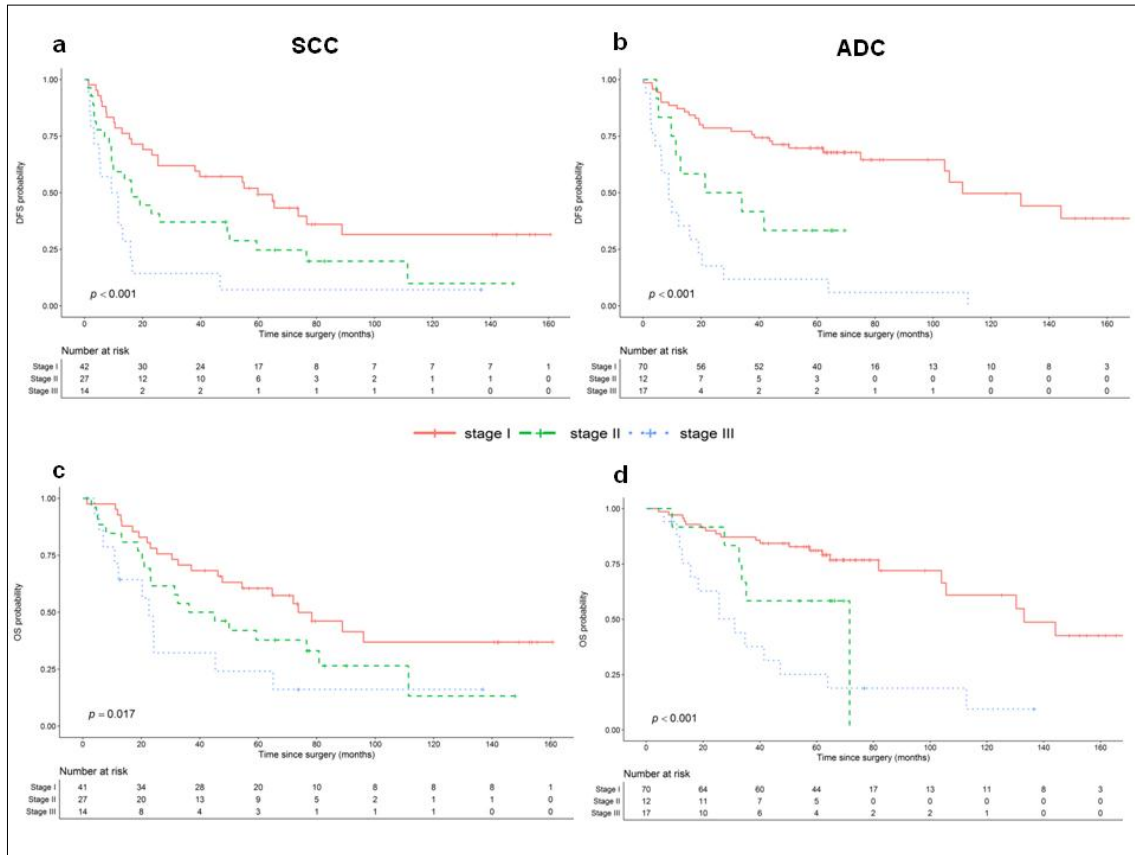


## Supplementary Material



**Figure S1.** PFS and OS Kaplan-Meier curves for SCC patients. Progression free and overall survival risk tables and Kaplan-Meier curves for SCC (panels A and C, respectively) and ADC (panels B and D, respectively) by disease stage I (red solid line), II (green dashed line) and III (cyan dotted line); log-rank p-value for the hypothesis testing of equality of curves between disease stages are also reported.

**Table S1.** miRNAs significantly associated with DFS at univariable analysis for SCC patients.

Rank (j)	Name	HR	95% CI	p value	(j/m)×δ
1	mir-26a-5p	0.57	0.4-0.80	0.00102	0.00074
2	mir-126-3p	0.57	0.4-0.80	0.00147	0.00147
3	mir-130b-3p	0.74	0.59-0.92	0.00775	0.00221
4	mir-205-5p	1.15	1.02-1.29	0.02479	0.00294
5	mir-21-5p	0.66	0.44-0.97	0.03552	0.00368
6	mir-26b-5p	0.78	0.61-1.0	0.05318	0.00441
7	let7a-5p	0.76	0.58-1.01	0.05588	0.00515
8	mir-191-5p	0.83	0.65-1.05	0.12115	0.00588
9	mir-145-5p	1.19	0.93-1.52	0.16318	0.00662
10	mir-122-5p	0.91	0.79-1.05	0.21398	0.00735
11	mir-374a-5p	0.87	0.68-1.1	0.24146	0.00809
12	mir-103a-3p	0.87	0.69-1.1	0.24224	0.00882
13	mir-224-5p	0.9	0.75-1.08	0.26169	0.00956
14	mir-146a-5p	0.85	0.64-1.13	0.26796	0.01029
15	mir-18a-5p	0.89	0.72-1.10	0.29164	0.01103
16	mir-27a-3p	0.83	0.56-1.22	0.33141	0.01176
17	mir-17-3p	0.94	0.82-1.07	0.33518	0.0125
18	mir-100-5p	0.93	0.79-1.09	0.35798	0.01324

19	mir-31-5p	1.05	0.95-1.16	0.36864	0.01397
20	mir-93-5p	1.11	0.89-1.38	0.36984	0.01471
21	mir-143-3p	1.09	0.9-1.32	0.37828	0.01544
22	mir-34a-5p	1.06	0.93-1.21	0.38034	0.01618
23	mir-200c-3p	0.94	0.82-1.09	0.41152	0.01691
24	mir-196a-5p	1.05	0.94-1.17	0.42491	0.01765
25	mir-150-5p	0.91	0.72-1.15	0.45170	0.01838
26	mir-15b-5p	0.9	0.67-1.2	0.47132	0.01912
27	mir-10a-5p	0.94	0.8-1.11	0.47461	0.01985
28	mir-376c-3p	1.06	0.9-1.26	0.49402	0.02059
29	mir-23a-3p	0.89	0.62-1.26	0.49584	0.02132
30	mir-29a-3p	0.89	0.62-1.27	0.51856	0.02206
31	mir-19b-3p	1.07	0.87-1.33	0.52269	0.02279
32	mir-155-5p	1.04	0.92-1.18	0.52432	0.02353
33	mir-106b-5p	1.07	0.86-1.33	0.54846	0.02426
34	mir-200b-3p	0.97	0.86-1.08	0.55663	0.025
35	mir-92a-3p	0.94	0.76-1.17	0.60354	0.02574
36	mir-15a-5p	1.06	0.84-1.34	0.60957	0.02647
37	mir-124-3p	0.96	0.82-1.13	0.61049	0.02721
38	mir-296-5p	1.03	0.91-1.18	0.61123	0.02794
39	mir-75p	0.96	0.80-1.14	0.61688	0.02868
40	mir-107	0.96	0.83-1.12	0.62436	0.02941
41	mir-22-3p	1.03	0.88-1.22	0.68818	0.03015
42	mir-17-5p	0.97	0.82-1.14	0.69963	0.03088
43	mir-885-5p	0.97	0.85-1.12	0.70192	0.03162
44	mir-25-3p	0.96	0.79-1.17	0.71665	0.03235
45	mir-193a-5p	1.04	0.85-1.26	0.71690	0.03309
46	mir-128-3p	0.96	0.75-1.22	0.71741	0.03382
47	mir-19a-3p	1.03	0.86-1.24	0.72668	0.03456
48	mir-148a-3p	1.04	0.85-1.27	0.72932	0.03529
49	mir-20a-5p	1.04	0.83-1.30	0.76348	0.03603
50	mir-10b-5p	0.98	0.86-1.12	0.79229	0.03676
51	mir-30d-5p	0.97	0.73-1.27	0.80383	0.0375
52	mir-134-5p	1.01	0.89-1.15	0.82150	0.03824
53	mir-423-5p	0.97	0.75-1.25	0.82374	0.03897
54	mir-30e-5p	0.96	0.68-1.36	0.83956	0.03971
55	let7c-5p	0.98	0.81-1.18	0.84444	0.04044
56	mir-16-5p	1.02	0.83-1.24	0.86001	0.04118
57	mir-375	0.99	0.86-1.13	0.86015	0.04191
58	mir-210-3p	1.01	0.89-1.14	0.89543	0.04265
59	mir-372-3p	0.99	0.9-1.1	0.91062	0.04338
60	mir-222-3p	0.99	0.76-1.28	0.91127	0.04412
61	mir-214-3p	0.99	0.88-1.13	0.92136	0.04485
62	mir-574-3p	1.01	0.88-1.15	0.92587	0.04559
63	mir-192-5p	0.99	0.84-1.18	0.92675	0.04632
64	mir-223-3p	0.99	0.87-1.14	0.93635	0.04706
65	mir-125b-5p	0.99	0.80-1.23	0.93880	0.04779
66	mir-204-5p	1.00	0.87-1.16	0.95999	0.04853
67	mir-211-5p	1.00	0.88-1.14	0.96169	0.04926
68	mir-195-5p	1.00	0.82-1.23	0.98087	0.05

SCC: squamous cell carcinoma; HR: hazard ratio; 95% CI: 95% confidence interval; m: number of tests (68);  $\delta$ : FDR level (0.05).

**Table S2.** miRNAs significantly associated with DFS at univariable analysis for ADC patients.

Rank (j)	Name	HR	95% CI	p-value	(j/m)×δ
1	mir-222-3p	1.37	1.06-1.76	0.01628	0.00074
2	mir-22-3p	1.23	1.03-1.49	0.02641	0.00147
3	mir-93-5p	1.41	1.02-1.99	0.03713	0.00221
4	mir-19b-3p	1.35	0.99-1.62	0.05898	0.00294
5	mir-574-3p	0.79	0.99-1.35	0.06871	0.00368
6	mir-145-5p	0.83	0.97-1.46	0.09033	0.00441
7	mir-130b-3p	1.17	0.98-1.36	0.09119	0.00515
8	mir-106b-5p	1.25	0.96-1.78	0.09365	0.00588
9	mir-29a-3p	0.87	0.95-1.70	0.10743	0.00662
10	mir-195-5p	1.15	0.95-1.61	0.11995	0.00735
11	mir-92a-3p	1.30	0.65-1.06	0.1315	0.00809
12	mir-192-5p	1.12	0.96-1.26	0.16044	0.00882
13	mir-26a-5p	1.17	0.58-1.09	0.16181	0.00956
14	mir-19a-3p	1.23	0.94-1.45	0.17002	0.01029
15	mir-10a-5p	1.26	0.73-1.07	0.19549	0.01103
16	mir-15a-5p	0.87	0.66-1.09	0.20838	0.01176
17	mir-18a-5p	0.87	0.9-1.59	0.21096	0.0125
18	mir-193a-5p	1.16	0.92-1.40	0.22952	0.01324
19	mir-107	0.89	0.78-1.07	0.25884	0.01397
20	mir-211-5p	1.31	0.77-1.07	0.26275	0.01471
21	mir-17-3p	1.22	0.93-1.32	0.26486	0.01544
22	mir-374a-5p	0.89	0.88-1.5	0.32107	0.01618
23	mir-30e-5p	0.82	0.82-1.84	0.32531	0.01691
24	mir-24-3p	0.86	0.86-1.53	0.34728	0.01765
25	mir-17-5p	0.91	0.85-1.59	0.35172	0.01838
26	mir-103a-3p	0.87	0.85-1.56	0.35288	0.01912
27	mir-16-5p	1.16	0.87-1.45	0.36709	0.01985
28	mir-10b-5p	1.15	0.78-1.10	0.37424	0.02059
29	mir-150-5p	0.93	0.76-1.11	0.39387	0.02132
30	mir-21-5p	0.84	0.63-1.21	0.41665	0.02206
31	mir-196a-5p	0.92	0.85-1.07	0.4246	0.02279
32	mir-124-3p	0.93	0.77-1.12	0.44511	0.02353
33	mir-373-3p	1.14	0.8-1.1	0.44693	0.02426
34	mir-30d-5p	1.12	0.71-1.17	0.47782	0.025
35	mir-15b-5p	1.09	0.84-1.42	0.52196	0.02574
36	mir-376c-3p	0.93	0.80-1.12	0.52692	0.02647
37	mir-885-5p	0.94	0.89-1.25	0.5349	0.02721
38	mir-204-5p	1.05	0.79-1.13	0.54496	0.02794
39	mir-122-5p	0.90	0.78-1.15	0.56932	0.02868
40	mir-25-3p	0.95	0.83-1.40	0.57534	0.02941
41	mir-375	1.06	0.81-1.13	0.57675	0.03015
42	mir-200c-3p	1.08	0.91-1.17	0.61316	0.03088
43	mir-315p	0.95	0.83-1.12	0.61771	0.03162
44	mir-296-5p	0.95	0.85-1.10	0.64285	0.03235
45	let7a-5p	1.08	0.81-1.4	0.65339	0.03309
46	mir-34a-5p	1.04	0.83-1.12	0.65611	0.03382
47	mir-27a-3p	0.95	0.66-1.29	0.65657	0.03456
48	mir-125b-5p	0.97	0.81-1.39	0.65891	0.03529
49	mir-23a-3p	0.98	0.86-1.27	0.66819	0.03603
50	mir-146a-5p	1.05	0.71-1.24	0.67203	0.03676
51	mir-26b-5p	0.98	0.73-1.24	0.70995	0.0375
52	mir-20a-5p	1.03	0.75-1.49	0.75082	0.03824
53	mir-155-5p	0.96	0.86-1.23	0.7608	0.03897
54	mir-224-5p	0.99	0.8-1.18	0.77227	0.03971
55	mir-128-3p	1.03	0.76-1.23	0.79314	0.04044

56	mir-7-5p	1.02	0.81-1.18	0.81341	0.04118
57	let7c-5p	1.02	0.78-1.22	0.83963	0.04191
58	mir-423-5p	0.98	0.77-1.24	0.84309	0.04265
59	mir-191-5p	1.02	0.80-1.30	0.85529	0.04338
60	mir-210-3p	1.02	0.85-1.15	0.86592	0.04412
61	mir-205-5p	0.99	0.87-1.12	0.87405	0.04485
62	mir-214-3p	0.99	0.84-1.16	0.88455	0.04559
63	mir-134-5p	0.99	0.86-1.14	0.88627	0.04632
64	mir-200b-3p	0.99	0.87-1.16	0.91447	0.04706
65	mir-143-3p	1.01	0.86-1.19	0.91503	0.04779
66	mir-100-5p	1.00	0.78-1.26	0.94703	0.04853
67	mir-148a-3p	1.00	0.79-1.28	0.95916	0.04926
68	mir-223-3p	0.88	0.89-1.12	0.96262	0.05

ADC: adenocarcinoma; HR: hazard ratio; 95% CI: 95% confidence interval; m: number of tests (68);  $\delta$ , FDR level (0.05).

**Table S3.** miRNAs significantly associated with OS at univariable analysis for SCC patients.

Rank (j)	Name	HR	95% CI	p-value	j/m*delta
1	mir-130b-3p	0.74	0.59-0.92	0.00753	0.00074
2	mir-26a-5p	0.62	0.43-0.88	0.00767	0.00147
3	mir-126-3p	0.62	0.43-0.9	0.01242	0.00221
4	mir-205-5p	1.16	1.01-1.33	0.04138	0.00294
5	mir1915p	0.79	0.6-1.03	0.07844	0.00368
6	mir-26b-5p	0.77	0.58-1.03	0.08096	0.00441
7	let7a-5p	0.76	0.56-1.04	0.08634	0.00515
8	mir-103a-3p	0.81	0.63-1.04	0.10175	0.00588
9	mir-18a-5p	0.87	0.68-1.1	0.22993	0.00662
10	mir-143-3p	1.12	0.9-1.4	0.28962	0.00735
11	mir-21-5p	0.8	0.53-1.21	0.29074	0.00809
12	mir-31-5p	1.06	0.94-1.18	0.32981	0.00882
13	mir-122-5p	0.93	0.79-1.09	0.34096	0.00956
14	mir-22-3p	1.09	0.91-1.31	0.34951	0.01029
15	mir-211-5p	1.06	0.93-1.21	0.36452	0.01103
16	mir-100-5p	0.92	0.77-1.1	0.36987	0.01176
17	mir-155-5p	1.07	0.92-1.25	0.37383	0.0125
18	mir-196a-5p	1.06	0.93-1.2	0.37859	0.01324
19	mir-148a-3p	1.11	0.87-1.42	0.38782	0.01397
20	mir-200c-3p	0.94	0.8-1.09	0.3998	0.01471
21	mir-15a-5p	1.11	0.86-1.45	0.41335	0.01544
22	mir-17-5p	0.9	0.7-1.16	0.41578	0.01618
23	mir-150-5p	0.9	0.69-1.17	0.42221	0.01691
24	mir-27a-3p	0.85	0.55-1.3	0.44666	0.01765
25	mir-204-5p	1.06	0.91-1.24	0.47221	0.01838
26	mir-374a-5p	0.91	0.7-1.18	0.48409	0.01912
27	mir-34a-5p	1.05	0.91-1.22	0.48866	0.01985
28	mir-128-3p	0.92	0.71-1.19	0.50355	0.02059
29	mir-193a-5p	1.08	0.86-1.36	0.5099	0.02132
30	mir-224-5p	0.94	0.76-1.15	0.53984	0.02206
31	mir-375	1.05	0.9-1.21	0.55114	0.02279
32	mir-200b-3p	0.96	0.85-1.09	0.55515	0.02353
33	mir-92a-3p	0.93	0.74-1.18	0.55891	0.02426
34	mir-376c-3p	1.05	0.87-1.27	0.58603	0.025
35	mir-222-3p	0.93	0.71-1.21	0.58624	0.02574
36	mir-10a-5p	0.95	0.8-1.14	0.58751	0.02647
37	mir106b5p	0.93	0.72-1.2	0.5888	0.02721
38	mir-29a-3p	0.9	0.61-1.33	0.60193	0.02794
39	mir-20a-5p	0.94	0.73-1.21	0.62759	0.02868

40	mir-107	0.96	0.81-1.14	0.64153	0.02941
41	mir-372-3p	1.03	0.92-1.15	0.65346	0.03015
42	mir-145-5p	1.06	0.83-1.35	0.66189	0.03088
43	mir-19b-3p	1.05	0.84-1.32	0.67869	0.03162
44	mir-223-3p	0.97	0.84-1.13	0.71011	0.03235
45	mir-125b-5p	1.04	0.83-1.31	0.7311	0.03309
46	mir-25-3p	0.97	0.79-1.18	0.73265	0.03382
47	mir-10b-5p	1.03	0.88-1.19	0.74028	0.03456
48	mir-192-5p	1.03	0.85-1.24	0.75798	0.03529
49	mir-16-5p	1.03	0.84-1.27	0.76767	0.03603
50	mir15b5pe	0.96	0.7-1.3	0.77458	0.03676
51	mir-30e-5p	0.95	0.66-1.37	0.78088	0.0375
52	mir-30d-5p	0.96	0.71-1.29	0.78615	0.03824
53	mir-146a-5p	0.96	0.71-1.29	0.78791	0.03897
54	let7c-5p	1.03	0.83-1.28	0.80903	0.03971
55	mir-23a-3p	0.96	0.66-1.4	0.84597	0.04044
56	mir-214-3p	1.01	0.88-1.16	0.87316	0.04118
57	mir-124-3p	0.99	0.82-1.18	0.88939	0.04191
58	mir-423-5p	0.98	0.74-1.31	0.89365	0.04265
59	mir-210-3p	0.99	0.86-1.14	0.90323	0.04338
60	mir-885-5p	0.99	0.85-1.15	0.90989	0.04412
61	mir-75p	1.01	0.83-1.22	0.94637	0.04485
62	mir-19a-3p	1.01	0.82-1.23	0.94661	0.04559
63	mir-574-3p	1	0.87-1.15	0.95652	0.04632
64	mir-93-5p	1	0.79-1.28	0.96792	0.04706
65	mir-195-5p	1	0.81-1.23	0.96819	0.04779
66	mir-17-3p	1	0.87-1.15	0.97208	0.04853
67	mir-134-5p	1	0.88-1.14	0.98049	0.04926
68	mir-296-5p	1	0.87-1.15	0.99243	0.05

OS: overall survival; SCC: squamous cell carcinoma; HR: hazard ratio; 95% CI: 95% confidence interval; M: number of tests (68);  $\delta$ : FDR level (0.05).

**Table S4.** miRNAs significantly associated with OS at univariable analysis for ADC patients.

Rank (j)	Name	HR	95% CI	p-value	(j/m)× $\delta$
1	mir-22-3p	1.29	1.05-1.59	0.01726	0.00074
2	mir-19b-3p	1.33	1.01-1.76	0.04331	0.00147
3	mir-195-5p	1.32	0.99-1.77	0.05904	0.00221
4	mir-26a-5p	0.73	0.51-1.04	0.08247	0.00294
5	mir-19a-3p	1.24	0.96-1.6	0.09548	0.00368
6	mir-18a-5p	1.31	0.95-1.81	0.09997	0.00441
7	mir-16-5p	1.24	0.94-1.64	0.12968	0.00515
8	mir-222-3p	1.25	0.93-1.67	0.13298	0.00588
9	mir-150-5p	0.86	0.69-1.06	0.15273	0.00662
10	mir-143-3p	1.14	0.94-1.38	0.16899	0.00735
11	mir-146a-5p	0.81	0.59-1.1	0.16992	0.00809
12	mir-193a-5p	1.18	0.93-1.51	0.1757	0.00882
13	mir-30d-5p	0.83	0.63-1.09	0.17684	0.00956
14	mir-93-5p	1.27	0.88-1.84	0.19379	0.01029
15	mir-17-3p	1.14	0.93-1.39	0.20068	0.01103
16	mir-574-3p	1.11	0.94-1.3	0.21273	0.01176
17	mir-29a-3p	1.22	0.87-1.7	0.24134	0.0125
18	mir-145-5p	1.14	0.91-1.43	0.26663	0.01324
19	mir-192-5p	1.09	0.93-1.29	0.27899	0.01397
20	mir-134-5p	1.08	0.93-1.26	0.317	0.01471
21	mir-204-5p	1.1	0.91-1.33	0.32739	0.01544
22	mir-26b-5p	0.88	0.65-1.18	0.38663	0.01618
23	mir-30e-5p	1.22	0.77-1.94	0.40646	0.01691

24	mir-296-5p	0.94	0.81-1.09	0.42031	0.01765
25	mir-27a-3p	0.85	0.57-1.27	0.42272	0.01838
26	mir-34a-5p	1.07	0.9-1.27	0.42838	0.01912
27	mir-31-5p	1.06	0.9-1.25	0.47091	0.01985
28	mir-128-3p	0.91	0.71-1.18	0.48108	0.02059
29	mir-885-5p	1.07	0.88-1.29	0.49004	0.02132
30	mir-92a-3p	0.91	0.7-1.19	0.49394	0.02206
31	mir-191-5p	0.91	0.69-1.21	0.50972	0.02279
32	mir-106b-5p	1.11	0.81-1.54	0.51482	0.02353
33	mir-75p	0.93	0.74-1.17	0.53883	0.02426
34	mir-373-3p	1.06	0.87-1.29	0.54591	0.025
35	mir-130b-3p	1.06	0.87-1.3	0.55281	0.02574
36	mir-15a-5p	0.93	0.71-1.2	0.55693	0.02647
37	mir-374a-5p	1.09	0.81-1.47	0.56552	0.02721
38	mir-10a-5p	0.94	0.76-1.16	0.56589	0.02794
39	mir-200c-3p	1.04	0.9-1.21	0.57195	0.02868
40	mir-107	0.95	0.8-1.13	0.57631	0.02941
41	mir-423-5p	0.93	0.71-1.22	0.60361	0.03015
42	mir-210-3p	0.96	0.81-1.15	0.66115	0.03088
43	mir-21-5p	0.92	0.61-1.37	0.67067	0.03162
44	mir-103a-3p	0.94	0.69-1.28	0.67991	0.03235
45	mir-122-5p	0.96	0.77-1.19	0.68486	0.03309
46	mir-200b-3p	1.04	0.87-1.23	0.68512	0.03382
47	mir-148a-3p	0.95	0.72-1.24	0.69138	0.03456
48	mir-214-3p	0.97	0.82-1.15	0.71291	0.03529
49	mir-196a-5p	1.02	0.91-1.15	0.76207	0.03603
50	mir-223-3p	0.98	0.86-1.12	0.77567	0.03676
51	let7a-5p	1.04	0.76-1.42	0.80015	0.0375
52	mir-155-5p	1.03	0.83-1.26	0.80892	0.03824
53	mir-224-5p	1.03	0.82-1.28	0.80982	0.03897
54	mir-375	0.98	0.81-1.18	0.81553	0.03971
55	mir-243p	1.03	0.78-1.38	0.81811	0.04044
56	mir-125b-5p	1.03	0.77-1.38	0.82834	0.04118
57	mir-23a-3p	0.98	0.79-1.21	0.84022	0.04191
58	mir-20a-5p	0.97	0.66-1.42	0.86103	0.04265
59	mir-211-5p	1.01	0.85-1.21	0.87306	0.04338
60	let7c-5p	1.02	0.79-1.31	0.8805	0.04412
61	mir-376c-3p	0.99	0.82-1.19	0.89854	0.04485
62	mir-10b-5p	1.01	0.83-1.22	0.91773	0.04559
63	mir-100-5p	0.99	0.76-1.28	0.92294	0.04632
64	mir-25-3p	0.99	0.75-1.3	0.93147	0.04706
65	mir-124-3p	1.01	0.81-1.25	0.95124	0.04779
66	mir-17-5p	1.01	0.72-1.42	0.96165	0.04853
67	mir-20-55p	1	0.86-1.16	0.97911	0.04926
68	mir-15b-5p	1	0.75-1.33	0.99196	0.05

OS: overall survival; ADC: adenocarcinoma; HR: hazard ratio; 95% CI: 95% confidence interval; m, number of tests (68);  $\delta$ , FDR level (0.05).