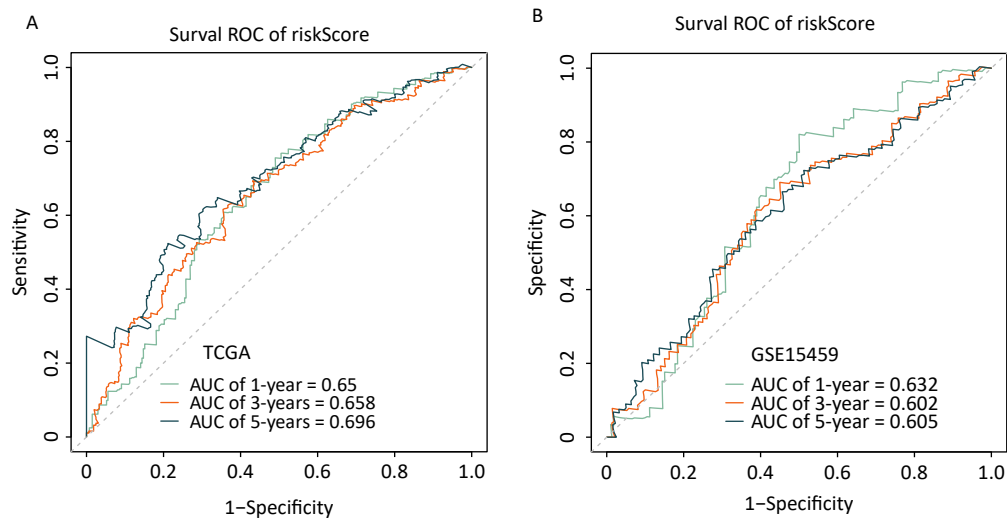
Gene	HR	z	P value	Lower	Upper
<i>TYMP</i>	0.961650163	-0.534899164	0.592719587	0.83327592	1.109801704
<i>LILRB5</i>	0.996286755	-0.02176321	0.982636841	0.712659046	1.392794077
<i>IL2RA</i>	1.031477057	0.310931765	0.755852496	0.848431756	1.25401355
<i>TM7SF2</i>	1.017527598	0.187910753	0.850946613	0.848862132	1.219706207
<i>TREM1</i>	1.164876171	1.444785622	0.148518111	0.947035183	1.432825853
<i>CD84</i>	1.048821065	0.482654209	0.629341282	0.864245396	1.272816298
<i>RNASE2</i>	1.251260961	2.327657904	0.019930276	1.036043016	1.511186281
<i>TNFSF18</i>	1.434203128	2.397521651	0.016506405	1.068026669	1.925924392
<i>FPR3</i>	1.081719033	1.059878485	0.289199885	0.935467729	1.25083531
<i>DNASE2B</i>	0.924470685	-0.331439869	0.740312254	0.581035727	1.470901027
<i>VMO1</i>	1.072900228	0.989845768	0.322249511	0.933361124	1.233300669
<i>IFI44L</i>	1.088940082	1.215940782	0.224007481	0.949199708	1.249252914
<i>TFEC</i>	1.032595494	0.213973723	0.830567548	0.769718028	1.385252021
<i>AQP9</i>	1.112281968	1.304490382	0.192066437	0.947934167	1.305123519
<i>TMSB15B</i>	2.144657392	1.094330334	0.273810126	0.546877838	8.410571812
<i>FOLR2</i>	1.165216813	2.250732683	0.024402473	1.019950241	1.331172999
<i>DNAJC5B</i>	0.970185561	-0.125861004	0.899841951	0.605552725	1.554381614
<i>SIRPB1</i>	1.182054719	1.243323262	0.213748736	0.908097185	1.538660597
<i>SLAMF9</i>	1.348109618	1.640623342	0.100875627	0.943516539	1.926197863
<i>FCN1</i>	1.401543405	2.688227279	0.007183249	1.095763786	1.792652707
<i>RETN</i>	1.329398732	2.3555719	0.018494218	1.048980357	1.684779869
<i>C9orf24</i>	0.998378664	-0.013613722	0.989138157	0.790384726	1.261107311
<i>CD300E</i>	1.134033841	0.964781239	0.334654395	0.878319751	1.464196554
<i>CLEC6A</i>	0.727259631	-0.746033234	0.455647339	0.315008868	1.679021211

Supplementary Table S3. List of the 83 drugs significantly correlated with risk score

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Id	P value
A.443654	0.003425749
A.770041	8.83×10^{-6}
ABT.888	6.28×10^{-11}
AG.014699	0.001294207
AICAR	0.001162594
AMG.706	7.50×10^{-7}
AP.24534	0.000537515
AS601245	0.027523727
ATRA	0.004739637
AZD.0530	3.95×10^{-8}
AZD6482	3.40×10^{-5}
AZD8055	4.90×10^{-7}
BAY.61.3606	0.006640938
Bexarotene	0.000346827
BI.2536	3.95×10^{-8}
BIBW2992	2.52×10^{-7}
Bicalutamide	0.02873496
BIRB.0796	4.37×10^{-5}
Bleomycin	0.000442909
BMS.754807	0.022791467
Bosutinib	1.09×10^{-6}
BX.795	2.56×10^{-7}
Camptothecin	0.000971623
CCT007093	2.70×10^{-6}
CCT018159	1.46×10^{-6}
CEP.701	0.000246081
CI.1040	0.004914364
CMK	0.049510731
Cytarabine	0.008596579
Dasatinib	4.53×10^{-6}
DMOG	3.66×10^{-5}
Docetaxel	0.018943244
Doxorubicin	0.001570867
Elesclomol	0.018623365
Embelin	0.005403277
Epothilone.B	5.20×10^{-7}
Etoposide	9.79×10^{-6}
GDC0941	7.11×10^{-6}
Gefitinib	4.60×10^{-6}
Gemcitabine	2.49×10^{-5}
GNF.2	0.000133147

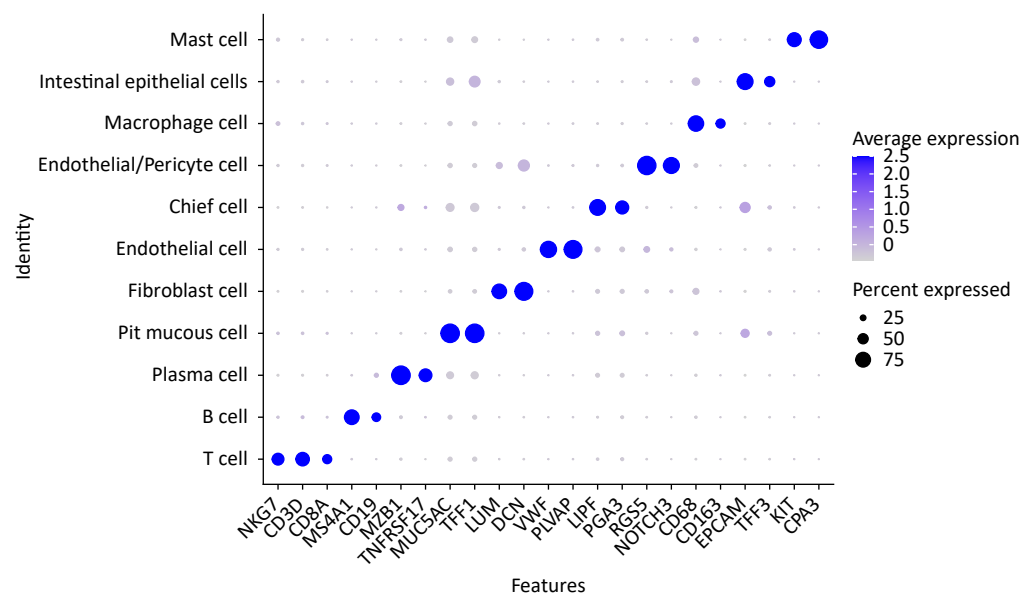
Id	P value
GSK269962A	5.58×10^{-8}
GSK.650394	1.06×10^{-9}
GW.441756	0.009548341
GW843682X	9.46×10^{-7}
Imatinib	1.11×10^{-13}
JNJ.26854165	8.88×10^{-6}
JNK.9L	5.29×10^{-5}
KIN001.135	1.38×10^{-5}
LFM.A13	0.00437778
Metformin	1.06×10^{-6}
Methotrexate	9.80×10^{-5}
MG.132	0.000151981
Midostaurin	1.36×10^{-6}
Mitomycin.C	1.12×10^{-5}
MK.2206	3.75×10^{-6}
MS.275	0.045376551
NU.7441	2.94×10^{-5}
NVP.BE2235	1.79×10^{-5}
Obatoclox.Mesylate	0.023559765
Paclitaxel	0.000986352
Pazopanib	1.75×10^{-9}
PD.0325901	0.000261776
PHA.665752	0.039875899
PLX4720	0.000590433
QS11	0.001611226
Rapamycin	0.0219838
Roscovitine	0.01724169
SB.216763	0.036817154
SB590885	0.00593569
SL.0101.1	0.000413893
S.Trityl.L.cysteine	5.10×10^{-8}
Temsirolimus	0.000315957
Tipifarnib	0.003690649
Vinorelbine	4.91×10^{-6}
VX.680	9.06×10^{-5}
VX.702	3.95×10^{-6}
WH.4.023	2.49×10^{-6}
WO2009093972	0.000579024
WZ.1.84	0.004109277
XMD8.85	0.000539629
Z.LLNle.CHO	0.000258564
ZM.447439	0.001725632



Supplementary Figure S1. ROC curves of the 1-, 3-, and 5-year of prognostic values of the signature genes in the TCGA-STAD and GSE15459 datasets. (A) ROC curves of the 1-, 3-, and 5-year of the prognostic values of the signature genes in the TCGA-STAD dataset. (B) ROC curves of the 1-, 3-, and 5-year of the prognostic values of the signature genes in the GSE15459 dataset.



Supplementary Figure S2. Single-cell sequencing data analysis. (A) Cluster annotation and cell type identification using UMAP. (B) Proportions of cell types across patients. (C, D) The enriched hallmark and KEGG pathways and differences in cells between the tumor and normal groups.



Supplementary Figure S3. Proportions of marker genes in each cell cluster.