

Table s1. Demographic characteristics of patients in the study

Items		1	2	3	4
Age(y)		17	28	62	63
Sex (M/F)		F	F	M	F
Height (cm)		161	163	171	159
Weight(kg)		52	55	65	62
Diagnosis		Ovarian teratoma	Ovarian teratoma	Meningioma	Knee osteoarthritis
Operation		Laparoscopic tumor resection	Laparoscopic tumor resection	Intracranial tumor resection	Knee replacement
Operation time		2 h	2 h	4h	2h
Incision type		Minor	Minor	Major	Major
Anesthetics		Propofol	Sevoflurane	Propofol + Sevoflurane	Propofol + Sevoflurane
WBC (x10 ⁹ /L)	Pro-	8.04	5.46	6.6(65.3%)	4.2
	Post-			9.6	
	24			11.4	11.79
	48			8.1	
Neutrophils (x10 ⁹ /L)	Pro-	5.62	2.63	4.33(8.4%)	2.1(49.7%)
	Post-			8.96(93.4%)	
	24			10.15(89.3%)	10.56(89.5%)
	48			6.05(74.7%)	
Monocytes (x10 ⁹ /L)	Pro-	0.6	0.45	8.4%	8.2%
	Post-			0.6%	
	24			3.2%	0.59(5%)
	48			4.5%	
Lymphocyte (x10 ⁹ /L)	Pro-	1.66	2.26	1.65(24.9%)	1.62(38.4%)
	Post-			0.57(5.9%)	
	24			0.82(7.2%)	0.62% (5.3)
	48			1.65(20.3%)	
Platelet (x10 ⁹ /L)	Pro-	294	440	178	205
	Post-			191	
	24			126	208
	48			156	
Complications		No	No	No	No
Prognosis		Good	Good	Good	Good

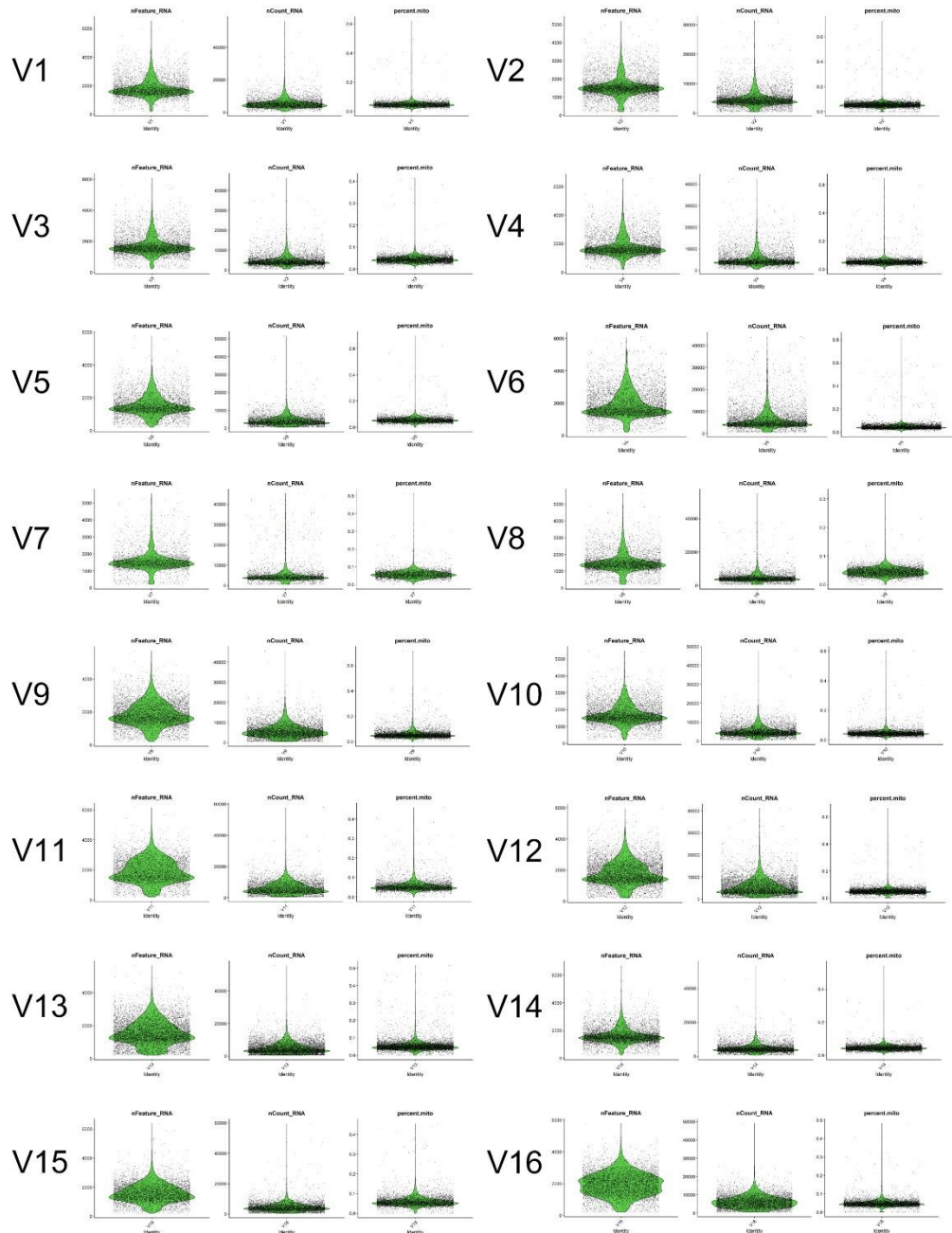


Figure QC. For all 16 sample, we used Seurat R package v4.0.3 to screen low quality cells. Specifically, the cells with $200 < \text{nFeature_RNA} < 4000$, $\text{nCount_RNA} < 20000$ and $\text{percent.mito} < 0.1$ were preserved. The violin plots for quality control were shown.

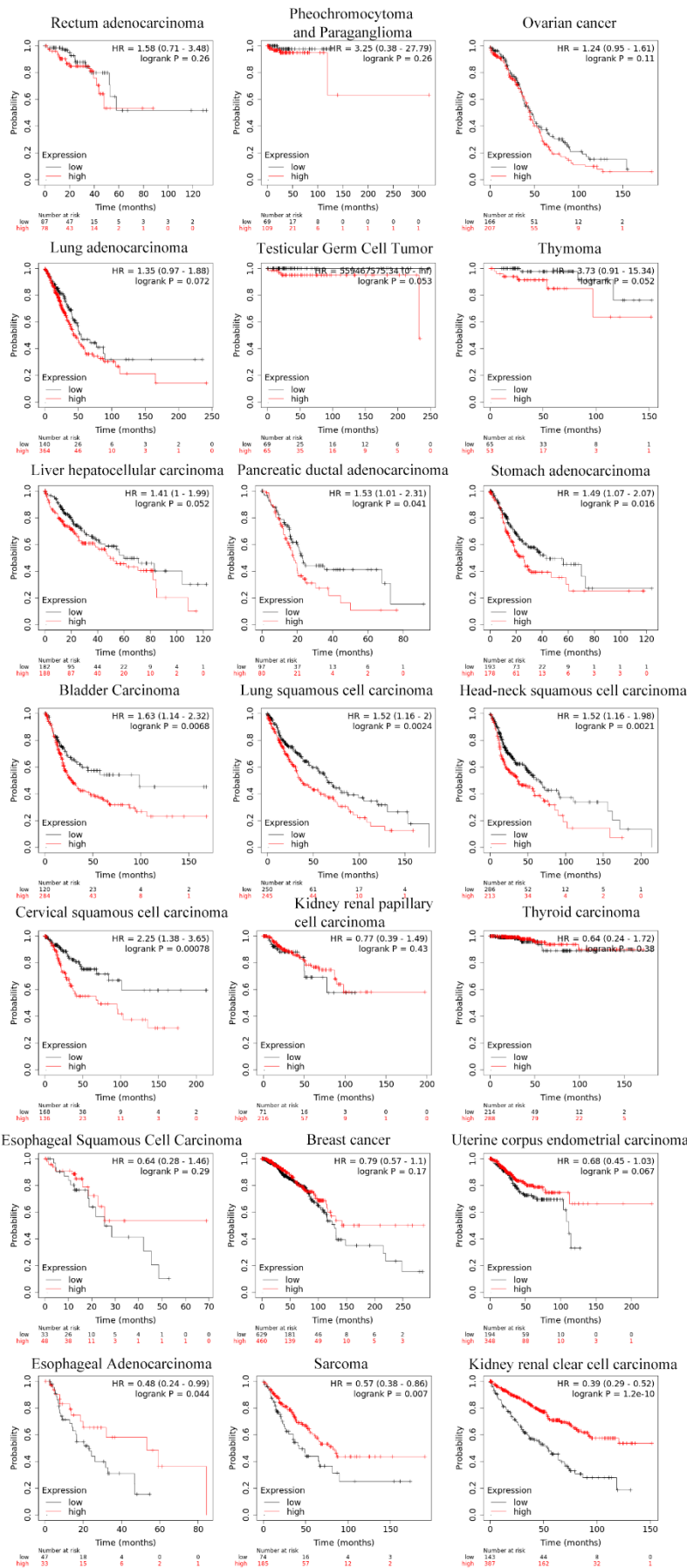


Figure s1. Using the gene markers of cluster 1 as a gene set, the Kaplan-Meier plot shows the high expression of cluster 1 gene set has a worse survival in most cancers in TCGA.

Table s2 Primers' list

Gene symbol	Forward primer (5'-3')	Reverse primer (5'-3')
CDKN1A	CGATGGAACTTCGACTTTGTCA	GCACAAGGGTACAAGACAGTG
SESN1	TCACACACTATCATTCTCTTGCC	ACATTCCTGTAACTGCCTCATCT
MDM2	GGCAGGGGAGAGTGATACAGA	GAAGCCAATTCTCACGAAGGG
GADD45B	TACGAGTCGGCCAAGTTGATG	GGATGAGCGTGAAGTGGATTT