supplementary file 1

SUID	MCODE_Cluster	MCODE_Node_Status	MCODE_Score	name
81	Cluster 3	Clustered	8	FGA
84	Cluster 2	Clustered	16	F2
92	Cluster 1	Clustered	26	CXCL8
93	Cluster 1	Clustered	26	CXCR1
101	Cluster 5	Clustered	5	COL3A1
102	Cluster 5	Clustered	5	COL1A1
104	Cluster 2	Clustered	16	UTS2R
105	Cluster 2	Clustered	16	UTS2
123	Cluster 3	Clustered	8	ALB
124	Cluster 3	Clustered	8	APOA1
127	Cluster 1	Clustered	26	CXCL6
133	Cluster 1	Clustered	26	CXCL1
134	Cluster 1	Clustered	26	CCL20
144	Cluster 1	Clustered	26	CXCL11
146	Cluster 2	Clustered	16	TRH
147	Cluster 2	Clustered	16	OXT
149	Cluster 3	Clustered	8	IL6
154	Cluster 5	Clustered	5	COL6A3
163	Cluster 1	Clustered	26	CXCL5
165	Cluster 2	Clustered	16	F2RL2
183	Cluster 3	Clustered	8	CP
191	Cluster 1	Clustered	26	CXCL3
202	Cluster 3	Clustered	8	AFP
204	Cluster 3	Clustered	7	HP
223	Cluster 1	Clustered	26	C3
225	Cluster 1	Clustered	26	FPR2
264	Cluster 3	Clustered	7	DEFA4
265	Cluster 3	Clustered	7	LTF
276	Cluster 3	Clustered	7	TCN1
287	Cluster 1	Clustered	26	ADCY5
288	Cluster 1	Clustered	26	DRD2
302	Cluster 4	Clustered	10	DRD5
305	Cluster 3	Clustered	7	OLFM4
307	Cluster 1	Clustered	26	CX3CR1
333	Cluster 1	Clustered	26	GNG8
334	Cluster 1	Clustered	26	GNGT1
339	Cluster 1	Clustered	26	GNAT3
349	Cluster 1	Clustered	26	PTGER3
374	Cluster 3	Clustered	7	SLPI
376	Cluster 2	Clustered	16	HTR2C
378	Cluster 1	Clustered	26	NMU
380	Cluster 1	Clustered	26	GRM8

388	Cluster 1	Clustered	26	PPY
389	Cluster 1	Clustered	26	SSTR1
391	Cluster 5	Clustered	5	COL14A1
396	Cluster 3	Clustered	7	PTX3
403	Cluster 2	Clustered	16	GCGR
404	Cluster 4	Clustered	10	IAPP
426	Cluster 5	Clustered	5	COL11A1
430	Cluster 1	Clustered	26	CASR
437	Cluster 1	Clustered	26	OPRD1
442	Cluster 1	Clustered	26	HTR1D
443	Cluster 1	Clustered	26	HTR1B
468	Cluster 2	Clustered	16	EDN3
469	Cluster 2	Clustered	16	PROK1
493	Cluster 5	Clustered	5	COL4A6
503	Cluster 1	Clustered	26	HCAR2
509	Cluster 4	Clustered	10	VIPR2
544	Cluster 4	Clustered	10	MC3R
546	Cluster 2	Clustered	16	HTR2B
570	Cluster 4	Clustered	10	PTGER2
576	Cluster 4	Clustered	10	SCTR
578	Cluster 1	Seed	26	SUCNR1
595	Cluster 3	Clustered	8	ENAM
612	Cluster 4	Seed	10	PTGDR
647	Cluster 2	Seed	16	OPN4
726	Cluster 3	Seed	8	SCG2

Supplementary file 2. P-value of OS and DFS for the 22 hub-genes.

Genes	OS (P-value)	DFS (P-value)
C3	0.02	0.041
PTGER3	0.042	0.2
GRM8	0.044	0.36
HTR1B	0.33	0.41
CX3CR1	0.036	0.021
SUCNR1	0.046	0.075
SSTR1	0.018	0.04
OPRD1	0.89	0.86
CXCL5	0.13	0.32
CXCR1	0.68	0.29
CXCL11	0.62	0.66
FPR2	0.73	0.34
CXCL1	0.7	0.66
GNGT1	0.012	0.016
CXCL8	0.005	0.032
GNAT3	0.047	0.2
CXCL6	0.28	0.67
CXCL3	0.074	0.32
PPY	0.013	0.083
HCAR2	0.009	0.012
DRD2	0.19	0.3
HTR1D	0.38	0.005

OS= overall survival; DFS=disease-free survival.

Supplementary file 3. characteristics of the patients for miRNAs.

Parameter	Alive (51)	Dead (28)	P
Age (years)	45.96±15.21	48.95±15.81	0.37
Gender			0.759(χ^2=0.094)
Female	31	18	
Male	20	11	
Stage			0.03(χ^2=10.749)
T1	7(13.7%)	2(7.1%)	
T2	32(62.8%)	10(35.7%)	
T3	5(9.8%)	5(17.9%)	
T4	7(13.7%)	11(39.3%)	
Lymph node			0.514(χ^2=1.33)
N0	44(86.3%)	26(92.9%)	
N1	7(13.7%)	2(7.1%)	
Metastasis			0.099($\chi2$=4.617)
M0	44(86.3%)	20(71.4%)	
M1	7(13.7%)	8(28.6%)	