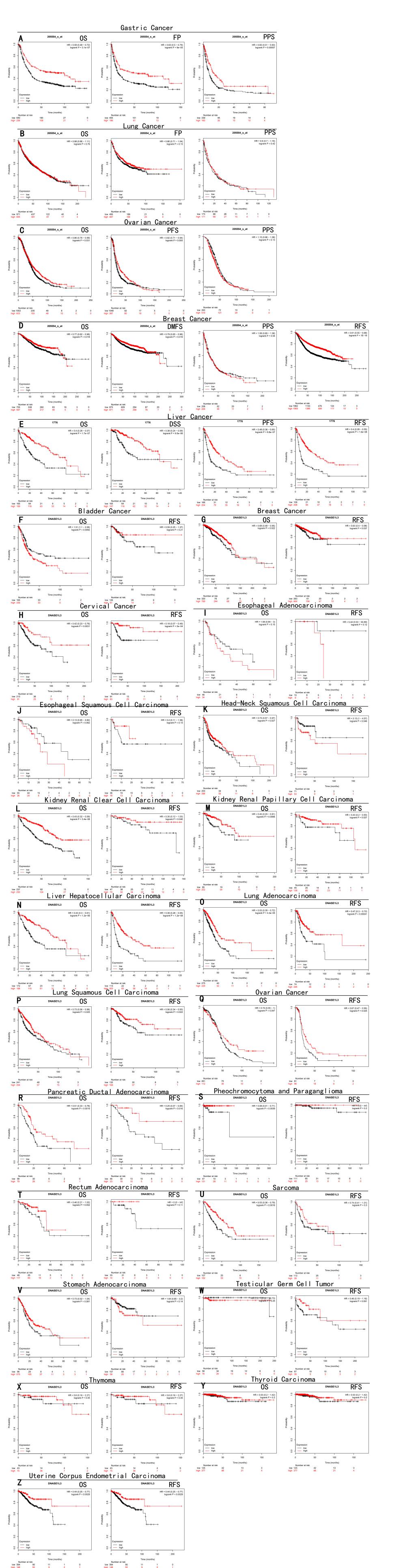


**Supplementary Fig. 1.** Correlation between DNASE1L3 expression and various cancers in PrognoScan Database. The expression of DNASE1L3 were found in one or more cohorts, which showed significant correlation with prognosis of related cancer type, including blood, breast, colorectal, head and neck cancer, lung adenocarcinoma, ovarian, melanoma. The following targets were used to evaluate the prognosis, OS: overall survival, DSS: disease specific survival, RFS: relapse free survival, DMFS: disease metastasis free survival.



Supplementary Fig. 2. Correlation between DNASE1L3 expression and various cancers in Kaplan-Meier Plotter Database.

All the correlation between DNASE1L3 expression and various cancers in Kaplan-Meier Plotter Database were analyzed, and the data for A-D (gastric, lung, ovarian and breast cancer respectively) came from gene array in Kaplan-Meier Plotter, the data for E-Z came form RNA Sequencing in Kaplan-Meier Plotter. OS: overall survival, RFS: relapse free survival, DMFS: distant metastasis free survival, FP: first progress, DSS: disease

specific survival, PPS: post-progression survival, PFS: progression free survival.

carcinoma(CHOL), F: Colon adenocarcinoma (COAD), G: Lymphoid Neoplasm Diffuse Large B-cell Lymphoma(DLBC), H: Esophageal carcinoma(ESCA), I: Glioblastoma multiforme (GBM), J: Head and Neck squamous cell carcinoma(HNSC), K: Kidney Chromophobe(KICH), L: Kidney renal clear cell carcinoma(KIRC), M: Kidney renal papillary cell carcinoma(KIRP), M: Acute Myeloid Leukemia(LAML), O: Brain Lower Grade Glioma(LGG), P: Liver hepatocellular carcinoma(LIHC), Q: Lung adenocarcinoma(LUAD), R: Lung squamous cell carcinoma(LUSC), S: Mesothelioma(MESO), T: Ovarian serous cystadenocarcinoma(OV), U: Pancreatic adenocarcinoma(PAAD), V: Pheochromocytoma and Paraganglioma(PCPG), W: Prostate adenocarcinoma(PRAD), X: Rectum adenocarcinoma(READ), Y: Sarcoma(SARC), Z: Skin Cutaneous Melanoma(SKCM), AA: Stomach adenocarcinoma(STAD), AB: Testicular Germ Cell Tumors(TGCT), AC: Thyroid carcinoma(THCA), AD: Thymoma(THYM), AE:Uterine Corpus Endometrial Carcinoma(UCEC), AF: Uterine Carcinosarcoma(UCS), AG: Uveal Melanoma(UVM), AH: These 33 tumors as a whole.

The correlation between DNASE1L3 expression and prognosis in various cancers. Overall survival (OS) and disease free survival

respectively and totally, including A: Adrenocortical carcinoma(ACC), B: Bladder Urothelial Carcinoma (BLCA), C: Breast invasive

(DFS) curves were generated by comparing the high (50%) and low (50%) expression of DNASE1L3 in 33 types of cancers,

n(high)=39 n(low)=39

80

Supplementary Fig. 3. The correlation between DNASE1L3 expression and prognosis in various cancers.

carcinoma (BRCA), D: Cervical squamous cell carcinoma and endocervical adenocarcinoma (CESC), E: Cholangio

60

40

Months

Percent survival

9.0

0.4

0.2

0.0

100

200

Months

p(HR)=0.0056

60

40

Months

Percent survival

9.0

0.4

0.2

20

Percent survival

0.2

0.0

p(HR)=0 n(high)=4742 n(low)=4742

300

Percent survival

0.4

0.2

0.0

100

200

Months

p(HR)=0 n(high)=4742 n(low)=4742

300

10 - 00	Purity  cor = -0.478 p = 1.69e-05	B Cell  partial.cor = -0.195	CD8+ T Cell  partial.cor = 0.139 p = 2.39e-01	CD4+ T Cell  partial.cor = 0.127  p = 2.84e-01	Macrophage  partial.cor = -0.08  p = 4.99e-01	Neutrophil partial.cor = -0.13 p = 2.73e-01	partial.cor = -0.081 p = 4.97e-01
B 10 5 10 10 10 10 10 10 10 10 10 10 10 10 10	cor = -0.439	partial.cor = 0.009	partial.cor = 0.114	partial.cor = 0.209	partial.cor = 0.002	partial.cor = 0.182	partial.cor = 0.237
	p = 7.37e-19	p = 8.67e-01	p = 2.86e-02	p = 5.88e-05	p = 9.68e-01	p = 4.76e-04	p = 4.92e-06
7.5	cor = -0.514	partial.cor = 0.045	partial.cor = 0.265	partial.cor = 0.36	partial.cor = 0.024	partial.cor = 0.147	partial.cor = 0.203
	• = 3.84e-68	p = 1.63e-01	p = 4.23e-17	p = 8.03e-31	p = 4.48e-01	p = 5.67e-06	p = 2.92e-10
7.5 - 5.0 - 888 -	cor = -0.512	partial.cor = 0.369	partial.cor = 0.283	partial.cor = 0.293	partial.cor = -0.049	partial.cor = 0.197	partial.cor = 0.299
	p = 5.46e-10	p = 2.41e-05	p = 1.53e-03	p = 1.08e-03	p = 5.87e-01	p = 3.92e-02	p = 1.21e-03
E 6 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	cor = -0.62	partial.cor = 0.342	partial.cor = 0.363	partial.cor = 0.443	partial.cor = -0.219	partial.cor = 0.28	partial.cor = 0.261
	p = 1.67e-07	p = 8.68e-03	p = 5.50e-03	p = 4.99e-04	p = 9.88e-02	p = 3.30e-02	p = 5.16e-02
7.5 - 88CA-Luminal	cor = -0.508	partial.cor = 0.064	partial.cor = 0.32	partial.cor = 0.35	partial.cor = -0.016	partial.cor = 0.123	partial.cor = 0.173
		p = 1.37e-01	p = 3.23e-14	p = 6.33e-17	p = 7.13e-01	p = 4.28e-03	p = 5.77e-05
0.0 G 9 G SSB 3	cor= -0.263	partial.cor = 0.132	partial.cor = 0.121	partial.cor = 0.206	partial.cor = -0.013	partial.cor = 0.085	partial.cor = 0.25
	p = 9 11e=06	p = 2.84e-02	p = 4.58e-02	p = 5.43e-04	p = 8.30e-01	p = 1.58e-01	p = 2.71e-05
0 - H 20 TOH 0 0 -	cor = -0.415	partial.cor = 0.186	partial.cor = -0.052	partial.cor = 0.276	partial.cor = 0.001	partial.cor = -0.034	partial.cor = 0.11
	p = 1.17e-02	p = 2.85e-01	p = 7.65e-01	p = 1.08e-01	p = 9.96e-01	p = 8.44e-01	p = 5.29e-01
10.0	cor = -0.165	partial.cor = 0.272	partial.cor = 0.015	partial.cor = 0.239	partial.cor = 0.01	partial.cor = 0.094	partial.cor = 0.151
7.5 - 5.0 QV	p = 8.32e-04	p = 2.67e-08	p = 7.68e-01	p = 1.21e-06	p = 8.48e-01	p = 5.88e-02	p = 2.33e-03
DNASE11.3 Expression Level (log2 RSEM)	cor = -0.6	partial.cor = -0.453	partial.cor = 0.188	partial.cor = 0.379	partial.cor = 0.053	partial.cor = -0.379	partial.cor = -0.243
	p = 2.65e-05	p = 5.91e-02	p = 4.14e-01	p = 8.98e-02	p = 8.19e-01	p = 9.02e-02	p = 2.88e-01
DNASE:	cor = -0.189	partial.cor = 0.124	partial.cor = -0.086	partial.cor = 0.098	partial.cor = -0.205	partial.cor = 0.089	partial.cor = 0.136
	p = 1.07e-02	p = 9.83e-02	p = 2.50e-01	p = 1.91e-01	p = 5.82e-03	p = 2.34e-01	p = 6.77e-02
0 8 7 6 W80 5 1	cor = 0.021	partial.cor = 0.11	partial.cor = -0.071	partial.cor = -0.194	partial.cor = 0.075	partial.cor = -0.145	partial.cor = -0.122
	p = 6.69e-01	p = 2.44e-02	p = 1.48e-01	p = 6.77e-05	p = 1.27e-01	p = 2.92e-03	p = 1.23e-02
9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	cor = -0.259	partial.cor = 0.202	partial.cor = 0.305	partial.cor = 0.082	partial.cor = 0.097	partial.cor = 0.106	partial.cor = 0.122
	p = 5.33e-09	p = 8.51e-06	p = 1.23e-11	p = 7.41e-02	p = 3.31e-02	p = 1.99e-02	p = 7.46e-03
N 9 sodAdH-OSNH 3	cor = -0.473	partial.cor = 0.321	partial.cor = 0.351	partial.cor = 0.166	partial.cor = 0.126	partial.cor = 0.091	partial.cor = 0.305
	p = 2.44e-06	p = 3.93e-03	p = 1.63e-03	p = 1.35e-01	p = 2.49e-01	p = 4.10e-01	p = 5.05e-03
O 9 G G G G G G G G G G G G G G G G G G	cor = -0.224	partial.cor = 0.174	partial.cor = 0.293	partial.cor = 0.054	partial.cor = 0.066	partial.cor = 0.087	partial.cor = 0.066
	p = 5.90e-06	p = 5.16e-04	p = 3.05e-09	p = 2.84e-01	p = 1.90e-01	p = 8.62e-02	p = 1.90e-01
P 10 HOW	cor = -0.35	partial.cor = -0.019	partial.cor = -0.019	partial.cor = 0.01	partial.cor = -0.073	partial.cor = 0.155	partial.cor = -0.095
	p = 3.97e-03	p = 8.83e-01	p = 8.80e-01	p = 9.40e-01	p = 5.62e-01	p = 2.19e-01	p = 4.50e-01
Q 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	cor ⇒ -0.103	partial.cor = -0.163	partial.cor = 0.218	partial.cor = 0.21	partial.cor = 0.036	partial.cor = 0.025	partial.cor = 0.025
	p = 2.66e-02	p = 4.40e-04	p = 3.99e-06	p = 5.63e-06	p = 4.51e-01	p = 5.90e-01	p = 5.96e-01
7.5 - 5.0 - 62 X	cor = -0.223	partial.cor = 0.178	partial.cor = 0.39	partial.cor = 0.198	partial.cor = 0.447	partial.cor = -0.074	partial.cor = 0.264
	p = 2.92e-04	p = 4.27e-03	p = 8.89e-11	p = 1.36e-03	p = 1.19e-13	p = 2.36e-01	p = 1.81e-05
0.0 - 10.0 S 7.5 - 5.0 - 99 - 2.5 - 1	cor = 0.191	partial.cor = -0.158	partial.cor = -0.004	partial.cor = -0.008	partial.cor = 0.045	partial.cor = -0.057	partial.cor = -0.051
	p = 2.52e-05	p = 5.39e-04	p = 9.25e-01	p = 8.58e-01	p = 3.31e-01	p = 2.13e-01	p = 2.63e-01
7.5 Q	0.25 0.50 0.75 1.00  Purity  Cor = -0.246  1 = 2.75e-06	B Cell  partial.cor = -0.228 p = 1.98e-05	0.0 0.5 1.0 1.5  CD8+ T Cell  partial.cor = -0.062	0.00 0.25 0.50 0.75  CD4+ T Cell  partial.cor = -0.229 p = 1.79e-05	0.00 0.25 0.50 0.75 1.0  Macrophage  partial.cor = -0.27 p = 4.05e-07	Neutrophil  partial.cor = -0.246 p = 3.72e-06	Dendritic Cell  partial.cor = -0.22  p = 4.32e-05
2.5 - 0.0 - U 10.0 - 7.5 - 5.0 - 0.1	cor = -0•273	partial.cor = 0.266	partial.cor = 0.245	partial.cor = 0.16	partial.cor = 0.227	partial.cor = 0.179	partial.cor = 0.176
	p = 6.38e-10	p = 2.75e-09	p = 4.36e-08	• p = 3.96e-04	p = 4.22e-07	p = 7.8₹e-05	p = 8.88e-05
2.5 - 0.0 - 10.0 - 7.5 - 5.0 - 33	gor = -0.096 p = 3.63e-02	partial.cor = 0.102 p = 2.66e-02	partial.cor = 0.004 p = 9.37e-01	partial.cor = -0.121 p = 8.29e-03	partial.cor = 0.056 p = 2.20e-01	partial.cor == 0.088 p = 5.48e-02	partial_cor = -0.0%6 p = 4.28e-01
2.5 - 0.0 -	cor = -0.495	partial.cor = 0.265	partial.cor = 0.022	partial.cor = 0.2	partial.cor = -0.103	partial.cor = 0.158	partial.cor = 0.222
	p = 1.27e-06	p = 1.47e-02	p = 8.45e-01	p = 6.88e-02	p = 3.53e-01	p = 1.52e-01	p = 4.22e-02
X 5.0 4.5 8	cor =0.064	partial.cor = -0.004	partial.cor = 0.071	partial.cor = 0.051	partial.cor = -0.057	partial.cor = 0.003	partial.cor = -0.019
	p = 1.57e-01	p = 9.39e-01	p = 1.21e-01	p = 2.69e-01	p = 2.16e-01	p = 9.48e-01	p = 6.79e-01
4.0 - 3.5 - 12 - Y 9 - 6 - QQ	cor = -0.049	partial.cor = 0.327	partial.cor = 0.222	partial.cor = 0.38	partial.cor = 0.233	partial.cor = 0.171	partial.cor = 0.238
	p = 5.27e-01	p = 1.31e-05	p = 3.45e-03	p = 3.38e=07	p = 2.14e-03	p = 2.51e-02	p = 1.72e-03
Z 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	cor = -0.428	partial.cor = -0.066	partial.cor = 0.033	partial.cor = 0.112	partial.cor = -0.075	partial.cor = 0.057	partial.cor = 0.068
	p = 7.34e-09	p = 3.98e-01	p = 6.72e-01	p = 1.49e-01	p = 3.37e-01	p = 4.65e-01	p = 3.82e-01
AA 8 - G - Q - B - B - B - B - B - B - B - B - B	cor = -0.411	partial.cor = 0.258	partial.cor = 0.12	partial.cor = 0.511	partial.cor = 0.235	partial.cor = 0.335	partial.cor = 0.369
	p = 2,07e-18	p = 1.11e-07	p = 1.43e-02	p = 1.02e-28	p = 1.24e-06	p = 2.53e-12	p = 7.61e-15
AB 8 Q A A A A A A A A A A A A A A A A A A	cor = -0.067	partial.cor = 0.301	partial.cor = 0.112	partial.cor = 0.003	partial.cor = -0.126	partial.cor = -0.104	partial.cor = 0.225
	p = 4.30e-01	p = 3.21e-04	p = 1.91e-01	p = 9.74e-01	p = 1.38e-01	p = 2.27e-01	p = 7.82e-03
AC 9 6 6 9 SARC	cor = -0.154	partial.cor = 0.134	partial.cor = 0.308	partial.cor = 0.272	partial.cor = 0.13	partial.cor = 0.207	partial.cor = 0.168
	p = 1.56e-02	p = 3.90e-02	p = 1.16e-06	p = 1.94e-05	p = 4.63e-02	p = 1.18e-03	p = 8.98e-03
DNASE1L3 Expression Level (log2 RSEM)	or = -0.567	partial.cor = 0.226	partial.cor = 0.164	partial.cor = 0.239	partial.cor = 0.105	partial.cor = 0.073	partial.cor = 0.206
	p = 1.31e-38	p = 1.36e 06	p = 5.73e−04	p = 3.15e 07	p = 2.52e-02	p = 1,22e-01	p = 1.18e <sub>e</sub> 05
AE 7.5 5.0 kauman 2.5 8.8 8.8 8.8 8.8 8.8 8.8 8.8 8.8 8.8 8	cor = *0.487	partial.cor = 0.021	partial.cor = -0.056	partial.cor = 0.1	partial.cor = 0.039	partial.cor = -0.109	partial.cor = -0.075
	p = 1.87e-07	p = 8.36e-01	p = 5.80e-01	p = 3.21e-01	p = 6.99e-01	p = 2.80e-01	p = 4.58e-01
AF 9 SKCM-Metastasis	gor = -0.566 p ≠ 1.66e-31	partial.cor = 0.298 p = 1.66e 08	partial.cpr = 0.24 p ≠ 8.30e-06	partial.cor = 0.303 p = 1.01e+08	partial.cor = 0.133 p = 1.28e-02	partial.cor = 0.152 p = 4.28e-03	partial.cor = 0.308 p = 5.39ee 09
AG GATS	cor = -0.174	partial.cor = 0.192	partial.cor = 0.391	partial.cor = 0.272	partial.cor = 0.197	partial.cor = 0.279	partial.cor = 0.315
	p = 6.65e-04	p = 2.10e-04	p = 5.83e-15	p = 1.21e-07	p = 1.39e-04	p = 4.40e-08	p = 5.22e-10
AH 10 LODE	cor = -0.586	partial.cor = 0.465	partial.cor = 0.172	partial.cor = 0.505	partial.cor = 0.138	partial.cor = 0.421	partial.cor = 0.436
	p = 5.17e-15	p = 3.08e-09	p = 3.78e-02	p = 7.68e-11	p = 9.57e-02	p = 1.07e-07	p = 3.91e-08
AI 9 POPL	cor = 0.016	partial.cor = -0.09	partial.cor = 0.015	partial.cor = -0.226	partial.cor = -0.012	partial.cor = -0.226	partial.cor = -0.246
	p = 7.22e-01	p = 4.81e-02	p = 7.48e-01	p = 4.38e-07	p = 7.99e-01	p = 4.44e-07	p = 3.88e-08
AJ <sub>9</sub> , MAH	cor = -0.166	partial.cor = 0.038	partial.cor = 0.123	partial.cor = 0.405	partial.cor = -0.18	partial.cor = 0.022	partial.cor = 0.274
	p = 7.53e-02	p = 6.86e-01	p = 1.91e-01	p = 1.01e-05	p = 5.53e-02	p = 8.18e-01	p = 3.13e-03
AK 7.5	cor = -0.259	partial.cor = 0.453	partial.cor = 0.089	partial.cor = 0.441	partial.cor = 0.279	partial.cor = 0.079	partial.cor = 0.299
	p = 6.81e-06	p = 4.66e-16	p = 1.29e-01	p = 2.94e-15	p = 1.24e-06	p = 1.78e-01	p = 2.02e-07
2.5 0.0 AL 3 SS	cor = -0.118	partial.cor = 0.045	partial.cor = -0.122	partial.cor = 0.32	partial.cor = 0.156	partial.cor = 0.148	partial.cor = 0.246
	p = 3.97e-01	p = 7.50e-01	p = 3.85e-01	p = 1.94e-02	p = 2.64e-01	p = 2.89e-01	p = 7.58e-02
0. 10.0 AM 7.5	ca = 0,045 p = 6,93e-01	partial.cor = -0.204 p = 7.85e-02	partial.con= 0.057 p = 6.21e-01	pertial.cor = 0.128 p = 2.71e-01	partial.cor = 0.336 p = 6.60e-03	partial.cor = -0.05 p = 6.65e-01	partial.cor = -0.07 p = 5.95e-01
2.5		0.0 0.1 0.2 0.3 0.4 0.5	0.0 0.2 0.4 0.6	0.0 0.1 0.2 0.3 0.4 0.5 Infiltration Level	0.0 0.1 0.2 0.3 0.4	0.0 0.1 0.2 0.3	0.0 0.5 1.0

**Supplementary Figure. 4** The correlation between DANSE1L3 expression and immune infiltration levels in all cancers in TIMER. ACC: adrenocortical carcinoma (A); BLCA: bladder urothelial carcinoma(**B**); BRCA: breast invasive carcinoma(**C**, **D**, **E**,**F**); CESC: cervical squamous cell carcinoma and endocervical adenocarcinoma(G); CHOL: cholangio carcinoma(H); COAD: colon adenocarcinoma(I); DLBC: lymphoid neoplasm diffuse large Bcell lymphoma(**J**); ESCA: esophageal carcinoma(**K**); GBM: glioblastoma multiforme(**L**); HNSC: head and neck squamous cell carcinoma(**M**, **N**,**O**); KICH: kidney chromophobe(**P**); KIRC: kidney renal clear cell carcinoma(**Q**); KIRP: kidney renal papillary cell carcinoma(**R**); LGG: brain lower grade glioma(S); LIHC: liver hepatocellular carcinoma(T); LUAD: lung adenocarcinoma(U); LUSC: lung squamous cell carcinoma(V); MESO: mesothelioma(W); OV: ovarian serous cystadenocarcinoma(X); PAAD: pancreatic adenocarcinoma(Y); PCPG: pheochromocytoma and paraganglioma(**Z**) PRAD: prostate adenocarcinoma(**AA**); READ: rectum adenocarcinoma(AB); SARC: sarcoma(AC); SKCM: skin cutaneous melanoma(AD, **AE,AF**); STAD: stomach adenocarcinoma(**AG**); TGCT: testicular germ cell tumors(**AH**); THCA: thyroid carcinoma(AI); THYM: thymoma(AJ); UCEC: uterine corpus endometrial carcinoma(AK); UCS: uterine carcinosarcoma(AL); UVM: uveal melanoma(AM).

### Supplementary Table 1. DNASE1L3 expression in tumors and normal tissues in OncoMine database.

Cancer	Cancer type	P-value	t-Test	Fold change	Rank (Top%)	Sample	Reference (PMID)
Breast Cancer	Invasive Ductal Breast Carcinoma Stroma	1.85E-04	-4.429	-3.051	2%	66	19187537
	Invasive Ductal Breast Carcinoma	2.42E-37	-20.816	-8.874	2%	593	TCGA
	Invasive Breast Carcinoma	8.63E-18	-9.924	-5.312	5%	593	TCGA
	Invasive Lobular Breast Carcinoma	3.16E-11	-7.966	-4.378	5%	593	TCGA
	Mucinous Breast Carcinoma	9.33E-04	-6.985	-5.794	6%	593	TCGA
	Invasive Breast Carcinoma	3.10E-08	-7.26	-2.194	4%	2,136	22522925
	Tubular Breast Carcinoma	2.88E-26	-12.294	-2.072	4%	2,136	22522925
	Mucinous Breast Carcinoma	1.02E-15	-9.491	-2.037	7%	2,136	22522925
0 10	Invasive Ductal Breast Carcinoma	1.65E-39	-17.657	-2.201	8%	2,136	22522925
Cervical Cancer Colorectal Cancer	Cervical Squamous Cell Carcinoma Colon Adenocarcinoma	6.26E-08	-6.111	-3.216	2%	66 237	18506748
Colorectal Calicer	Rectal Adenocarcinoma	2.36E-26 4.45E-18	-14.133 -11.06	-4.535 -5.583	1% 4%	237	TCGA TCGA
	Colon Mucinous Adenocarcinoma	2.95E-09	-8.998	-3.363	4% 7%	237	TCGA
	Cecum Adenocarcinoma	5.54E-10	-8.791	-11.903 -4.706	8%	237	TCGA
	Colon Adenocarcinoma	4.30E-10	-7.473	-2.492	2%	123	17640062
	Colon Carcinoma	1.32E-07	-9.898	-2.492 -7.401	4%	40	20957034
	Colon Adenoma	9.59E-08	-6.079	-2.138	4%	64	18171984
	Rectosigmoid Adenocarcinoma	7.80E-05	-5.653	-2.758	5%	105	17615082
	Colon Mucinous Adenocarcinoma	2.25E-05	-6.541	-3.11	5%	105	17615082
	Cecum Adenocarcinoma	3.74E-05	-6.031	-2.848	6%	105	17615082
	Colon Adenocarcinoma	1.18E-04	-7.857	-3.055	10%	105	17615082
	Colorectal Carcinoma	2.38E-08	-6.409	-3.91	6%	105	20957034
	Rectal Adenocarcinoma	7.62E-18	-10.705	-4.195	8%	130	20725992
	Colorectal Carcinoma	3.26E-07	-7.847	-5.761	8%	82	20143136
Esophageal Cancer	Esophageal Adeocarcinoma	9.10E-17	-10.738	-4.142	4%	118	21152079
1 0	Barrett's Esophagus	1.34E-08	-8.124	-4.964	9%	118	21152079
	Esophageal Squamous Cell Carcinoma	5.24E-06	-5.802	-4.633	8%	34	20955586
Gastric Cancer	Gastric Mixed Adenocarcinoma	4.06E-07	-7.565	-3.146	1%	90	21447720
	Difffuse Gastric Adenocarcinoma	1.38E-09	-7.285	-2.813	1%	90	21447720
	Gastric Intestinal Type Adenocarcinoma	3.52E-04	-3.817	-2.069	5%	90	21447720
Head and Neck Cancer	Tongue Squamous Cell Carcinoma	3.79E-06	-5.522	-4.299	1%	38	18254958
	Nasopharyngeal Carcinoma	3.26E-06	-5.717	-2.629	1%	41	16912175
	Head and Neck Squamous Cell Carcinoma	1.39E-12	-11.411	-6.99	3%	54	14729608
	Oral Cavity Squamous Cell Carcinoma	1.99E-12	-9.539	-3.928	3%	79	21853135
Kidney Cancer	Non-Hereditary Clear Cell Renal Cell Carcinoma	9.65E-09	-7.744	-4.903	2%	70	19470766
	Hereditary Clear Cell Renal Cell Carcinoma	1.01E-06	-6.103	-3.269	6%	70	19470766
r 1 .	Papillary Renal Cell Carcinoma	2.61E-06	-6.553	-2.311	11%	92	16115910
Leukemia	Renal Pelvis Urothelial Carcinoma	1.96E-04	-5.389	-2.526	14%	92 75	16115910
Liver Cancer	Hepatocellular Carcinoma	9.30E-16	-12.255	-10.303	1%	75 43	17393520
	Hepatocellular Carcinoma	6.15E-17	-17.011	-12.378	1%	43	21159642
	Hepatocellular Carcinoma	6.67E-97	-28.108	-7.653	1%	445 197	21159642 12058060
Lung Cancer	Hepatocellular Carcinoma  Lung Adenocarcinoma	1.49E-36 1.38E-10	-16.14 -7.756	-8.386 -2.655	1% 2%	66	
Lung Cancer	Lung Adenocarcinoma  Lung Adenocarcinoma		-7.730 -17.797	-2.033 -5.22	2%	116	17540040
	Lung Adenocarcinoma  Lung Adenocarcinoma	8.62E-28 1.33E-17	-17.797	-5.22 -5.127	2%	156	22613842
	Squamous Cell Lung Carcinoma	5.93E-17	-8.858	-3.127 -4.709	8%	156	20421987 20421987
	Large Cell Lung Carcinoma	1.18E-05	-5.305	-4.709 -4.559	14%	156	20421987
	Lung Adenocarcinoma	4.60E-22	-13.452	-2.469	2%	107	18297132
	Lung Adenocarcinoma  Lung Adenocarcinoma	1.64E-13	-9.937	-5.326	2%	50	22726390
	Lung Adenocarcinoma	1.28E-09	-8.944	-3.914	7%	246	22080568
Lymphoma	Follicular Lymphoma	6.92E-10	7.44	3.523	8%	136	19412164
Lymphoma	Angioimmunoblastic T Cell Lymphoma	6.91E-04	5.07	10.218	17%	60	17304354
	Unspecified Peripheral T Cell Lymphoma	4.92E-04	3.548	2.388	27%	60	17304354
Ovarian Cancer	Ovarian Serous Adenocarcinoma	6.60E-11	-9.63	-39.6	4%	53	19486012
Pancreatic Cancer	Pancreatitis	2.40E-04	-5.862	-2.077	3%	27	12750293

	Pancreatic Adenocarcinoma	4.64E-06	-7.006	-2.57	3%	27	12750293
Sarcoma	Synovial Sarcoma	6.90E-05	-4.956	-5.298	2%	54	15994966
	Malignant Fibrous Histiocytoma	3.76E-04	-4.103	-3.996	4%	54	15994966
Other Cancers	Pleural Malignant Mesothelioma	1.69E-06	-6.67	-2.234	2%	54	15920167
	Pleural Malignant Fibrous Histiocytoma	3.76E-04	-4.103	-3.996	4%	54	15994966

### Supplementary Table 2A The correlation between immune molecular sets and DNASE1L3 in various cancers

Discription	Geng markers		HNSC	(n=520)		KIRP(n=290)				LIHC (n=371)			
		No	one	Pu	rity	No	one	Pu	rity	No	None		rity
		Cor	P	Cor	$\boldsymbol{P}$	Cor	P	Cor	$\boldsymbol{P}$	Cor	P	Cor	$\boldsymbol{P}$
CD8+T cell	CD8A	0.370	****	0.314	****	0.320	****	0.283	****	0.168	**	0.088	0.101
	CD8B	0.352	****	0.303	****	0.338	****	0.292	****	0.132	*	0.058	0.284
T cell (genenral)	CD3D	0.440	****	0.385	****	0.374	****	0.334	****	0.017	0.745	0.133	*
(genemar)	CD3E	0.422	****	0.361	****	0.364	****	0.334	****	0.017	**	0.029	0.588
	CDSE	0.122		0.501		0.501		0.515		0.150		-	0.500
	CD2	0.395	****	0.335	****	0.352	****	0.306	****	0.115	*	0.003	0.959
B cell	CD19	0.362	****	0.313	****	0.166	**	0.146	*	0.044	0.401	0.039	0.472
	CD79A	0.366	****	0.324	****	0.231	****	0.207	***	0.171	***	0.075	0.164
Monocyte	CD86	0.143	**	0.048	0.286	0.373	****	0.359	****	0.022	0.677	0.138	*
·	CD115/CGD1D)	0.217	****	0.100	**	0.204	****	0.260	****	0.110		- 0.025	0.641
TAM	CD115(CSF1R) CCL2	0.217 0.139	**	0.120 0.047	0.300	0.284 0.284	****	0.269 0.253	****	0.119 0.197	*	0.025 0.079	0.641 0.141
TAW	CCL2	0.139		0.047	0.300	0.264		0.233		0.197		0.079	0.141
	CD68	0.093	*	0.040	0.376	0.254	****	0.216	***	0.023	0.666	0.142	**
	IL10	0.169	***	0.073	0.107	0.403	****	0.403	****	0.034	0.519	0.108	*
MI Macrophage	INOS(NOS2)	0.100	*	0.114	*	0.081	0.168	0.055	0.375	0.185	***	0.173	**
	IRF5	0.214	****	0.207	****	0.114	0.054	0.092	0.141	0.109	*	0.130	*
	COX2(PTGS2)	0.075	0.085	0.052	0.250	0.176	**	0.179	**	0.146	**	0.005	0.924
M2	CD162	0.060	0.116	0.021	0.640	0.250	****	0.272	****	0.240	****	0.142	**
Macrophage	CD163	0.069	0.116	0.021	0.640	0.359	4444	0.372	4.4.4.4	0.240	40.40.40.40	0.143	44-4
	VSIG4	0.031	0.480	0.053	0.239	0.306	****	0.313	****	0.084	0.106	0.053	0.329
	MS4A4A	0.111	*	0.022	0.629	0.472	****	0.468	****	0.180	***	0.053	0.329
Neutrophils	CD66b(CEACAM8)	0.096	*	0.081	0.071	0.053	0.365	0.019	0.760	0.019	0.721	0.014	0.794
	CD11b(ITGAM)	0.128	**	0.068	0.134	0.213	***	0.209	***	0.237	****	0.371	****
	CCR7	0.128	****	0.008	0.134	0.213	****	0.209	****	0.237	****	0.371	***
Natural killer	CCIC	0.500		0.320	0.000	-		-		0.270		0.100	
cell	KIR2DL1	0.152	***	0.130	**	0.012	0.839	0.024	0.697	0.140	**	0.137	*
	KIR2DL3	0.147	***	0.116	**	0.006	0.918	0.001	0.989	0.018	0.727	0.009	0.874
	KIR2DL4	0.310	****	0.271	****	0.120	*	0.112	0.072	0.019	0.719	0.003	0.960
	KIR3DL1	0.161	***	0.124	**	0.160	**	0.152	*	0.114	*	0.096	0.074
	KIR3DL2	0.228	****	0.192	****	0.059	0.319	0.043	0.491	0.147	**	0.122	*
	KIR3DL3	0.113	**	0.079	0.081	0.005	0.937	0.023	0.711	0.040	0.442	0.028	0.603
	KIR2DS4	0.113	**	0.075	0.063	0.053	0.371	0.023	0.510	0.166	**	0.174	**
Dendritic cell	HLA-DPB1	0.356	****	0.289	****	0.501	****	0.491	****	0.167	**	0.061	0.255
Denorate cell	HLA-DQB1	0.330	****	0.289	****	0.357	****	0.305	****	0.132	*	0.001	0.255
	HLA-DQB1 HLA-DRA	0.248	****	0.192	****	0.337	****	0.303	****	0.132	**	0.032	0.555
			****	0.271	****		****	0.476	****		**	0.022	
	HLA-DPA1	0.342	****		****	0.467	****		****	0.161			0.401 ****
	BDCA-1(CD1C)	0.321	*	0.252	4-4-4-4	0.254	********	0.242	4.4.4.4.4	0.372	0.000	0.303	4-4-4-4

	BDCA4(NRP1)	0.002	0.956	0.082	0.069	0.180	**	0.205	***	0.027	0.606	0.021	0.695
Th1	CD11c(ITGAX) T-bet(TBX21)	0.206 0.341	****	0.130 0.289	**	0.290 0.392	****	0.265 0.352	****	0.030 0.298	0.570 ****	0.187 0.225	***
	STAT1	0.191	****	0.136	**	0.165	**	0.171	**	0.036	0.493	0.097	0.071
	STAT4	0.198	****	0.127	**	0.073	0.218	0.066	0.290	0.025	0.627	0.046	0.394
	IFN-γ(IFNG)	0.294	****	0.245	****	0.016	0.780	0.002	0.975	0.021	0.687	0.088	0.101
	TNF-α(TNF)	0.098	*	0.054	0.231	0.166	**	0.152	*	0.007	0.895	0.148	**
Th2	GATA3 STAT5A	0.180 0.289	****	0.134 0.228	**	0.210 0.355	***	0.203 0.320	**	0.078 0.129	0.135	0.050	0.356 0.208
	STAT6	0.289	*	0.228	*	0.333	0.379	0.320	0.632	0.129	***	0.008	***
	IL13	0.182	****	0.133	**	0.006	0.919	0.026	0.675	0.023	0.653	0.029	0.595
Tfh	BCL6	0.022	0.617	0.066	0.142	0.287	****	0.320	****	0.058	0.264	0.037	0.499
	IL21	0.262	****	0.226	****	0.042	0.475	0.058	0.356	0.012	0.812	0.050	0.353
Th17	STAT3	0.218	****	0.183	****	0.135	*	0.186	**	0.001	0.990	0.084	0.120
Treg	IL17A FOXP3	0.242 0.319	****	0.211 0.255	****	0.007 0.060	0.910 0.307	0.009 0.039	0.882 0.538	0.018 0.136	0.727 **	0.008 0.057	0.881 0.294
	CCR8	0.242	****	0.173	***	0.098	0.095	0.075	0.229	0.110	*	0.214	****
	STAT5B	0.058	0.189	0.009	0.843	0.084	0.154	0.129	*	0.239	****	0.283	****
T cell	TGF-β(TGFB1)	0.110	*	0.148	***	0.074	0.210	0.054	0.388	0.057	0.269	0.170	**
exhaustion	PD-1(PDCD1)	0.358	****	0.306	****	0.145	*	0.118	0.058	0.057	0.270	0.159	**
	CTLA4	0.319	****	0.257	****	0.234	****	0.220	***	0.101	0.053	0.222	****
	LAG3	0.328	****	0.285	****	0.178	**	0.149	*	0.063	0.224	0.036	0.510
	TIM-3(HAVCR2)	0.210	****	0.131	**	0.362	****	0.365	****	0.081	0.120	0.265	****
	GZMB	0.330	****	0.282	****	0.170	**	0.153	*	0.255	****	0.199	****

TAM: tumor-associated macrophage; Th: T helper cell; Tfh: Follicular helper T cell; Treg: regulatory T cell; Cor, R value of Spearman's correlation; None, correlation without adjustment. Purity, correlation adjusted by purity. Red fonts stands for P value with adjustment. \*P < 0.05; \*\*P < 0.01; \*\*\*P < 0.001; \*\*\*\*P < 0.001.

#### Supplementary Table 2B The correlation between immune molecular sets and DNASE1L3 in various cancers

Discription	Geng markers	Sarcoma SARC (n=259)			Skir		ous Melar (n=103)	noma	Uterine Corpous Endometrial Carcinoma UCEC (n=545)				
		No	one	Pu	rity	No	one	Pu	rity	No	one	Purity	
		Cor	P	Cor	P	Cor	P	Cor	$\boldsymbol{P}$	Cor	P	Cor	$\boldsymbol{P}$
CD8+T cell	CD8A	0.371	****	0.328	****	0.503	****	0.244	****	0.460	****	0.435	****
	CD8B	0.431	****	0.401	****	0.543	****	0.298	****	0.374	****	0.348	****
T cell													
(genenral)	CD3D	0.437	****	0.409	****	0.650	****	0.441	****	0.557	****	0.558	****
	CD3E	0.445	****	0.416	****	0.652	****	0.447	****	0.575	****	0.573	****
	CD2	0.454	****	0.426	****	0.604	****	0.369	****	0.523	****	0.523	****
B cell	CD19	0.260	****	0.217	***	0.603	****	0.455	****	0.398	****	0.373	****
	CD79A	0.365	****	0.322	****	0.585	****	0.404	****	0.483	****	0.426	****
Monocyte	CD86	0.263	****	0.199	**	0.474	****	0.195	****	0.433	****	0.432	****
·	CD115(CSF1R)	0.320	****	0.275	****	0.437	****	0.182	****	0.456	****	0.420	****
TAM	CCL2	0.308	****	0.260	****	0.431	****	0.195	****	0.274	****	0.315	****

	CD68	0.193	**	0.109	0.088	0.294	****	0.041	0.386	0.350	****	0.301	****
MI	IL10	0.168	**	0.071	0.267	0.310	****	0.037	0.433	0.112	**	0.098	0.094
Macrophage	INOS(NOS2)	0.178	**	0.157	*	0.095	*	0.091	0.051	0.184	****	0.166	**
	IRF5	0.307	****	0.249	****	0.475	****	0.225	****	0.232	****	0.206	***
	COX2(PTGS2)	0.035	0.572	0.006	0.924	0.002	0.960	0.106	*	0.128	**	0.107	0.067
M2 Macrophage	CD163	0.248	****	0.181	**	0.276	****	0.006	0.893	0.218	****	0.172	**
	Marca	0.202	ate ate	0.106	0.050	0.210	26 26 26 26	-	0.005	0.262	ate ate ate	0.100	**
	VSIG4	0.203 0.354	**	0.126 0.322	0.050 ****	0.218 0.393	****	0.049 0.138	0.295 **	0.263 0.385	****	0.188 0.337	****
	MS4A4A	0.554		0.322		0.393		0.138		0.383		0.337	4-4-4-4
Neutrophils	CD66b(CEACAM8)	0.005	0.933	0.009	0.888	0.023	0.621	0.002	0.963	0.093	*	0.077	0.191
_	CD11b(ITGAM)	0.253	****	0.190	**	0.322	****	0.083	0.077	0.398	****	0.384	****
	CCR7	0.566	****	0.543	****	0.738	****	0.591	****	0.578	****	0.553	****
Natural killer													
cell	KIR2DL1	0.216	***	0.181	**	0.220	****	0.055	0.242	0.254	****	0.203	***
	KIR2DL3	0.327	****	0.295	****	0.357	****	0.132	**	0.221	****	0.204	***
	KIR2DL4	0.213	***	0.155	*	0.409	****	0.170	***	0.284	****	0.270	****
	KIR3DL1	0.359	****	0.333	****	0.400	****	0.208	****	0.299	****	0.285	****
	KIR3DL2	0.278	****	0.269	****	0.465	****	0.271	****	0.245	****	0.271	****
	KIR3DL3	0.169	**	0.165	**	0.118	*	0.062	0.183	0.222	****	0.229	****
D 122 11	KIR2DS4	0.223	****	0.200	****	0.316	****	0.172	****	0.275	****	0.290	****
Dendritic cell	HLA-DPB1	0.363	****	0.324	***	0.543	****	0.287	****	0.448	****	0.441	****
	HLA-DQB1	0.289	****	0.239	****	0.514	****	0.266	****	0.333	****	0.343	****
	HLA-DRA HLA-DPA1	0.341 0.367	****	0.297	****	0.524	****	0.254	****	0.344	****	0.338	****
		0.565	****	0.329 0.549	****	0.510 0.720	****	0.264 0.601	****	0.426 0.534	****	0.427 0.519	****
	BDCA-1(CD1C)	0.078	0.207	0.049		0.720	***	0.001	0.907	0.237	****	0.319	**
	BDCA4(NRP1) CD11c(ITGAX)	0.078	**	0.040	0.536 *	0.177	****	0.003	***	0.237	****	0.173	****
Th1	T-bet(TBX21)	0.192	****	0.155	****	0.550	****	0.192	***	0.498	****	0.480	****
1111	STAT1	0.462	****	0.438	***	0.280	****	0.303	0.351	0.458	0.178	0.499	0.201
	STAT4	0.441	****	0.418	****	0.575	****	0.367	****	0.507	****	0.500	****
	IFN-γ(IFNG)	0.303	****	0.253	****	0.408	****	0.133	**	0.252	****	0.249	****
	TNF-α(TNF)	0.146	*	0.094	0.143	0.522	****	0.296	****	0.050	0.245	0.044	0.458
Th2	GATA3	0.098	0.116	0.041	0.520	0.620	****	0.410	****	0.352	****	0.328	****
	STAT5A	0.385	****	0.360	****	0.233	****	0.230	****	0.299	****	0.247	****
	STAT6	0.336	****	0.358	****	0.143	**	0.149	**	0.156	***	0.172	**
	IL13	0.183	**	0.167	**	0.181	****	0.090	0.053	0.153	***	0.205	***
Tfh	BCL6	0.210	***	0.212	***	0.259	****	0.133	**	0.054	0.204	0.064	0.273
	IL21	0.194	**	0.132	*	0.346	****	0.177	***	0.080	0.063	0.081	0.169
Th17	STAT3	0.233	***	0.256	****	0.134	**	0.025	0.592	0.040	0.352	0.037	0.525
		-		-				-					
	IL17A	0.024	0.699	0.045	0.480	0.002	0.969	0.061	0.194	0.034	0.433	0.053	0.367
Treg	FOXP3	0.218	***	0.162	*	0.651	****	0.471	****	0.416	****	0.443	****
	CCR8	0.279	****	0.236	***	0.517	****	0.311	****	0.246	****	0.253	****
	STAT5B	0.315	****	0.405	****	0.190	****	0.188	****	0.254	****	0.217	***
T cell	TGF- $\beta$ (TGFB1)	0.007	0.910	0.095	0.141	0.264	****	0.039	0.411	0.318	****	0.289	****
exhaustion	PD-1(PDCD1)	0.291	****	0.235	***	0.524	****	0.274	****	0.399	****	0.383	****
	CTLA4	0.293	****	0.242	***	0.333	****	0.091	0.051	0.451	****	0.425	****
	LAG3	0.192	**	0.143	*	0.458	****	0.192	****	0.362	****	0.361	****
	TIM-3(HAVCR2)	0.198	**	0.118	0.065	0.426	****	0.111	*	0.421	****	0.394	****
	GZMB	0.304	****	0.262	****	0.543	****	0.290	****	0.301	****	0.294	****
				-									

TAM: tumor-associated macrophage; Th: T helper cell; Tfh: Follicular helper T cell; Treg: regulatory T cell; Cor, R value of Spearman's correlation; None, correlation without adjustment. Purity, correlation adjusted by purity. Red fonts stands for P value with adjustment. \*P < 0.05; \*\*\*P < 0.01; \*\*\*\*P < 0.001; \*\*\*\*P < 0.0001.

# **Supplementary Table 3A** Correlation analysis between DNASE1L3 and immune cells in tumor/normal tissue of TCGA through GEPIA2

Description	Gene Markers		HN	ISC			KIRP				LIHC			
		Tumor		Norma	1	Tumor		Norma	1	Tumor		Norma	1	
		R	P	R	P	R	P	R	P	R	P	R	P	
DCs	HLA-DPB1	0.320	****	0.250	0.110	0.470	****	0.092	0.620	0.130	**	0.440	**	
	HLA-DQB1	0.160	***	0.280	0.070	0.260	****	0.088	0.630	0.430	*	0.015	0.920	
	HLA-DRA	0.330	****	0.160	0.300	0.470	****	0.067	0.710	0.110	*	0.470	***	
	HLA-DPA1	0.330	****	0.170	0.260	0.430	****	0.300	0.092	0.140	**	0.450	**	
	BDCA-1(CD1C)	0.320	****	0.420	**	0.270	****	0.160	0.390	0.350	****	0.240	0.088	
	BDCA4(NRP1)	0.061	0.160	0.057	0.710	0.005	0.930	0.230	0.200	0.041	0.430	0.230	0.100	
	CD11c(ITGAX)	0.190	****	0.001	1.000	0.230	***	0.040	0.830	0.019	0.710	0.290	*	
T cell														
exhaustion	PD-1(PDCD1)	0.310	****	0.330	*	0.100	0.083	0.380	*	0.064	0.220	0.210	0.150	
	CTLA4	0.290	****	0.400	**	0.190	**	0.310	0.086	0.130	**	0.100	0.490	
	LAG3	0.280	****	0.350	*	0.140	*	0.081	0.660	0.001	0.980	0.380	**	
	TIM-3(HAVCR2)	0.200	****	0.090	0.560	0.300	****	0.210	0.240	0.095	0.069	0.550	****	
	GZMB	0.270	****	0.380	*	0.110	0.062	0.250	0.160	0.180	***	0.390	**	

HNSC: Head and neck squamous cell carcinoma; KIRP Kidney renal papillary cell carcinoma; LIHC Liver hepatocellular carcinoma; DCs: dendritic cells; Tumor: correlation analysis between DNASE1L3 and immune cell markers in tumor tissue of TCGA through GEPIA2; Normal: correlation analysis between DNASE1L3 and immune cell markers in normal tissue of TCGA through GEPIA2.

# **Supplementary Table 3B** Correlation analysis between DNASE1L3 and immune cells in tumor/normal tissue of TCGA through GEPIA2

Description	Gene Markers		SA	RC.			SKCM	ĺ		UCEC			
		Tumor		Norn	nal	Tumor	Tumor		rmal	Tumor		Normal	
		R	P	R	P	R	P	R	P	R	P	R	P
DCs	HLA-DPB1	0.360	****	-1	1	0.510	****	N	N	0.370	****	0.250	0.400
	HLA-DQB1	0.250	****	-1	1	0.450	****	N	N	0.200	**	0.210	0.490
	HLA-DRA	0.340	****	1	1	0.500	****	N	N	0.260	***	0.220	0.470
	HLA-DPA1 BDCA-	0.370	****	-1	1	0.480	****	N	N	0.350	****	0.190	0.530
	1(CD1C)	0.570	****	-1	1	0.700	****	N	N	0.500	****	0.470	0.110
	BDCA4(NRP1)	0.077	0.220	1	1	0.150	**	N	N	0.290	****	0.660	*
	CD11c(ITGAX)	0.170	**	1	-1	0.370	****	N	N	0.350	****	0.210	0.480
T cell													
exhaustion	PD-1(PDCD1)	0.260	****	1	1	0.510	****	N	N	0.380	****	0.033	0.910
	CTLA4	0.260	****	-1	1	0.300	****	N	N	0.430	****	0.150	0.620
	LAG3	0.150	*	-1	1	0.440	****	N	N	0.360	****	0.320	0.290
	TIM-												
	3(HAVCR2)	0.190	**	1	1	0.400	****	N	N	0.410	****	0.033	0.920
	GZMB	0.270	****	-1	1	0.530	****	N	N	0.290	***	0.200	0.520

SARC: Sarcoma; STAD: stomach adenocarcinoma; SKCM: Skin Cutaneous Melanoma; UCEC Uterine Corpus Endometrial Carcinoma; DCs: dendritic cells; Tumor: correlation analysis between DNASE1L3 and immune cell markers in tumor tissue of TCGA through GEPIA2; Normal: correlation analysis between DNASE1L3 and immune cell markers in normal tissue of TCGA through GEPIA2; N: No results got from GEPIA2.

<sup>\*</sup>*P* < 0.05; \*\**P* < 0.01; \*\*\**P* < 0.001; \*\*\*\**P* < 0.0001.

<sup>\*</sup>*P* < 0.05; \*\**P* < 0.01; \*\*\**P* < 0.001; \*\*\*\**P* < 0.0001.

**Supplementary Table 4.** Clinicopathologic features in our HCC cohorts.

Clinicopathologic		No. of					
parameters	Speci	mens					
	qPCR	IHC					
Sex	22	9					
Female	4	1					
Male	18	8					
Age	22	9					
≤50	8	3					
>50	14	6					
Average	56	54.22					
Drink	22	9					
Yes	8	4					
No	14	5					
AFP	22	9					
≤20 ng/ml	8	3					
20-300 ng/ml	6	3					
≥300 ng/ml	8	3					
Tumor size	22	9					
≤3 cm	2	1					
3-5 cm	6	1					
>5 cm	14	7					
Tumor number	22	9					
=1	18	7					
>1	4	2					
Vascular invasion	22	9					
Yes	16	6					
No	6	3					
Grade	22	9					
I	5	3					
II	9	4					
III	6	2					
IV	2	0					

HCC: Hepatocellular carcinoma

**Supplementary Table 5.** Clinicopathologic features in our LAUD cohort.

Clinian anthalania	No. of
Clinicopathologic	No. of
parameters	Specimens
Sex	20
Female	12
Male	8
Age	20
Average	65
≤50	1
>50	19
CEA	20
≤10ng/ml	11
10-100 ng/ml	7
≥100 ng/ml	2
Tumor number	20
=1	19
>1	1
Vascular invasion	20
Yes	7
No	13
Grade	20
1	8
II	8
III	6

LUAD: Lung adenocarcinoma