

**Supplementary Table 1. Clinical and pathological characteristics of study subjects**

<b>Variables</b>	<b>16 HCC tissues, No (%)</b>
<b>Age at diagnosis or blood collection</b>	
Mean $\pm$ SD (yrs)	64.5 $\pm$ 10.9
< 60 yrs	4 (25)
$\geq$ 60 yrs	12 (75)
<b>Gender</b>	
Male	11 (69)
Female	5 (31)
<b>Ethnicity</b>	
Caucasian	10 (64)
Hispanic	2 (12)
African-American	2 (12)
Asian	2 (12)
Unknown/Other	0 (0)
<b>Viral infection</b>	
HBV (-) and HCV (-)	6 (38)
HBV (+) and HCV (-)	3 (19)
HBV (-) and HCV (+)	5 (31)
HBV (+) and HCV (+)	0 (0)
Missing	2 (12)
<b>Cirrhosis</b>	
Absence	5 (31)
Presence	11 (69)
Missing	0 (0)
<b>Tumor grade *</b>	
I-II	7 (44)
III-IV	9 (56)

\* Edmondson and Steiner grade;

**Supplementary Table 2.** The C<sub>q</sub> values of 157 miRNAs/ncRNAs detectable in 100% of HCC tissues, which were used to determine the most stable 2 normalizers

IDs	Tumor status	<a href="#">miR-139-5p</a>	<a href="#">miR-486</a>	<a href="#">miR-214</a>	<a href="#">miR-339-3p</a>	<a href="#">miR-598</a>	<a href="#">RNU44</a>	<a href="#">miR-199a-3p</a>	<a href="#">miR-376c</a>	<a href="#">miR-484</a>
7514	Tumor	27.378	30.823	26.128	29.33	31.558	23.579	24.387	26.301	22.908
7516	Tumor	26.631	28.388	30.376	29.367	32.081	23.495	28.669	32.596	23.765
7518	Tumor	28.999	28.512	30.549	28.777	32.222	22.628	28.323	29.509	23.227
7524	Tumor	29.618	29.029	31.415	30.349	31.901	23.825	29.447	30.775	24.904
7526	Tumor	26.83	29.361	25.523	29.514	30.769	22.04	23.771	28.965	22.864
7528	Tumor	26.091	27.902	24.961	30.896	31.391	21.719	23.173	27.943	23.836
7530	Tumor	29.153	29.508	24.585	30.619	30.521	22.061	22.754	29.674	24.323
7669	Tumor	26.983	30.94	26.594	29.958	30.944	23.339	24.693	29.39	23.522
7980	Tumor	28.14	31.438	30.395	30.341	32.281	23.972	28.026	31.037	24.27
7966	Tumor	26.747	28.773	27.584	29.294	31.793	23.784	26.018	29.372	24.332
6240	Tumor	31.224	31.215	32.829	30.984	34.735	25.3	30.749	32.908	24.523
7673	Tumor	30.706	30.802	32.207	32.283	33.728	25.118	30.445	32.634	24.527
7682	Tumor	28.977	31.611	26.953	30.117	32.146	25.474	26.088	30.352	22.603
8639	Tumor	31.421	30.12	29.397	29.869	32.131	24.535	28.816	30.541	24.347
8651	Tumor	30.988	31.099	29.766	30.34	32.986	24.512	28.564	31.675	25.812
8672	Tumor	30.141	31.3	28.233	31.364	34.241	25.936	27.646	31.71	25.511
7513	Non-tumor	25.442	28.332	25.419	30.42	30.398	24.329	23.378	27.737	23.958
7515	Non-tumor	25.964	22.639	23.86	29.486	29.14	24.084	21.939	27.898	24.725
7517	Non-tumor	25.357	28.168	26.811	30.878	30.75	24.226	24.718	29.27	24.595
7523	Non-tumor	26.544	27.04	26.031	30.175	30.933	24.665	24.447	28.883	24.702
7525	Non-tumor	26.177	28.272	25.341	30.997	30.616	24.534	23.71	28.703	24.334
7527	Non-tumor	26.248	28.879	25.674	29.782	30.895	22.82	23.268	28.581	24.867
7529	Non-tumor	25.206	27.519	24.95	30.841	30.153	24.209	22.756	27.72	23.804
7670	Non-tumor	25.332	27.962	26.562	32.086	31.943	24.853	24.451	28.87	24.414
7979	Non-tumor	26.659	27.706	27.078	33.034	31.094	24.795	24.995	28.446	27.143
7965	Non-tumor	25.286	26.169	26.154	30.516	30.851	23.814	23.695	27.679	24.209
6239	Non-tumor	26.809	28.961	28.817	33.563	33.927	27.875	29.011	31.699	25.201
7674	Non-tumor	26.381	27.077	26.092	31.552	31.422	24.985	25.125	29.506	23.974
7681	Non-tumor	26.57	28.792	26.101	32.504	30.587	26.62	26.089	30.337	24.605
8638	Non-tumor	26.529	28.16	27.555	31.222	32.039	26.783	26.658	29.321	25.577
8650	Non-tumor	27.442	29.4	27.706	32.821	30.8	27.232	27.881	30.373	25.692
8671	Non-tumor	26.57	28.792	26.101	32.504	30.587	27.546	26.089	30.337	24.605

<b>IDs</b>	<b>Tumor status</b>	<b><u>miR-422a</u></b>	<b><u>miR-885-5p</u></b>	<b><u>miR-204</u></b>	<b><u>miR-574-3p</u></b>	<b><u>mmu-miR-451</u></b>	<b><u>miR-133a</u></b>	<b><u>miR-130a</u></b>	<b><u>miR-223</u></b>	<b><u>miR-30d</u></b>
7514	Tumor	29.997	25.88	29.405	24.362	31.177	30.787	29.735	21.883	24.605
7516	Tumor	31.451	24.602	28.834	25.181	27.26	34.465	29.516	23.231	25.488
7518	Tumor	29.721	24.328	29.474	23.683	26.248	31.755	27.998	23.699	26.526
7524	Tumor	28.095	28.979	29.127	24.937	27.599	34.066	31.776	24.205	25.997
7526	Tumor	29.983	24.349	28.974	23.877	28.979	30.078	28.872	22.121	23.249
7528	Tumor	28.806	29.829	27.464	23.621	26.03	29.002	28.65	20.641	24.468
7530	Tumor	30.073	30.576	31.246	24.069	28.127	30.085	30.89	20.511	25.644
7669	Tumor	29.688	24.707	29.642	25.072	30.37	30.269	30.955	22.502	25.307
7980	Tumor	27.159	24.377	29.305	24.417	29.206	33.46	31.98	24.192	26.175
7966	Tumor	28.8	24.036	28.312	25.267	26.753	31.178	30.104	21.468	25.347
6240	Tumor	36.43	23.882	30.37	24.757	34.696	35.494	31.06	25.521	26.929
7673	Tumor	33.865	26.376	29.446	25.877	31.491	33.838	31.945	22.717	24.347
7682	Tumor	31.289	24.074	30.583	24.604	31.937	29.407	29.286	23.665	26.221
8639	Tumor	30.028	30.747	33.087	25.957	30.419	33.205	31.564	19.386	26.058
8651	Tumor	30.9	34.124	35.144	26.563	30.518	32.061	29.187	21.469	26.597
8672	Tumor	34.448	25.958	30.787	25.53	33.637	32.988	30.445	24.513	28.299
7513	Non-tumor	28.746	24.727	27.791	24.953	26.735	28.773	28.273	21.422	26.204
7515	Non-tumor	29.541	25.854	26.496	23.595	21.511	26.208	26.955	20.56	25.23
7517	Non-tumor	27.96	24.086	28.571	24.169	26.489	32.04	28.993	21.345	26.104
7523	Non-tumor	27.442	25.137	28.989	24.474	25.911	30.461	30.061	19.802	25.735
7525	Non-tumor	29.485	25.766	28.358	25.635	27.337	30.778	29.425	22.154	26.247
7527	Non-tumor	27.62	24.908	27.945	24.583	26.376	30.411	27.968	20.503	25.145
7529	Non-tumor	27.941	24.682	27.895	24.226	25.654	30.505	28.032	20.498	26.029
7670	Non-tumor	26.941	24.1	28.007	23.876	26.322	30.749	29.095	21.357	25.538
7979	Non-tumor	28.522	25.063	29.333	25.347	24.626	29.931	30.047	20.708	27.019
7965	Non-tumor	26.808	23.898	28.012	23.654	24.82	30.462	28.95	20.447	24.924
6239	Non-tumor	31.032	25.061	31.102	24.375	32.178	35.03	31.816	23.625	28.963
7674	Non-tumor	29.906	24.97	29.775	23.991	29.977	31.412	29.032	22.321	27.545
7681	Non-tumor	30.809	25.025	30.407	23.525	31.736	29.302	29.479	22.244	27.148
8638	Non-tumor	30.778	24.662	28.924	24.391	30.466	32.044	29.877	22.44	26.642
8650	Non-tumor	30.682	25.122	30.037	24.5	29.568	32.17	31.739	23.657	27.395
8671	Non-tumor	30.809	25.025	30.407	23.525	31.736	29.302	29.479	22.244	30.992

<b>IDs</b>	<b>Tumor status</b>	<b>miR-550</b>	<b>miR-122</b>	<b>miR-224</b>	<b>miR-100</b>	<b>miR-99a</b>	<b>let-7b</b>	<b>miR-106a</b>	<b>miR-93#</b>	<b>miR-345</b>
7514	Tumor	33.198	21.237	26.47	25.583	25.945	26.301	20.323	26.514	25.981
7516	Tumor	32.739	20.329	25.681	25.477	25.935	25.83	19.607	26.893	26.403
7518	Tumor	29.463	21.163	24.131	26.096	26.582	27.991	20.226	24.93	25.177
7524	Tumor	30.326	20.506	25.793	27.361	27.582	29.045	21.963	27.098	26.495
7526	Tumor	31.618	20.356	26.282	25.343	25.57	25.09	19.347	25.748	24.931
7528	Tumor	32.071	22.037	28.052	24.795	24.906	25.853	21.368	26.296	26.633
7530	Tumor	31.203	27.717	30.624	25.634	25.859	25.828	20.687	24.882	26.776
7669	Tumor	33.17	22.085	25.8	25.992	26.413	26.386	20.871	27.61	27.545
7980	Tumor	32.658	19.975	25.784	27.173	27.409	26.28	21.771	26.955	25.283
7966	Tumor	31.472	21.284	25.871	25.594	26.11	26.871	21.686	26.987	26.852
6240	Tumor	33.216	22.359	27.185	29.311	30.216	34.091	23.933	27.963	27.216
7673	Tumor	35.364	22.089	28.58	31.775	32.275	30.249	24.715	28.974	28.211
7682	Tumor	33.351	23.352	27.561	28.376	26.846	28.159	22.993	29.195	27.933
8639	Tumor	32.093	24.323	31.797	32.062	29.55	31.455	23.508	27.533	29.089
8651	Tumor	33.829	30.821	28.567	30.164	29.897	28.486	23.906	29.886	30.29
8672	Tumor	35.396	24.052	30.28	29.687	30.004	30.654	24.524	29.04	29.399
7513	Non-tumor	33.767	21.003	27.047	24.982	25.146	26.039	22.284	27.557	27.24
7515	Non-tumor	31.734	20.863	27.567	23.092	23.652	23.389	21.097	26.963	27.635
7517	Non-tumor	32.082	19.966	28.99	25.266	25.638	26.019	22.102	27.322	27.235
7523	Non-tumor	32.464	20.706	26.765	25.77	25.938	26.597	22.526	27.219	27.213
7525	Non-tumor	36.104	20.98	27.72	25.051	25.649	25.756	22.235	27.276	27.424
7527	Non-tumor	32.206	20.411	27.192	24.907	25.247	25.436	21.592	27.024	27.57
7529	Non-tumor	32.877	20.825	27.1	25.012	25.58	25.549	22.09	27.111	26.945
7670	Non-tumor	32.717	20.169	27.4	25.078	25.272	26.027	21.999	27.332	26.936
7979	Non-tumor	33.876	18.927	28.342	25.504	26.043	25.389	22.109	28.223	29.126
7965	Non-tumor	32.41	19.708	27.422	24.229	24.972	25.69	21.687	26.824	26.609
6239	Non-tumor	36.027	22.923	31.871	30.259	28.57	30.253	25.353	31.98	28.966
7674	Non-tumor	34.768	23.105	29.675	26.861	26.711	27.476	24.101	28.031	27.928
7681	Non-tumor	33.975	22.891	29.703	27.905	28.89	28.229	24.833	28.906	29.126
8638	Non-tumor	33.872	21.825	31.152	28.167	27.677	27.617	24.297	29.518	28.36
8650	Non-tumor	33.578	21.721	30.823	28.459	28.185	29.205	23.994	29.985	29.23
8671	Non-tumor	35.521	22.891	29.703	27.905	28.89	28.229	24.833	29.526	29.126

<b>IDs</b>	<b>Tumor status</b>	<b><u>miR-362</u></b>	<b><u>RNU48</u></b>	<b><u>miR-222</u></b>	<b><u>miR-411</u></b>	<b><u>miR-203</u></b>	<b><u>miR-150</u></b>	<b><u>miR-1290</u></b>	<b><u>miR-125b</u></b>	<b><u>miR-195</u></b>
7514	Tumor	30.441	20.446	22.558	27.934	30.895	23.3	28.18	25.303	24.964
7516	Tumor	30.875	20.603	21.078	33.25	28.266	24.677	28.022	25.477	26.939
7518	Tumor	29.256	20.545	21.639	30.847	32.531	27.445	28.151	26.53	28.268
7524	Tumor	30.35	20.567	24.317	31.858	30.065	24.986	27.386	27.991	26.503
7526	Tumor	28.217	19.739	21.975	30.424	27.718	22.907	27.232	24.573	24.397
7528	Tumor	30.741	19.412	21.982	29.62	29.002	22.938	27.954	24.144	23.856
7530	Tumor	28.256	20.317	22.682	31.047	31.19	22.715	27.601	25.304	24.946
7669	Tumor	30.094	21.513	22.881	31.544	27.666	24.424	28.093	25.299	24.555
7980	Tumor	30.856	20.669	23.931	32.578	30.529	27.549	29.901	25.895	24.724
7966	Tumor	30.414	20.411	22.067	31.219	27.816	24.216	29.129	25.741	24.977
6240	Tumor	31.612	22.452	26.139	31.644	39.49	28.867	29.528	29.273	27.63
7673	Tumor	33.951	22.409	24.427	31.918	32.231	27.428	30.37	31.44	27.586
7682	Tumor	30.883	21.613	25.751	29.678	29.617	25.195	29.569	28.754	26.698
8639	Tumor	31.629	23.13	24.477	31.188	33.384	26.051	27.187	30.592	28.526
8651	Tumor	31.597	22.278	22.619	30.467	33.831	25.364	28.531	30.737	28.191
8672	Tumor	33.661	22.716	27.26	31.975	32.148	26.571	30.909	30.746	27.834
7513	Non-tumor	30.574	21.111	22.57	29.405	29.394	23.722	28.781	24.862	23.89
7515	Non-tumor	29.728	22.273	21.245	29.231	28.952	22.368	28.508	22.651	21.899
7517	Non-tumor	31.047	21.141	25.223	31.393	29.093	25.233	29.015	24.815	24.983
7523	Non-tumor	31.102	21.513	24.223	31.195	29.585	23.904	28.141	25.077	24.878
7525	Non-tumor	31.017	21.587	22.5	30.405	29.977	22.428	28.31	24.807	24.2
7527	Non-tumor	30.399	20.662	22.354	30.189	28.392	22.014	27.431	24.408	23.667
7529	Non-tumor	30.531	21.01	23.08	29.987	28.442	23.081	28.844	24.644	23.553
7670	Non-tumor	30.668	21.234	25.268	30.876	28.436	24.81	29.743	24.299	24.677
7979	Non-tumor	31.439	23.145	25.701	31.069	29.143	25.604	28.373	25.472	24.944
7965	Non-tumor	29.659	20.367	24.515	29.857	28.235	23.854	28.781	23.898	24.334
6239	Non-tumor	34.426	23.199	31.227	31.93	31.498	27.692	33.957	28.994	28.475
7674	Non-tumor	32.207	21.429	25.526	29.626	30.969	23.409	30.566	28.022	25.756
7681	Non-tumor	33.91	22.108	27.305	30.463	30.588	24.385	30.419	28.34	27.268
8638	Non-tumor	34.502	22.412	24.597	29.753	29.254	24.642	29.962	28.428	27.087
8650	Non-tumor	33.735	23.342	23.798	31.118	31.729	26.668	29.299	29.005	27.808
8671	Non-tumor	33.91	22.332	27.305	30.463	30.588	24.385	30.109	28.34	27.268

<b>IDs</b>	<b>Tumor status</b>	<b><u>miR-10a</u></b>	<b><u>miR-454</u></b>	<b><u>miR-21</u></b>	<b><u>miR-146a</u></b>	<b><u>miR-136#</u></b>	<b><u>miR-200b</u></b>	<b><u>miR-324-5p</u></b>	<b><u>miR-455-3p</u></b>	<b><u>miR-145</u></b>
7514	Tumor	27.988	25.655	22.527	23.791	28.415	26.718	28.607	30.164	23.519
7516	Tumor	29.649	25.708	22.954	24.639	33.632	27.686	30.248	31.156	25.108
7518	Tumor	29.939	24.846	24.984	24.737	31.722	25.065	29.24	30.514	25.119
7524	Tumor	31.289	27.09	22.5	23.404	36.123	31.549	30.55	33.559	26.09
7526	Tumor	27.534	24.717	22.534	23.227	31.22	24.803	27.464	27.428	22.782
7528	Tumor	27.025	25.573	21.975	23.874	30.527	25.924	29.861	30.104	22.024
7530	Tumor	28.073	24.801	21.859	23.042	32.447	22.963	28.845	29.091	23.982
7669	Tumor	28.483	27.079	22.656	24.738	31.961	28.452	31.198	30.345	23.285
7980	Tumor	30.898	26.909	22.504	26.669	35.807	28.272	31.122	29.659	24.868
7966	Tumor	28.685	26.421	23.603	22.24	32.2	28.434	32.002	30.38	24.003
6240	Tumor	33.183	27.226	27.543	26.874	36.684	33.095	33.941	35.771	30.576
7673	Tumor	32.172	28.142	25.184	24.486	36.129	30.492	33.521	33.853	29.744
7682	Tumor	29.6	27.082	25.088	25.64	33.388	29.398	34.238	33.294	26.761
8639	Tumor	28.972	26.387	25.601	25.808	33.245	28.239	32.804	32.197	29.32
8651	Tumor	26.333	27.668	24.587	25.444	35.454	25.768	33.574	33.307	28.476
8672	Tumor	31.367	28.577	27.331	27.55	34.035	29.233	32.729	33.46	27.6
7513	Non-tumor	27.538	26.985	23.31	23.596	30.596	24.547	30.993	29.971	22.576
7515	Non-tumor	25.078	24.874	22.832	23.267	30.576	24.65	29.251	29.501	19.983
7517	Non-tumor	28.555	26.924	23.644	24.402	31.593	27.475	31.074	28.644	23.728
7523	Non-tumor	27.84	26.736	23.915	23.449	31.826	28.269	32.202	30.567	23.451
7525	Non-tumor	28.087	26.966	24.195	22.972	31.498	25.153	30.343	31.409	23.402
7527	Non-tumor	27.289	26.128	22.642	22.728	31.093	24.92	30.219	30.171	22.881
7529	Non-tumor	26.65	26.238	22.655	23.74	30.333	25.115	30.979	29.631	22.317
7670	Non-tumor	27.905	27.521	24.619	24.453	31.607	27.145	31.396	28.326	23.338
7979	Non-tumor	28.879	27.271	24.592	23.936	31.438	26.564	31.03	29.911	25.503
7965	Non-tumor	27.283	26.804	23.695	23.947	30.614	26.458	30.484	28.674	22.939
6239	Non-tumor	31.074	29.326	28.897	25.04	33.054	28.27	37.352	32.628	28.795
7674	Non-tumor	27.18	26.998	26.602	24.526	32.746	26.393	32.481	31.969	25.904
7681	Non-tumor	29.741	27.294	26.913	24.908	33.383	28.43	34.694	32.185	26.279
8638	Non-tumor	29.995	27.972	26.973	24.383	33.173	28.032	34.601	32.534	27.067
8650	Non-tumor	31.621	28.561	28.923	25.449	33.985	28.326	35.776	31.321	29.044
8671	Non-tumor	29.741	27.294	26.913	24.908	37.557	28.43	34.694	32.185	26.279

<b>IDs</b>	<b>Tumor status</b>	<b><u>miR-425-5p</u></b>	<b><u>let-7c</u></b>	<b><u>miR-483-5p</u></b>	<b><u>miR-193a-5p</u></b>	<b><u>miR-378</u></b>	<b><u>miR-17</u></b>	<b><u>miR-145#</u></b>	<b><u>miR-27b</u></b>	<b><u>mmu-miR-93</u></b>
7514	Tumor	27.594	28.611	24.756	28.142	31.709	20.332	30.992	27.003	24.678
7516	Tumor	27.357	28.622	22.728	27.851	36.512	19.613	32.056	27.393	24.441
7518	Tumor	26.861	29.904	23.428	28.293	31.629	20.211	31.614	27.488	22.695
7524	Tumor	28.326	32.138	31.872	29.269	31.238	21.96	34.234	28.214	24.674
7526	Tumor	26.304	28.996	23.312	27.081	36.034	19.331	29.742	25.424	22.723
7528	Tumor	28.013	28.491	31.083	28.196	31.275	21.498	28.89	26.333	24.582
7530	Tumor	27.144	28.512	32.382	27.737	31.61	20.608	30.728	27.499	22.284
7669	Tumor	29.513	29.498	24.854	29.377	32.123	20.731	29.808	27.368	25.407
7980	Tumor	28.508	28.403	34.425	27.844	30.378	21.694	31.466	27.209	25.516
7966	Tumor	28.59	29.579	31.384	28.576	30.602	21.6	30.102	27.5	25.023
6240	Tumor	29.523	30.671	33.477	29.879	28.042	24.933	34.569	29.928	27.832
7673	Tumor	30.546	26	30.578	32.301	29.726	24.921	33.234	30.134	29.544
7682	Tumor	29.316	30.495	26.628	31.35	28.665	23.867	32.37	29.341	27.977
8639	Tumor	28.401	33.729	31.914	31.811	37.147	23.795	33.363	30.308	26.797
8651	Tumor	30.134	33.361	30.658	31.596	27.973	23.932	32.545	32.929	28.651
8672	Tumor	30.61	32.08	33.738	31.901	30.771	25.459	33.579	28.91	29.338
7513	Non-tumor	28.616	28.889	26.416	28.405	25.113	22.299	29.017	27.507	25.812
7515	Non-tumor	27.215	26.66	26.094	27.404	31.807	20.663	26.543	25.273	23.882
7517	Non-tumor	28.457	28.004	26.855	28.575	30.056	21.997	30.694	26.677	25.111
7523	Non-tumor	29.155	28.674	27.481	28.233	30.855	22.477	30.239	27.595	25.716
7525	Non-tumor	29.033	28.554	25.352	28.484	32.781	22.229	29.802	28.025	25.803
7527	Non-tumor	28.577	27.477	28.21	28.495	29.928	21.521	29.693	27.02	24.947
7529	Non-tumor	28.559	28.776	27.792	28.377	31.324	21.984	29.094	26.972	25.118
7670	Non-tumor	29.063	27.437	27.701	27.793	28.988	21.946	29.874	26.244	25.584
7979	Non-tumor	28.906	27.31	26.978	27.724	29.562	22.292	31.566	26.246	25.208
7965	Non-tumor	28.097	27.611	27.562	27.771	29.027	21.701	29.968	25.934	24.766
6239	Non-tumor	29.116	30.681	29.331	29.816	36.96	24.806	35.957	30.101	30.021
7674	Non-tumor	30.387	30.209	28.897	30.131	29.396	23.784	30.997	29.412	28.563
7681	Non-tumor	30.065	31.956	28.932	29.055	29.703	24.826	31.217	28.994	29.404
8638	Non-tumor	29.892	29.996	29.121	30.328	31.678	25.175	32.112	29.066	28.559
8650	Non-tumor	29.953	30.657	28.549	30.832	25.237	23.954	34.059	27.97	28.814
8671	Non-tumor	30.065	31.956	28.932	29.055	33.556	24.826	34.644	28.994	29.404

<b>IDs</b>	<b>Tumor status</b>	<b><u>miR-26b</u></b>	<b><u>miR-625#</u></b>	<b><u>miR-429</u></b>	<b><u>miR-106b</u></b>	<b><u>miR-1274A</u></b>	<b><u>miR-452</u></b>	<b><u>miR-28-3p</u></b>	<b><u>let-7e</u></b>	<b><u>let-7d</u></b>
7514	Tumor	24.155	29.55	28.982	26.163	22.674	29.604	25.975	26.039	27.562
7516	Tumor	24.097	30.413	29.863	25.807	23.531	28.962	26.051	25.372	27.181
7518	Tumor	24.957	28.224	26.558	24.322	19.348	26.241	25.947	25.552	27.061
7524	Tumor	25.538	28.882	37.456	26.175	21.441	27.725	25.888	26.71	29.931
7526	Tumor	23.931	28.924	26.287	24.281	20.939	29.24	25.636	24.187	26.561
7528	Tumor	24.178	29.181	28.025	26.003	22.925	30.568	25.778	24.701	27.625
7530	Tumor	24.767	28.561	24.56	24.149	21.681	32.128	26.056	25.308	27.235
7669	Tumor	24.929	30.183	30.566	26.5	21.91	29.552	26.551	25.721	27.756
7980	Tumor	23.843	30.298	31.262	27.078	22.423	28.262	25.131	25.152	27.797
7966	Tumor	24.255	30.257	31.561	26.227	22.33	27.634	26.204	25.663	28.447
6240	Tumor	26.775	29.771	36.468	28.643	19.909	23.746	27.03	25.777	36.42
7673	Tumor	27.179	31.152	32.575	28.41	20.399	23.171	27.257	27.541	38.467
7682	Tumor	26.773	30.096	31.464	29.363	19.652	22.899	27.064	26.409	31.988
8639	Tumor	27.057	30.394	30.796	27.939	21.41	20.763	27.008	27.303	34.263
8651	Tumor	27.822	30.884	28.762	29.286	19.953	21.995	26.514	27.367	34.437
8672	Tumor	28.664	32.54	32.038	30.278	21.207	23.471	27.55	28.61	33.974
7513	Non-tumor	24.263	29.911	27.918	26.645	22.284	29.305	25.66	25.68	28.373
7515	Non-tumor	22.963	30.798	27.69	25.451	22.551	31.072	25.431	23.278	26.157
7517	Non-tumor	24.334	30.069	29.583	26.764	21.224	31.061	25.931	25.399	28.168
7523	Non-tumor	24.611	29.526	31.07	27.357	22.161	30.469	25.866	26.243	28.289
7525	Non-tumor	24.484	29.352	28.092	26.594	23.591	29.83	25.87	26.555	28.116
7527	Non-tumor	23.457	29.209	27.666	26.316	20.342	30.142	25.656	24.686	27.404
7529	Non-tumor	24.099	29.394	27.639	26.377	20.866	29.933	25.692	24.639	27.707
7670	Non-tumor	24.018	30.227	30.008	27.021	21.778	30.771	25.955	24.864	28.154
7979	Non-tumor	23.967	31.197	29.749	27.127	23.014	32.303	26.45	25.086	28.203
7965	Non-tumor	23.761	29.562	29.073	26.389	21.443	30.664	25.085	24.666	27.52
6239	Non-tumor	27.407	33.967	30.668	30.374	25.997	24.525	27.227	28.145	32.372
7674	Non-tumor	25.818	30.143	29.691	28.754	20.75	22.933	26.326	23.716	32.418
7681	Non-tumor	26.46	30.049	30.119	28.16	20.889	23.491	26.498	26.775	32.284
8638	Non-tumor	26.447	30.692	31.319	30.047	21.209	22.874	26.621	26.645	38.03
8650	Non-tumor	26.894	30.477	30.918	29.511	20.105	23.684	27.186	27.17	18.697
8671	Non-tumor	26.46	31.943	30.119	28.16	21.828	23.491	26.498	26.775	32.284



<b>IDs</b>	<b>Tumor status</b>	<b><u>miR-19b</u></b>	<b><u>miR-193b</u></b>	<b><u>miR-590-5p</u></b>	<b><u>miR-331</u></b>	<b><u>miR-16</u></b>	<b><u>miR-19a</u></b>	<b><u>miR-342-3p</u></b>	<b><u>miR-376a</u></b>	<b><u>miR-532</u></b>
7514	Tumor	21.135	24.781	28.35	24.54	21.923	24.716	24.353	27.179	26.614
7516	Tumor	20.168	25.971	28.837	25.012	23.149	23.662	26.095	33.367	26.715
7518	Tumor	21.557	25.497	25.815	24.164	23.488	23.989	25.534	30.637	25.765
7524	Tumor	22.071	25.89	26.941	26.253	22.026	24.876	25.085	33.01	26.574
7526	Tumor	20.063	24.442	26.886	23.838	21.614	23.381	24.551	30.812	25.142
7528	Tumor	21.945	24.021	27.311	25.033	21.868	24.985	24.29	30.536	25.933
7530	Tumor	21.577	25.435	26.51	24.526	21.194	24.786	24.04	32.25	24.81
7669	Tumor	20.959	24.866	27.733	25.99	22.547	23.759	25.298	30.956	26.524
7980	Tumor	21.799	24.775	27.547	26.242	22.489	24.807	25.544	33.549	26.903
7966	Tumor	21.485	24.581	27.329	26.026	21.777	24.566	25.081	32.248	26.146
6240	Tumor	23.167	24.416	28.686	27.567	23.074	28.262	29.16	36.4	28.514
7673	Tumor	25.168	25.208	29.007	27.739	23.805	29.208	28.613	33.876	29.892
7682	Tumor	23.711	24.238	28.68	26.275	23.052	27.822	26.079	31.821	29.096
8639	Tumor	25.393	22.044	28.215	27.078	22.897	27.382	28.264	32.306	28.834
8651	Tumor	23.987	23.703	28.971	27.633	22.435	29.973	28.382	33.52	30.078
8672	Tumor	24.702	26.751	31.393	28.289	24.806	26.466	28.574	32.758	30.592
7513	Non-tumor	22.285	25.2	27.802	25.544	22.488	25.319	24.576	29.882	26.874
7515	Non-tumor	21.649	25.416	27.42	25.327	19.679	24.921	24.006	31.061	25.685
7517	Non-tumor	21.969	24.664	28.48	25.864	22.739	25.424	24.835	31.979	26.846
7523	Non-tumor	22.59	25.294	27.98	26.406	21.978	25.632	24.663	30.925	26.828
7525	Non-tumor	22.058	26.608	28.654	25.977	22.456	25.511	24.296	30.915	26.983
7527	Non-tumor	21.537	24.942	26.75	25.686	22.017	23.857	24.073	31.056	26.366
7529	Non-tumor	22.042	25.14	27.36	25.515	21.968	24.746	24.15	30.768	26.35
7670	Non-tumor	22.119	24.709	28.009	25.475	22.796	25.295	25.057	31.631	27.08
7979	Non-tumor	22.101	25.394	28.064	26.956	22.038	25.938	26.58	31.623	27.262
7965	Non-tumor	21.613	24.622	27.549	24.974	21.998	24.954	24.772	30.038	26.651
6239	Non-tumor	26.941	25.499	30.821	27.577	24.687	30.802	27.501	33.643	30.681
7674	Non-tumor	24.962	24.42	28.986	26.895	23.256	27.598	25.797	30.395	29.995
7681	Non-tumor	24.203	24.754	29.209	27.243	27.043	28.149	26.416	33.353	29.593
8638	Non-tumor	23.648	24.817	29.256	27.957	23.888	28.298	28.349	32.789	30.337
8650	Non-tumor	23.983	25.091	29.13	28.3	24.052	28.778	28.789	33.185	30.225
8671	Non-tumor	24.203	24.754	29.209	27.243	27.043	28.149	26.416	33.353	29.593

<b>IDs</b>	<b>Tumor status</b>	<b><u>miR-142-3p</u></b>	<b><u>miR-365</u></b>	<b><u>miR-148a</u></b>	<b><u>miR-25</u></b>	<b><u>U6 snRNA</u></b>	<b><u>miR-143</u></b>	<b><u>miR-30e-3p</u></b>	<b><u>miR-99b</u></b>	<b><u>miR-328</u></b>
7514	Tumor	25.479	27.847	25.73	28.057	20.467	24.476	25.637	29.3	29.692
7516	Tumor	25.768	28.37	25.355	27.994	20.733	25.715	25.836	30.484	30.911
7518	Tumor	26.607	27.714	25.305	26.016	19.852	26.308	25.627	28.007	29.079
7524	Tumor	25.068	28.31	25.452	27.881	21.134	26.652	27.14	32.532	31.917
7526	Tumor	24.045	25.877	23.983	26.538	20.251	23.545	25.857	28.575	29.279
7528	Tumor	24.063	26.568	24.988	27.836	20.134	23.052	24.953	28.033	29.26
7530	Tumor	23.567	26.894	26.069	25.59	20.455	24.495	24.618	29.154	29.199
7669	Tumor	25.753	29.145	25.586	27.997	21.594	23.889	26.67	29.011	30.132
7980	Tumor	27.798	27.704	26.23	27.928	20.818	26.154	25.598	31.064	29.226
7966	Tumor	25.709	27.942	24.543	27.495	21.162	24.438	25.818	30.456	30.235
6240	Tumor	35.132	27.307	29.002	29.684	22.407	30.926	28.024	35.041	30.775
7673	Tumor	30.647	28.147	31.109	31.195	22.148	29.551	27.299	33.258	32.193
7682	Tumor	29.337	27.295	28.379	30.715	22.509	27.288	27.69	30.998	31.136
8639	Tumor	28.325	28.237	30.947	29.377	23.021	28.57	27.184	31.013	33.097
8651	Tumor	29.468	29.889	31.633	30.338	23.398	27.691	24.924	30.591	34.525
8672	Tumor	31.248	29.062	30.653	31.026	24.473	28.812	29.377	31.565	33.769
7513	Non-tumor	24.986	28.56	26.172	28.279	21.803	23.469	24.935	28.962	30.282
7515	Non-tumor	24.802	27.98	25.757	26.524	20.816	20.965	25.049	26.964	29.041
7517	Non-tumor	25.2	27.151	24.922	28.254	21.03	25.14	25.273	30.002	29.293
7523	Non-tumor	25.082	28.268	25.285	28.337	21.546	24.976	25.485	30.134	30.67
7525	Non-tumor	24.764	29.907	26.783	29.241	21.598	24.17	25.331	29.294	30.069
7527	Non-tumor	23.667	27.733	25.906	27.348	19.726	23.853	24.918	29.022	29.365
7529	Non-tumor	24.114	28.262	25.863	28.227	21.553	23.408	25.157	28.767	29.547
7670	Non-tumor	25.177	27.123	24.643	27.889	20.86	24.682	24.82	29.966	29.131
7979	Non-tumor	25.655	28.635	24.672	27.751	20.616	25.933	25.142	31.213	33.656
7965	Non-tumor	24.047	26.54	23.628	27.686	21.037	24.531	24.554	29.492	28.678
6239	Non-tumor	30.906	27.39	29.476	31.377	23.473	29.881	28.962	32.863	32.146
7674	Non-tumor	28.345	27.411	27.279	31.137	23.409	27.165	27.43	30.687	31.213
7681	Non-tumor	29.575	25.62	29.116	30.693	22.884	27.909	27.424	30.189	30.339
8638	Non-tumor	27.166	26.865	26.929	29.601	23.263	27.834	26.868	31.936	31.408
8650	Non-tumor	30.395	27.845	28.197	30.519	23.297	28.633	26.89	31.683	32.115
8671	Non-tumor	29.575	25.62	29.116	30.693	23.772	27.909	27.885	30.189	30.339

IDs	Tumor status	<a href="#">miR-324-3p</a>	<a href="#">miR-374</a>	<a href="#">miR-125a-5p</a>	<a href="#">miR-628-5p</a>	<a href="#">miR-149</a>	<a href="#">miR-146b</a>	<a href="#">miR-34a#</a>	<a href="#">miR-20a</a>	<a href="#">miR-218</a>
7514	Tumor	28.794	28.214	28.098	30.107	30.48	20.949	29.055	22.346	27.081
7516	Tumor	29.113	28.459	29.641	30.504	33.51	21.833	29.464	21.491	29.964
7518	Tumor	29.206	26.332	26.256	30.319	28.326	26.182	28.968	22.209	29.683
7524	Tumor	30.673	27.927	30.577	32.058	30.633	24.318	28.099	23.842	31.755
7526	Tumor	28.296	26.313	27.061	29.435	27.659	23.319	27.872	21.343	26.127
7528	Tumor	29.152	26.608	26.467	30.771	28.916	23.841	27.664	22.899	26.67
7530	Tumor	28.789	26.617	27.635	29.477	28.092	23.27	27.557	23.083	28.262
7669	Tumor	29.936	28.118	27.685	30.776	30.672	24.703	29.187	22.394	27.739
7980	Tumor	29.713	27.567	29.128	30.702	32.053	19.674	28.677	22.95	29.301
7966	Tumor	30.117	28.252	29.077	31.006	33.785	24.339	28.396	23.06	28.073
6240	Tumor	31.983	29.228	28.282	28.555	33.26	27.192	29.675	26.336	32.776
7673	Tumor	32.061	28.645	30.518	29.416	32.307	22.6	29.277	27.858	32.791
7682	Tumor	30.831	28.646	29.024	29.344	31.79	22.307	29.048	26.076	29.44
8639	Tumor	32.144	29.011	29.196	30.157	30.819	24.145	30.727	26.75	30.538
8651	Tumor	31.974	30.16	29.914	30.518	34.492	24.901	30.534	25.764	31.019
8672	Tumor	32.925	30.36	29.947	28.312	32.257	25.802	30.588	26.58	30.301
7513	Non-tumor	30.091	27.669	27.97	30.276	30.371	23.047	28.127	23.894	27.776
7515	Non-tumor	27.436	26.257	25.598	29.436	27.727	22.704	27.872	22.384	26.695
7517	Non-tumor	30.274	27.472	28.062	31.8	30.522	22.954	28.886	23.476	29.227
7523	Non-tumor	30.494	28.075	28.546	31.082	30.216	23.082	29.225	24.188	28.538
7525	Non-tumor	30.057	28.149	28.293	30.265	29.903	22.935	29.272	24.026	27.429
7527	Non-tumor	29.485	27.022	27.088	30.951	29.316	22.013	28.093	22.671	27.229
7529	Non-tumor	29.897	27.039	27.301	29.964	29.925	22.498	28.383	23.531	27.238
7670	Non-tumor	30.258	27.331	28.098	30.661	29.954	24.154	29.262	23.482	28.994
7979	Non-tumor	28.794	28.724	29.106	29.74	32.311	23.16	29.941	23.304	30.004
7965	Non-tumor	29.628	26.781	27.566	30.12	29.482	21.937	28.231	22.6	28.053
6239	Non-tumor	34.549	29.328	31.739	29.097	34.204	25.497	31.964	27.017	32.577
7674	Non-tumor	31.704	27.832	27.258	28.861	31.337	22.568	28.836	25.697	28.45
7681	Non-tumor	32.299	28.432	28.831	28.893	30.169	23.441	29.198	25.575	29.982
8638	Non-tumor	33.356	28.553	29.535	29.109	32.167	24.549	30.303	28.824	30.077
8650	Non-tumor	32.233	28.805	28.998	28.249	33.399	24.971	30.284	26.683	31.823
8671	Non-tumor	32.299	28.432	28.831	28.893	30.169	23.441	31.352	25.575	29.982

<b>IDs</b>	<b>Tumor status</b>	<b><u>miR-151-3p</u></b>	<b><u>miR-126#</u></b>	<b><u>let-7g</u></b>	<b><u>miR-664</u></b>	<b><u>miR-886-5p</u></b>	<b><u>miR-378</u></b>	<b><u>miR-30a-5p</u></b>	<b><u>miR-132</u></b>	<b><u>miR-340#</u></b>
7514	Tumor	23.177	24.902	24.912	28.565	31.258	25.77	23.452	26.854	30
7516	Tumor	22.416	24.863	24.46	27.949	30.207	26.755	24.185	29.722	30.457
7518	Tumor	22.625	24.787	24.986	27.668	27.6	25.811	25.357	27.545	28.06
7524	Tumor	22.762	25.51	25.657	28.974	30.967	24.762	24.546	28.795	30.945
7526	Tumor	22.885	23.593	23.765	26.637	30.015	25.905	21.963	26.376	28.109
7528	Tumor	22.831	22.97	24.598	27.273	27.399	24.288	23.177	25.882	29.738
7530	Tumor	22.54	25.246	24.643	27.099	28.966	25.5	23.833	26.308	30.315
7669	Tumor	22.978	23.863	25.461	27.987	30.875	26.5	24.137	26.815	31.157
7980	Tumor	22.79	29.918	24.77	27.439	30.903	23.501	24.467	27.016	30.982
7966	Tumor	22.393	24.334	24.455	28.35	32.258	24.641	24.516	28.145	31.001
6240	Tumor	28.524	28.624	30.998	26.975	33.993	17.713	26.413	29.773	32.634
7673	Tumor	27.489	26.082	28.034	26.748	31.887	17.665	24.853	28.338	32.483
7682	Tumor	27.019	25.524	27.242	26.61	31.368	17.71	25.43	27.951	31.005
8639	Tumor	26.735	26.753	28.908	28.784	32.491	17.708	25.607	27.935	31.74
8651	Tumor	27.696	26.891	29.762	28.761	28.917	17.785	24.365	27.953	33.821
8672	Tumor	27.598	27.054	28.904	29.291	33.979	17.983	26.72	30.072	33.772
7513	Non-tumor	23.123	24.521	24.54	28.159	29.494	24.156	24.184	27.37	29.934
7515	Non-tumor	23.795	22.98	23.505	28.011	27.161	25.151	23.923	24.748	30.952
7517	Non-tumor	23.019	24.622	24.954	27.954	30.389	23.99	24.103	27.801	30.38
7523	Non-tumor	22.733	25.413	25.283	28.278	30.41	23.615	24.169	26.832	30.247
7525	Non-tumor	23.134	25.243	24.718	28.643	28.206	24.994	24.97	28.478	31.019
7527	Non-tumor	22.662	23.123	23.987	27.15	28.589	24.003	23.495	25.963	29.843
7529	Non-tumor	23.274	23.599	23.967	27.973	29.947	23.907	23.98	26.44	30.461
7670	Non-tumor	23.458	24.222	24.581	27.569	32.718	23.067	24.292	27.482	29.172
7979	Non-tumor	23.009	24.787	24.901	28.807	29.136	24.242	25.139	27.304	30.623
7965	Non-tumor	23.032	24.964	24.475	27.534	31.444	23.757	23.642	26.673	29.349
6239	Non-tumor	30.956	28.969	28.189	28.993	33.105	16.963	28.984	30.118	33.993
7674	Non-tumor	27.52	25.473	27.224	26.993	32.335	17.594	25.485	27.83	30.283
7681	Non-tumor	27.608	26.116	27.253	27.246	33.022	17.816	26.069	27.968	30.961
8638	Non-tumor	28.328	25.626	27.345	28.147	38.362	17.889	26.39	28.103	31.11
8650	Non-tumor	28.373	26.267	31.122	27.547	34.67	17.881	27.148	29.776	29.949
8671	Non-tumor	28.941	28.345	27.253	29.018	33.022	17.852	22.203	27.968	32.84

<b>IDs</b>	<b>Tumor status</b>	<b><u>miR-212</u></b>	<b><u>miR-24</u></b>	<b><u>miR-152</u></b>	<b><u>miR-339-5p</u></b>	<b><u>miR-126</u></b>	<b><u>miR-29c</u></b>	<b><u>let-7a</u></b>	<b><u>miR-155</u></b>	<b><u>miR-20b</u></b>
7514	Tumor	29.95	21.605	26.698	31.525	20.442	28.204	28.018	25.383	29.018
7516	Tumor	33.63	22.564	26.216	30.181	20.245	28.122	27.721	26.724	27.579
7518	Tumor	31.919	23.14	27.466	29.483	21.333	29.694	28.459	27.537	26.331
7524	Tumor	35.874	23.006	29.538	30.445	21.625	27.85	30.066	25.859	29.664
7526	Tumor	31.596	21.15	25.697	30.229	19.411	27.442	26.791	25.833	28.019
7528	Tumor	29.744	20.939	27.444	30.785	19.189	27.094	27.213	26.151	28.99
7530	Tumor	30.823	20.969	27.657	30.188	21.133	27.623	27.859	23.825	28.967
7669	Tumor	31.453	22.214	27.674	30.787	19.983	27.78	27.727	26.763	28.932
7980	Tumor	31.08	22.272	27.987	29.744	21.043	28.316	27.776	28.121	30.189
7966	Tumor	31.577	22.215	27.473	29.706	20.307	27.32	28.438	27.053	28.839
6240	Tumor	30.295	23.876	31.026	32.437	24.235	31.046	32.353	28.375	32.3
7673	Tumor	29.27	23.464	29.728	34.913	22.299	29.015	26.473	28.009	35.519
7682	Tumor	28.981	22.459	28.128	35.175	21.199	29.392	30.144	27.342	31.528
8639	Tumor	29.948	22.339	29.84	36.719	23.366	29.218	29.263	27.794	30.936
8651	Tumor	28.299	23.019	31.373	33.352	22.968	29.664	31.501	27.658	31.984
8672	Tumor	33.306	23.622	31.105	34.504	22.68	31.508	31.74	29.172	30.722
7513	Non-tumor	31.191	22.007	26.963	30.988	20.791	27.632	27.652	26.734	29.684
7515	Non-tumor	28.985	20.162	26.009	30.471	18.959	26.864	26.016	25.088	25.819
7517	Non-tumor	31.688	22.19	27.25	30.359	20.541	28.081	27.797	28.045	29.158
7523	Non-tumor	30.795	22.059	27.41	30.916	20.842	28.242	28.64	26.162	29.261
7525	Non-tumor	32.064	22.158	27.158	31.499	20.801	27.79	28.234	25.57	29.658
7527	Non-tumor	30.067	21.582	26.99	30.266	20.175	26.493	26.862	25.494	28.709
7529	Non-tumor	29.926	21.576	26.98	30.975	19.931	27.308	27.511	25.335	28.473
7670	Non-tumor	31.774	22.162	26.921	32.052	20.645	27.683	27.591	27.958	29.972
7979	Non-tumor	33.651	22.134	27.124	32.423	20.594	27.78	27.533	28.526	28.579
7965	Non-tumor	31.381	21.907	26.393	30.208	20.166	27.475	27.026	27.506	28.845
6239	Non-tumor	31.268	23.564	31.549	38.271	23.149	31.723	34.363	29.72	35.259
7674	Non-tumor	30.019	22.207	30.097	32.672	21.634	28.99	36.412	27.115	31.336
7681	Non-tumor	29.915	22.881	29.477	34.027	22.625	29.464	22.625	26.911	31.862
8638	Non-tumor	30.479	23.18	30.604	35.012	21.558	29.66	30.421	29.058	32.987
8650	Non-tumor	29.017	23.233	28.765	33.725	22.191	30.338	31.249	30.027	35.627
8671	Non-tumor	29.915	22.881	29.477	34.027	22.625	29.464	22.625	26.911	31.862

<b>IDs</b>	<b>Tumor status</b>	<b><u>miR-27a</u></b>	<b><u>miR-181a</u></b>	<b><u>mmu-miR-374-5p</u></b>	<b><u>miR-151-5P</u></b>	<b><u>miR-744</u></b>	<b><u>miR-518f</u></b>	<b><u>miR-30a-3p</u></b>	<b><u>miR-26a</u></b>	<b><u>miR-34a</u></b>
7514	Tumor	26.444	29.389	27.226	28.052	28.302	31.2	24.924	22.696	26.004
7516	Tumor	27.857	29.913	27.64	27.794	29.311	30.227	26.181	22.881	26.332
7518	Tumor	27.956	30.681	24.876	27.29	27.864	30.998	25.442	23.464	27.471
7524	Tumor	28.293	31.703	26.856	27.557	29.39	32.21	27.485	24.373	24.756
7526	Tumor	25.477	28.114	25.537	26.598	27.313	29.151	25.716	22.201	25.256
7528	Tumor	24.855	29.907	21.255	27.249	28.573	29.211	24.793	22.66	24.835
7530	Tumor	24.844	29.384	25.847	27.366	26.805	30.381	23.848	23.623	24.828
7669	Tumor	26.532	29.966	27.267	27.937	29.532	30.308	27.189	23.182	26.038
7980	Tumor	28.321	31.082	25.821	28.386	29.494	29.483	26.798	23.476	26.081
7966	Tumor	26.674	31.036	26.614	27.584	29.521	30.836	25.932	23.555	25.355
6240	Tumor	30.635	34.965	25.701	31.241	32.01	23.182	29.008	24.891	29.654
7673	Tumor	29.814	30.549	25.933	30.859	31.173	23.557	27.32	25.432	29.137
7682	Tumor	28.724	33.604	26.065	30.625	30.525	23.796	27.612	24.751	28.878
8639	Tumor	28.528	31.698	26.083	31.097	30.577	23.928	22.943	24.955	30.648
8651	Tumor	27.113	31.539	27.392	32.498	32.431	24.207	23.725	24.547	28.548
8672	Tumor	30.357	33.918	26.446	31.087	31.521	22.833	27.315	25.494	29.552
7513	Non-tumor	26.514	30.274	26.721	27.942	29.356	30.932	24.742	22.898	25.362
7515	Non-tumor	24.046	28.749	25.218	26.682	28.363	27.983	24.159	21.295	24.615
7517	Non-tumor	27.217	30.668	26.3	28.049	29.061	29.604	25.504	23.334	26.478
7523	Non-tumor	26.87	30.992	27.241	28.481	29.343	30.393	25.207	23.43	26.64
7525	Non-tumor	26.411	29.651	27.037	28.159	28.726	29.452	25.023	23.084	25.935
7527	Non-tumor	25.709	29.766	25.272	27.416	29.273	31.943	24.624	22.393	25.224
7529	Non-tumor	26.165	30.011	25.081	27.841	28.738	30.669	24.942	22.658	25.384
7670	Non-tumor	27.097	31.048	25.806	27.457	28.512	30.106	24.822	22.99	26.996
7979	Non-tumor	27.254	29.994	22.444	28.093	28.574	27.665	25.514	23.311	26.758
7965	Non-tumor	26.095	29.522	25.452	27.314	28.306	28.346	24.442	33.664	25.376
6239	Non-tumor	30.451	33.326	25.305	33.982	33.521	23.552	28.961	25.598	31.775
7674	Non-tumor	28.163	31.135	27.273	31.248	31.245	23.355	28.038	24.183	29.278
7681	Non-tumor	28.216	31.623	25.421	31.064	31.501	23.527	26.067	24.454	29.075
8638	Non-tumor	29.663	33.962	26.085	31.211	31.805	22.872	26.139	24.608	30.362
8650	Non-tumor	29.231	30.798	26.895	31.232	30.591	23.105	26.925	24.936	30.184
8671	Non-tumor	28.216	31.623	25.421	32.51	31.501	23.527	27.349	24.454	29.075

IDs	Tumor status	<a href="#">miR-409-3p</a>	<a href="#">miR-494</a>	<a href="#">miR-30c</a>	<a href="#">miR-92a</a>	<a href="#">miR-660</a>	<a href="#">miR-28</a>	<a href="#">miR-22#</a>	<a href="#">miR-191</a>	<a href="#">rno-miR-7#</a>
7514	Tumor	24.859	27.469	23.26	25.263	27.024	27.748	32.457	22.288	30.268
7516	Tumor	31.788	27.58	23.362	24.962	26.644	27.415	31.932	22.837	29.966
7518	Tumor	27.971	29.106	23.024	25.463	26.709	27.45	31.253	22.374	28.364
7524	Tumor	31.085	27.281	23.974	27.584	27.157	27.12	32.711	23.034	28.439
7526	Tumor	27.955	28.667	22.499	25.187	25.372	26.235	31.194	21.68	30.095
7528	Tumor	26.811	29.336	22.72	25.982	26.29	27.137	30.834	22.711	28.883
7530	Tumor	28.639	28.349	22.614	26.099	25.434	27.282	31.177	22.021	28.93
7669	Tumor	28.7	27.669	23.569	24.969	26.922	28.216	31.292	23.649	30.9
7980	Tumor	30.717	29.681	23.436	25.416	27.163	26.876	31.451	22.639	30.02
7966	Tumor	29.13	27.365	23.63	26.252	26.623	27.964	32.72	23.164	29.24
6240	Tumor	35.936	36.178	25.125	27.817	29.058	29.623	27.558	24.5	30.184
7673	Tumor	32.441	32.813	25.931	30.548	31.422	31.1	26.789	24.488	30.936
7682	Tumor	28.778	32.524	25.289	28.454	30.536	30.574	27.815	23.337	31.569
8639	Tumor	30.962	30.89	24.896	29.369	30.324	31.172	29.518	22.986	31.067
8651	Tumor	32.164	30.871	24.266	28.626	30.807	30.868	31.164	24.104	33.264
8672	Tumor	30.66	31.942	25.698	29.229	32.213	31.731	33.009	24.425	37.864
7513	Non-tumor	27.041	27.57	23.368	26.679	27.01	27.423	31.426	22.975	29.729
7515	Non-tumor	28.513	27.927	22.623	25.596	25.953	25.953	31.172	22.15	29.293
7517	Non-tumor	28.527	28.947	22.96	25.983	27.787	27.384	31.079	23.145	30.023
7523	Non-tumor	28.58	28.841	23.512	26.977	27.31	28.012	32.143	22.941	29.004
7525	Non-tumor	30.049	26.619	23.934	26.893	26.978	27.654	32.205	22.919	29.64
7527	Non-tumor	28.448	28.688	23.144	25.94	26.856	27.011	30.897	22.995	28.694
7529	Non-tumor	27.523	28.167	23.212	26.448	26.873	27.238	31.106	22.808	29.543
7670	Non-tumor	29.076	29.243	22.92	26.233	27.453	27.187	30.686	23.306	29.155
7979	Non-tumor	30.483	27.44	23.66	27.283	26.538	26.909	31.194	23.384	30.225
7965	Non-tumor	28.428	27.888	22.378	25.949	26.707	26.667	31.183	22.728	28.733
6239	Non-tumor	30.953	31.986	25.379	27.43	32.179	30.546	34.983	23.872	33.038
7674	Non-tumor	29.3	31.987	24.58	28.327	29.642	30.693	28.856	23.446	30.188
7681	Non-tumor	30.034	32.374	24.93	28.663	30.89	30.304	29.613	23.487	30.755
8638	Non-tumor	29.856	31.33	24.414	28.16	29.742	30.624	28.554	24.122	31.159
8650	Non-tumor	33.149	31.111	24.986	29.4	31.596	30.735	27.776	23.96	33.28
8671	Non-tumor	33.416	32.374	24.93	28.663	30.89	30.304	33.971	23.487	33.573



<b>IDs</b>	<b>Tumor status</b>	<b><u>miR-1260</u></b>	<b><u>miR-185</u></b>	<b><u>miR-186</u></b>	<b><u>miR-720</u></b>	<b><u>miR-192#</u></b>	<b><u>miR-30b</u></b>	<b><u>miR-636</u></b>	<b><u>miR-197</u></b>	<b><u>miR-200c</u></b>
7514	Tumor	25.064	29.758	25.608	19.287	28.014	23.178	34.697	31.169	31.363
7516	Tumor	25.348	28.947	26.885	19.841	27.065	23.132	32.741	33.041	31.619
7518	Tumor	24.063	28.66	24.067	18.363	27.368	23.794	33.263	28.852	31.613
7524	Tumor	26.117	28.411	25.495	21.571	28.4	23.728	34.918	30.679	32.981
7526	Tumor	25.148	28.692	25.104	18.575	27.238	21.821	34.252	30.46	31.747
7528	Tumor	26.062	27.809	24.768	21.418	28.25	22.753	36.679	30.719	30.404
7530	Tumor	26.264	27.722	24.73	20.515	28.087	23.553	34.902	29.782	30.704
7669	Tumor	24.053	28.662	25.741	18.921	28.938	23.569	33.077	31.122	30.079
7980	Tumor	25.012	30.137	25.295	19.832	27.424	23.715	34.121	30.46	33.989
7966	Tumor	25.364	29.174	25.393	20.026	27.52	23.553	34.281	30.746	31.819
6240	Tumor	26.049	31.983	25.997	21.189	30.555	25.871	25.096	28.685	31.132
7673	Tumor	24.815	32.561	27.06	19.281	30.91	25.946	25.691	31.625	31.408
7682	Tumor	25.031	32.563	27.035	19.36	30.542	25.281	25.477	30.282	30.923
8639	Tumor	26.867	32.016	25.841	22.536	32.574	25.401	25.497	30.164	24.304
8651	Tumor	25.96	31.1	25.522	20.753	31.59	25.277	25.223	31.693	29.36
8672	Tumor	26.233	34.217	27.246	21.63	35.825	25.492	25.174	30.798	32.576
7513	Non-tumor	24.383	28.852	25.174	19.748	27.812	23.718	35.114	30.641	35.215
7515	Non-tumor	26.445	25.917	24.363	20.995	28.73	22.999	32.849	30.336	29.145
7517	Non-tumor	25.52	29.18	25.78	18.927	27.501	23.344	33.993	30.837	32.082
7523	Non-tumor	24.976	29.13	25.029	19.394	28.348	23.902	37.704	30.541	33.001
7525	Non-tumor	25.27	29.341	25.468	19.778	28.555	24.084	34.003	30.779	29.635
7527	Non-tumor	24.191	28.549	25.069	19.958	27.943	23.292	33.15	30.447	31.005
7529	Non-tumor	24.806	28.878	25.12	19.073	28.367	23.518	34.522	30.376	29.682
7670	Non-tumor	24.802	29.312	25.386	18.938	27.76	23.282	34.859	30.182	29.968
7979	Non-tumor	26.514	28.35	26.213	21.156	27.467	23.986	34.861	33.025	32.071
7965	Non-tumor	25.238	28.948	24.809	19.605	27.265	22.6	34.07	30.7	33.208
6239	Non-tumor	26.958	35.225	28.68	21.99	32.989	26.026	26.583	30.829	31.106
7674	Non-tumor	25.297	32.638	24.626	20.571	31.469	25.023	25.725	30.03	28.914
7681	Non-tumor	25.737	32.575	26.197	19.597	31.245	25.485	26.104	29.676	28.701
8638	Non-tumor	26.603	34.072	26.483	21.277	30.322	24.761	25.89	31.209	31.8
8650	Non-tumor	25.838	32.905	25.532	19.849	30.512	26.182	25.451	32.222	34.445
8671	Non-tumor	26.447	32.575	26.197	20.403	30.474	25.485	26.104	29.676	28.701



<b>IDs</b>	<b>Tumor status</b>	<b><u>miR-455</u></b>	<b><u>miR-1233</u></b>	<b><u>mmu-miR-140</u></b>	<b><u>miR-886-3p</u></b>	<b><u>miR-15a</u></b>	<b><u>miR-340</u></b>	<b><u>miR-95</u></b>	<b><u>miR-103</u></b>	<b><u>miR-335</u></b>
7514	Tumor	27.695	29.639	25.407	29.023	28.786	28.869	30.172	27.152	29.162
7516	Tumor	26.87	28.781	25.926	26.762	29.799	28.576	28.882	28.02	30.343
7518	Tumor	29.466	28.459	25.057	24.286	31.426	27.224	27.442	28.012	28.282
7524	Tumor	30.038	28.992	25.458	28.194	29.165	29.31	32.999	27.922	30.54
7526	Tumor	26.058	28.259	24.46	27.522	28.994	26.886	27.816	25.516	27.851
7528	Tumor	28.966	28.561	24.367	26.107	31.788	28.426	27.408	27.558	28.316
7530	Tumor	28.179	28.382	23.754	26.811	29.241	28.919	26.915	26.81	29.048
7669	Tumor	27.786	28.787	25.066	28.914	30.349	29.84	30.256	28.125	30.578
7980	Tumor	28.461	28.963	25.226	28.718	30.535	29.578	31.963	28.351	30.214
7966	Tumor	27.555	28.47	25.101	30.184	29.645	28.788	28.489	27.763	29.955
6240	Tumor	31.16	35.439	30.742	30.123	29.186	32.642	29.684	31.294	30.838
7673	Tumor	30.845	31.709	29.851	28.326	24.875	32.118	28.958	34.324	32.928
7682	Tumor	33.013	30.862	30.674	29.116	23.549	30.531	28.95	30.568	31.606
8639	Tumor	30.388	32.004	30.602	29.122	21.079	30.773	33.264	30.17	31.58
8651	Tumor	31.516	34.719	31.363	25.158	23.43	31.85	28.426	31.77	32.908
8672	Tumor	32.43	32.968	32.112	32.071	30.48	32.922	31.407	31.071	33.187
7513	Non-tumor	27.735	28.297	25.477	26.526	30.594	28.941	28.214	28.221	29.301
7515	Non-tumor	27.485	28.724	22.487	26.587	28.931	28.806	27.272	26.496	28.96
7517	Non-tumor	28.273	28.308	25.475	26.68	30.787	28.811	29.753	27.682	29.283
7523	Non-tumor	28.876	28.964	25.299	28.16	29.25	29.86	29.842	28.296	30.16
7525	Non-tumor	27.595	29.324	25.35	26.448	29.465	29.904	28.9	28.151	31.169
7527	Non-tumor	28.138	28.181	24.536	25.257	29.812	29.046	28.053	27.614	28.857
7529	Non-tumor	28.188	28.528	24.714	26.265	30.813	28.808	27.682	27.574	29.655
7670	Non-tumor	27.925	27.999	25.277	29.981	30.454	27.949	28.987	27.733	28.818
7979	Non-tumor	28.516	28.816	25.677	28.169	31.194	28.861	29.873	28.399	30.228
7965	Non-tumor	27.586	28.058	25.079	27.849	29.502	27.539	29.25	27.363	29.433
6239	Non-tumor	32.132	30.005	32.527	31.608	27.147	32.793	32.611	32.16	33.178
7674	Non-tumor	30.406	35.105	29.44	28.422	24.465	30.652	29.006	31.093	31.419
7681	Non-tumor	32.169	32.351	31.168	29.675	22.664	32.226	30.05	30.775	32.404
8638	Non-tumor	30.742	33.481	31.608	31.247	25.153	31.098	30.981	31.085	31.663
8650	Non-tumor	30.329	31.171	33.069	29.723	27.017	30.969	31.348	29.706	31.361
8671	Non-tumor	32.169	35.074	31.168	29.675	22.664	32.226	30.05	30.775	32.404

IDs	Tumor status	<a href="#">miR-140-3p</a>	<a href="#">miR-320</a>	<a href="#">miR-194</a>	<a href="#">miR-590-3P</a>	<a href="#">miR-335#</a>	<a href="#">miR-15b</a>	<a href="#">mmu-miR-491</a>	<a href="#">miR-875-5p</a>	<a href="#">miR-210</a>
7514	Tumor	30.007	25.007	24.117	31.075	30.41	27.885	30.079	33.589	30.724
7516	Tumor	30.005	24.889	23.263	30.437	32.076	29.936	30.16	32.692	29.833
7518	Tumor	30.329	24.639	24.342	28.077	28.348	27.626	31.068	34.498	28.628
7524	Tumor	29.731	25.884	24.795	29.661	32.322	27.669	30.089	32.143	30.363
7526	Tumor	28.646	24.425	23.715	29.175	29.675	26.106	30.044	33.724	29.288
7528	Tumor	28.893	25.009	25.343	29.343	29.875	26.685	29.105	33.385	31.098
7530	Tumor	27.954	23.459	24.497	28.612	29.681	26.086	27.972	33.778	28.07
7669	Tumor	29.066	25.127	24.946	30.121	31.814	28.56	30.506	33.082	32.035
7980	Tumor	30.396	24.985	24.294	29.48	30.892	27.561	30.912	33.659	28.221
7966	Tumor	29.899	25.201	23.874	28.999	32.442	28.527	29.18	32.403	30.881
6240	Tumor	34.26	25.077	27.822	32.643	31.84	29.887	38.669	20.52	29.577
7673	Tumor	36.036	24.249	26.648	32.793	33.505	34.225	33.633	21.98	25.533
7682	Tumor	35.474	23.495	25.958	32.389	30.542	32.004	33.488	21.764	26.018
8639	Tumor	36.487	26.092	28.644	33.141	31.145	29.322	32.176	22.217	26.967
8651	Tumor	34.526	25.608	27.644	35.274	34.017	28.96	34.084	21.697	28.203
8672	Tumor	36.49	26.953	29.296	36.952	33.608	35.132	33.7	21.723	29.128
7513	Non-tumor	30.025	24.848	24.12	29.574	30.552	28.395	29.921	33.753	30.616
7515	Non-tumor	26.487	23.662	25.144	29.673	30.842	25.107	29.612	33.115	29.52
7517	Non-tumor	30.415	24.755	24.445	29.775	30.665	26.879	29.837	33.826	29.708
7523	Non-tumor	29.565	24.59	24.404	29.689	31.476	28.087	30.101	34.26	29.552
7525	Non-tumor	29.441	24.597	24.776	30.267	31.845	29.572	30.346	32.723	31.362
7527	Non-tumor	28.906	24.701	24.675	28.746	30.636	26.971	30.151	33.029	30.668
7529	Non-tumor	29.091	24.392	24.396	29.368	31.184	27.174	30.048	32.926	29.454
7670	Non-tumor	30.373	25.198	24.339	29.237	31.098	27.823	31.011	33.757	30.738
7979	Non-tumor	30.607	25.287	24.456	29.692	31.221	27.618	31.117	34.2	29.206
7965	Non-tumor	29.673	25.075	23.594	29.097	31.234	26.755	30.065	32.018	29.316
6239	Non-tumor	38.558	26.477	26.881	33.979	32.985	30.974	33.173	18.187	28.926
7674	Non-tumor	32.366	24.589	26.933	32.128	31.878	30.148	34.306	22.101	25.97
7681	Non-tumor	36.055	25.456	27.665	33.03	31.002	32.669	33.842	21.628	26.708
8638	Non-tumor	34.339	25.894	27.424	33.19	31.436	32.521	31.65	21.828	28.777
8650	Non-tumor	38.236	25.491	27.498	33.746	31.717	31.932	35.078	21.449	27.647
8671	Non-tumor	36.055	25.456	27.665	35.9	31.99	32.669	33.842	22.676	26.708

<b>IDs</b>	<b>Tumor status</b>	<b><u>miR-29a</u></b>	<b><u>miR-1274B</u></b>	<b><u>miR-618</u></b>	<b><u>miR-192</u></b>
7514	Tumor	22.73	17.975	23.691	22.122
7516	Tumor	22.535	18.608	23.841	21.135
7518	Tumor	23.654	16.932	24.407	22.035
7524	Tumor	22.107	18.76	23.584	22.514
7526	Tumor	21.57	16.201	23.277	21.828
7528	Tumor	21.582	18.496	23.443	22.903
7530	Tumor	21.982	17.397	23.494	22.589
7669	Tumor	22.484	17.979	23.406	22.365
7980	Tumor	22.977	18.128	23.356	21.455
7966	Tumor	21.992	18.239	23.792	21.651
6240	Tumor	25.474	18.385	31.709	24.666
7673	Tumor	24.62	17.266	35.183	24.905
7682	Tumor	24.423	17.074	31.832	23.589
8639	Tumor	24.51	20.228	34.034	25.99
8651	Tumor	23.728	18.695	32.576	24.621
8672	Tumor	25.774	20.366	30.963	26.462
7513	Non-tumor	22.208	18.197	23.594	21.952
7515	Non-tumor	20.842	17.611	22.779	22.917
7517	Non-tumor	22.231	16.679	23.484	22.276
7523	Non-tumor	22.481	17.808	23.983	22.325
7525	Non-tumor	22.173	19.134	23.027	22.462
7527	Non-tumor	21.702	16.73	23.556	22.244
7529	Non-tumor	21.945	16.964	24.074	22.375
7670	Non-tumor	22.559	16.973	23.628	22.012
7979	Non-tumor	22.366	18.793	22.223	22.042
7965	Non-tumor	21.965	16.819	22.211	21.561
6239	Non-tumor	26.324	19.951	34.599	25.155
7674	Non-tumor	24.257	19.441	33.315	24.27
7681	Non-tumor	25.193	17.965	34.628	24.975
8638	Non-tumor	24.988	19.2	30.466	24.663
8650	Non-tumor	25.524	17.704	32.11	24.662
8671	Non-tumor	25.193	20.894	34.628	24.975

**Supplementary Table 3.** Stability tests (geNorm and NormFinder) for 157 miRNAs/ncRNAs that were detectable in 100% of HCC tissues

Rank of stability	geNorm		Rank of stability	NormFinder	
	miRNAs/ncRNAs	M socre*		miRNAs/ncRNAs	Stability value**
1	miR-30c/miR-30b	0.024	1	miR-30c/miR-126	0.113
2	miR-335	0.030	2	miR-24	0.190
3	miR-340	0.032	3	miR-374	0.222
4	miR-331	0.033	4	miR-29c	0.225
5	miR-744	0.035	5	miR-28-3p	0.227
6	miR-324-3p	0.036	6	miR-30b	0.283
7	miR-25	0.037	7	miR-132	0.288
8	miR-532	0.038	8	miR-186	0.292
9	miR-362	0.039	9	miR-29a	0.300
10	miR-106b	0.040	10	miR-30e-3p	0.311
11	miR-93#	0.040	11	miR-27a	0.317
12	miR-425-5p	0.041	12	miR-28	0.324
13	miR-454	0.041	13	miR-181a	0.326
14	miR-191	0.042	14	miR-191	0.327
15	miR-590-5p	0.042	15	miR-340#	0.333
16	miR-374	0.043	16	miR-152	0.335
17	U6-snRNA	0.043	17	miR-125a-5p	0.335
18	miR-28	0.044	18	let-7e	0.339
19	miR-26b	0.044	19	miR-192	0.344
20	miR-193a-5p	0.045	20	miR-335	0.344
21	miR-34a#	0.045	21	miR-335#	0.357
22	miR-29c	0.046	22	miR-320	0.357
23	miR-28-3p	0.046	23	miR-26b	0.362
24	miR-24	0.047	24	miR-30a-3p	0.363
25	miR-152	0.047	25	miR-194	0.367
26	miR-151-5P	0.048	26	miR-455	0.375
27	miR-103	0.048	27	miR-720	0.377
28	miR-29a	0.048	28	miR-340	0.378
29	miR-92a	0.049	29	miR-103	0.382
30	miR-340#	0.049	30	miR-1274B	0.392
31	miR-345	0.050	31	miR-342-3p	0.402
32	RNU48	0.050	32	miR-95	0.407

33	miR-30e-3p	0.051	33	miR-99b	0.407
34	miR-192	0.051	34	miR-192#	0.409
35	miR-194	0.051	35	miR-34a#	0.411
36	miR-660	0.052	36	miR-126#	0.415
37	miR-455	0.052	37	rno-miR-7#	0.416
38	miR-27b	0.052	38	miR-328	0.419
39	miR-126	0.053	39	miR-1260	0.426
40	miR-181a	0.053	40	miR-218	0.426
41	let-7e	0.053	41	miR-744	0.427
42	miR-186	0.054	42	miR-92a	0.440
43	miR-625#	0.054	43	miR-331	0.442
44	miR-342-3p	0.054	44	miR-574-3p	0.448
45	miR-335#	0.054	45	miR-193a-5p	0.448
46	miR-328	0.055	46	miR-146b	0.448
47	miR-132	0.055	47	miR-146a	0.448
48	miR-27a	0.055	48	U6-snRNA	0.455
49	miR-192#	0.056	49	miR-590-5p	0.458
50	RNU44	0.056	50	miR-376a	0.466
51	miR-324-5p	0.056	51	miR-365	0.467
52	miR-19b	0.057	52	miR-27b	0.474
53	miR-339-5p	0.057	53	mmu-miR-374-5p	0.479
54	miR-106a	0.057	54	miR-149	0.484
55	miR-185	0.057	55	miR-664	0.484
56	miR-590-3P	0.058	56	miR-155	0.487
57	miR-455-3p	0.058	57	let-7g	0.487
58	miR-125a-5p	0.058	58	miR-324-3p	0.489
59	miR-99b	0.058	59	miR-30a-5p	0.491
60	miR-1290	0.059	60	miR-590-3P	0.492
61	miR-598	0.059	61	mmu-miR-491	0.495
62	miR-550	0.059	62	miR-494	0.500
63	miR-320	0.060	63	miR-409-3p	0.505
64	miR-339-3p	0.060	64	miR-411	0.507
65	rno-miR-7#	0.060	65	miR-197	0.511
66	miR-34a	0.060	66	miR-1233	0.523
67	miR-19a	0.061	67	miR-625#	0.524
68	miR-155	0.061	68	miR-151-5P	0.526

69	miR-146a	0.061	69	miR-886-3p	0.526
70	miR-218	0.062	70	miR-660	0.528
71	miR-17	0.062	71	miR-425-5p	0.531
72	miR-99a	0.062	72	miR-25	0.536
73	mmu-miR-491	0.062	73	miR-34a	0.540
74	miR-20a	0.063	74	miR-185	0.542
75	miR-145#	0.063	75	miR-628-5p	0.546
76	miR-30a-5p	0.063	76	miR-15b	0.549
77	miR-30d	0.063	77	miR-454	0.550
78	miR-376c	0.064	78	miR-143	0.554
79	let-7g	0.064	79	RNU48	0.561
80	miR-195	0.064	80	miR-19b	0.563
81	mmu-miR-93	0.065	81	miR-193b	0.564
82	miR-1260	0.065	82	miR-130a	0.565
83	miR-376a	0.065	83	miR-16	0.566
84	miR-149	0.065	84	miR-148a	0.567
85	miR-20b	0.066	85	miR-532	0.571
86	miR-130a	0.066	86	miR-145#	0.577
87	miR-16	0.066	87	miR-20a	0.578
88	miR-204	0.067	88	miR-455-3p	0.578
89	miR-484	0.067	89	miR-106b	0.589
90	miR-574-3p	0.067	90	miR-195	0.590
91	miR-126#	0.067	91	miR-26a	0.606
92	miR-100	0.068	92	miR-212	0.615
93	miR-664	0.068	93	let-7c	0.617
94	miR-95	0.068	94	miR-223	0.617
95	miR-494	0.069	95	miR-339-5p	0.621
96	miR-148a	0.069	96	miR-150	0.627
97	miR-136#	0.069	97	miR-17	0.630
98	let-7b	0.069	98	miR-484	0.631
99	miR-21	0.070	99	miR-20b	0.633
100	miR-1233	0.070	100	miR-19a	0.635
101	miR-411	0.070	101	miR-10a	0.637
102	miR-125b	0.071	102	miR-598	0.643
103	miR-10a	0.071	103	miR-345	0.647
104	miR-143	0.071	104	miR-1290	0.657

105	miR-15b	0.072	105	miR-99a	0.658
106	miR-30a-3p	0.072	106	miR-204	0.662
107	miR-1274B	0.072	107	miR-376c	0.666
108	miR-720	0.073	108	miR-1274A	0.678
109	let-7c	0.073	109	miR-93#	0.679
110	miR-409-3p	0.073	110	miR-136#	0.682
111	miR-150	0.073	111	miR-886-5p	0.688
112	miR-422a	0.074	112	miR-142-3p	0.690
113	miR-197	0.074	113	miR-200b	0.692
114	miR-886-3p	0.074	114	miR-151-3p	0.695
115	miR-133a	0.075	115	mmu-miR-140	0.700
116	miR-886-5p	0.075	116	miR-106a	0.711
117	miR-224	0.075	117	mmu-miR-93	0.716
118	miR-203	0.076	118	let-7a	0.718
119	miR-365	0.076	119	miR-145	0.720
120	miR-139-5p	0.077	120	miR-429	0.721
121	miR-193b	0.077	121	miR-210	0.721
122	miR-223	0.077	122	miR-140-3p	0.725
123	miR-486	0.078	123	miR-22#	0.726
124	miR-200b	0.078	124	miR-30d	0.726
125	miR-140-3p	0.079	125	let-7b	0.730
126	miR-146b	0.079	126	miR-362	0.730
127	miR-142-3p	0.079	127	miR-100	0.733
128	miR-145	0.080	128	miR-125b	0.735
129	miR-151-3p	0.080	129	miR-200c	0.742
130	miR-222	0.081	130	miR-133a	0.754
131	mmu-miR-374-5p	0.081	131	miR-550	0.755
132	miR-199a-3p	0.081	132	miR-324-5p	0.772
133	miR-429	0.082	133	miR-21	0.776
134	miR-214	0.082	134	miR-203	0.779
135	miR-628-5p	0.083	135	miR-339-3p	0.801
136	mmu-miR-140	0.083	136	miR-422a	0.812
137	miR-26a	0.084	137	miR-224	0.828
138	miR-212	0.084	138	miR-222	0.830
139	mmu-miR-451	0.085	139	miR-122	0.849
140	miR-1274A	0.086	140	RNU44	0.881

141	miR-22#	0.086	141	miR-483-5p	0.907
142	miR-200c	0.087	142	mmu-miR-451	0.910
143	miR-122	0.088	143	miR-885-5p	0.935
144	let-7a	0.089	144	miR-378	0.935
145	miR-210	0.089	145	miR-199a-3p	0.947
146	miR-885-5p	0.090	146	let-7d	1.010
147	miR-483-5p	0.091	147	miR-15a	1.019
148	miR-378	0.092	148	miR-486	1.020
149	let-7d	0.093	149	miR-214	1.028
150	miR-618	0.095	150	miR-618	1.069
151	miR-15a	0.096	151	miR-139-5p	1.159
152	miR-518f	0.098	152	miR-518f	1.176
153	miR-452	0.100	153	miR-378	1.232
154	miR-636	0.102	154	miR-452	1.255
155	miR-378	0.105	155	miR-636	1.433
156	miR-875-5p	0.108	156	miR-875-5p	1.800

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\* If including the mean of global miRNAs, the M score for miR-30c and mean of global miRNAs is 0.022;

\*\* If including the mean of global miRNAs, the stability value for miR-30c and mean of global miRNAs is 0.088;



**Supplementary Table 4.** Using 3 endogenous controls to normalize miRNAs expression identified 46 miRNAs significantly aberrantly expressed in HCC tumor tissue

miRNAs	Geom mean in tumor tissue	Geom mean in non-tumor tissue	Fold-change of geometric means	p-value	FDR
<a href="#">miR-196b</a>	2.50E-03	3.10E-04	8.60	4.23E-04	3.76E-03
<a href="#">miR-182</a>	8.90E-04	1.40E-04	7.48	5.87E-04	4.81E-03
<a href="#">miR-10b#</a>	1.70E-03	3.60E-04	5.10	7.92E-04	5.72E-03
<a href="#">miR-139-5p</a>	1.00E-02	1.10E-01	-10.31	5.00E-07	3.01E-05
<a href="#">miR-144#</a>	9.90E-04	9.10E-03	-9.09	5.70E-06	1.71E-04
<a href="#">miR-214</a>	1.10E-02	9.80E-02	-8.33	7.64E-05	1.10E-03
<a href="#">miR-486</a>	4.20E-03	3.50E-02	-8.33	4.00E-07	2.89E-05
<a href="#">miR-199a-3p</a>	3.50E-02	2.60E-01	-7.14	6.04E-05	1.08E-03
<a href="#">miR-511</a>	6.90E-04	4.60E-03	-6.25	8.00E-07	3.61E-05
<a href="#">miR-214#</a>	1.60E-03	8.20E-03	-5.88	2.05E-04	2.12E-03
<a href="#">miR-424</a>	3.20E-04	1.20E-03	-5.56	6.00E-07	3.09E-05
<a href="#">miR-422a</a>	2.70E-03	1.40E-02	-5.26	5.53E-05	1.08E-03
<a href="#">miR-99a#</a>	7.70E-04	3.80E-03	-4.76	3.30E-06	1.19E-04
<a href="#">let-7b</a>	1.70E-02	7.40E-02	-4.35	2.73E-05	6.16E-04
<a href="#">miR-100</a>	2.40E-02	1.10E-01	-4.35	6.20E-06	1.72E-04
<a href="#">miR-125b</a>	2.70E-02	1.20E-01	-4.35	3.00E-07	2.89E-05
<a href="#">miR-145</a>	7.80E-02	3.10E-01	-4.00	1.80E-04	1.97E-03
<a href="#">miR-376c</a>	3.40E-03	1.40E-02	-4.00	7.14E-05	1.08E-03
<a href="#">miR-598</a>	9.30E-04	3.70E-03	-4.00	7.20E-06	1.86E-04
<a href="#">miR-204</a>	4.10E-03	1.60E-02	-3.85	8.42E-04	5.96E-03
<a href="#">miR-99a</a>	2.30E-02	9.10E-02	-3.85	9.36E-05	1.30E-03
<a href="#">miR-1201</a>	4.60E-04	1.70E-03	-3.70	7.15E-05	1.08E-03
<a href="#">miR-432#</a>	1.20E-04	4.40E-04	-3.70	3.35E-04	3.18E-03
<a href="#">miR-150</a>	1.10E-01	3.90E-01	-3.45	4.77E-05	1.01E-03
<a href="#">miR-195</a>	5.70E-02	1.90E-01	-3.45	4.05E-04	3.75E-03
<a href="#">miR-381</a>	7.30E-05	2.20E-04	-3.45	1.19E-04	1.53E-03
<a href="#">miR-130a</a>	3.60E-03	1.20E-02	-3.23	1.97E-04	2.09E-03
<a href="#">miR-142-3p</a>	2.70E-02	8.60E-02	-3.23	1.34E-04	1.56E-03
<a href="#">miR-455-3p</a>	1.50E-03	4.90E-03	-3.23	6.39E-04	4.91E-03
<a href="#">miR-378</a>	7.80E-01	2.36E+00	-3.03	6.42E-05	1.08E-03
<a href="#">miR-146a</a>	1.60E-01	4.40E-01	-2.70	6.50E-04	4.91E-03
<a href="#">miR-193a-5p</a>	6.30E-03	1.70E-02	-2.70	4.60E-06	1.51E-04
<a href="#">miR-411</a>	2.10E-03	5.50E-03	-2.63	5.54E-04	4.65E-03
<a href="#">miR-26b</a>	9.40E-02	2.40E-01	-2.56	< 1e-07	< 1e-07
<a href="#">miR-342-3p</a>	6.10E-02	1.50E-01	-2.50	1.43E-04	1.62E-03
<a href="#">miR-574-3p</a>	1.50E-01	3.80E-01	-2.50	6.06E-05	1.08E-03
<a href="#">let-7g</a>	5.40E-02	1.30E-01	-2.44	1.26E-04	1.56E-03
<a href="#">let-7e</a>	6.50E-02	1.50E-01	-2.33	7.40E-04	5.45E-03
<a href="#">miR-101</a>	2.00E-03	4.20E-03	-2.33	1.11E-04	1.49E-03
<a href="#">miR-30d#</a>	4.60E-04	1.30E-03	-2.27	9.00E-06	2.17E-04
<a href="#">miR-30e-3p</a>	5.30E-02	1.20E-01	-2.22	7.02E-05	1.08E-03
<a href="#">miR-374</a>	1.60E-02	3.20E-02	-2.08	2.67E-04	2.60E-03

<a href="#">miR-29c</a>	1.10E-02	2.20E-02	-2.04	2.37E-04	2.38E-03
<a href="#">miR-628-5p</a>	4.10E-03	8.30E-03	-2.04	6.53E-04	4.91E-03
<a href="#">miR-28</a>	1.10E-02	2.20E-02	-2.00	2.20E-06	8.82E-05
<a href="#">miR-28-3p</a>	5.40E-02	1.10E-01	-2.00	4.00E-07	2.89E-05

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**Supplementary Table 5.** Using geNorm tool identified 2 miRNAs (miR-30c and miR-30b) as a normalizer resulting in 17 miRNAs being significantly aberrantly expressed in HCC tumor tissue

<b>miRNAs</b>	<b>Geom mean in tumor tissue</b>	<b>Geom mean in non-tumor tissue</b>	<b>Fold-change of geometric means</b>	<b>p-value</b>	<b>FDR</b>
<a href="#">miR-183</a>	1.50E-03	1.30E-04	15.12	9.34E-04	2.06E-02
<a href="#">miR-196b</a>	9.40E-03	6.70E-04	14.85	4.74E-05	2.50E-03
<a href="#">miR-182</a>	3.30E-03	2.90E-04	12.85	1.26E-04	5.05E-03
<a href="#">miR-10b#</a>	6.50E-03	8.10E-04	8.85	4.85E-05	2.50E-03
<a href="#">miR-18a</a>	1.50E-02	5.10E-03	3.48	9.71E-04	2.06E-02
<a href="#">miR-106a</a>	4.22E+00	2.10E+00	2.01	1.61E-04	5.82E-03
<a href="#">miR-139-5p</a>	3.80E-02	2.30E-01	-5.88	4.80E-06	8.42E-04
<a href="#">miR-144#</a>	3.80E-03	2.00E-02	-5.56	1.11E-04	5.02E-03
<a href="#">miR-214</a>	4.30E-02	2.10E-01	-5.00	5.17E-04	1.26E-02
<a href="#">miR-486</a>	1.60E-02	7.60E-02	-5.00	6.30E-06	8.42E-04
<a href="#">miR-199a-3p</a>	1.30E-01	5.50E-01	-4.17	4.76E-04	1.26E-02
<a href="#">miR-511</a>	2.40E-03	9.80E-03	-3.85	7.00E-06	8.42E-04
<a href="#">miR-424</a>	1.20E-03	2.60E-03	-3.33	2.30E-05	1.66E-03
<a href="#">miR-99a#</a>	3.00E-03	8.10E-03	-2.70	4.14E-04	1.26E-02
<a href="#">miR-100</a>	8.90E-02	2.30E-01	-2.56	4.33E-04	1.26E-02
<a href="#">let-7b</a>	6.30E-02	1.60E-01	-2.50	5.23E-04	1.26E-02
<a href="#">miR-125b</a>	1.00E-01	2.50E-01	-2.50	1.62E-05	1.46E-03

**Supplementary Table 6.** Using NormFinder tool identified 2 miRNAs (miR-30c and miR-126) as a normalizer resulting in 20 miRNAs being significantly aberrantly expressed in HCC tumor tissue

<b>miRNAs</b>	<b>Geom mean in tumor tissue</b>	<b>Geom mean in non-tumor tissue</b>	<b>Fold-change of geometric means</b>	<b>p-value</b>	<b>FDR</b>
<a href="#">miR-183</a>	5.70E-04	4.30E-05	16.79	9.00E-04	1.70E-02
<a href="#">miR-196b</a>	3.40E-03	2.20E-04	16.43	5.11E-05	2.58E-03
<a href="#">miR-182</a>	1.20E-03	9.50E-05	14.75	5.72E-05	2.58E-03
<a href="#">miR-10b#</a>	2.40E-03	2.60E-04	9.92	3.08E-05	2.22E-03
<a href="#">miR-1180</a>	7.50E-04	2.70E-04	4.55	8.36E-04	1.70E-02
<a href="#">miR-130b#</a>	3.40E-04	9.10E-05	4.26	6.48E-04	1.53E-02
<a href="#">miR-18a</a>	5.60E-03	1.60E-03	4.25	6.78E-04	1.53E-02
<a href="#">miR-339-3p</a>	5.10E-03	2.00E-03	2.62	6.08E-04	1.53E-02
<a href="#">miR-21</a>	3.90E-01	1.60E-01	2.5	9.40E-04	1.70E-02
<a href="#">miR-106a</a>	1.56E+00	6.80E-01	2.28	4.34E-05	2.58E-03
<a href="#">miR-139-5p</a>	1.40E-02	7.40E-02	-5.26	2.00E-06	7.22E-04
<a href="#">miR-144#</a>	1.40E-03	6.40E-03	-4.76	8.17E-05	2.95E-03
<a href="#">miR-214</a>	1.60E-02	6.90E-02	-4.35	4.72E-04	1.48E-02
<a href="#">miR-486</a>	5.70E-03	2.50E-02	-4.35	1.16E-05	1.75E-03
<a href="#">miR-199a-3p</a>	4.80E-02	1.80E-01	-3.70	5.28E-04	1.48E-02
<a href="#">miR-511</a>	8.80E-04	3.20E-03	-3.45	1.94E-05	1.75E-03
<a href="#">miR-424</a>	4.20E-04	8.50E-04	-3.13	7.94E-05	2.95E-03
<a href="#">let-7b</a>	2.30E-02	5.10E-02	-2.22	5.34E-04	1.48E-02
<a href="#">miR-100</a>	3.30E-02	7.40E-02	-2.22	9.33E-04	1.70E-02
<a href="#">miR-125b</a>	3.70E-02	8.20E-02	-2.22	1.67E-05	1.75E-03

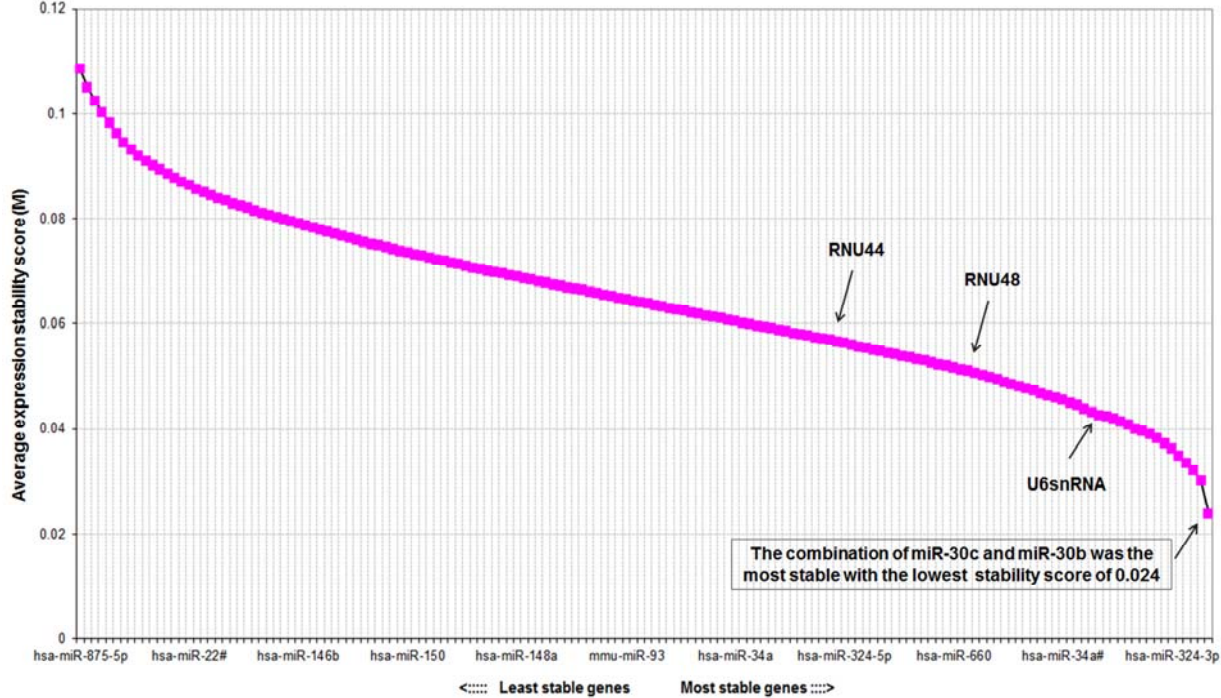
**Supplementary Table 7.** Dysregulated miRNAs identified by using the mean of miRNAs and the 2 most stable miRNAs as normalizers

<b>Normalization strategies</b>	<b>Mean of miRNAs</b>	<b>geNorm</b>	<b>NormFinder</b>
Mean of miRNAs	miR-221, miR-222, miR-324-5p, miR-550, miR-362, miR-148b, miR-93#, miR-598		miR-1180, miR-130b#, miR-339-3p, miR-21
geNorm		miR-99a#	let-7b, miR-100
geNorm and NormFinder	miR-196b, miR-183, miR-182, miR-10b#, miR-18a, miR-106a, miR-139-5p, miR-144#, miR-214, miR-486, miR-199a-3p, miR-511, miR-424, miR-125b		

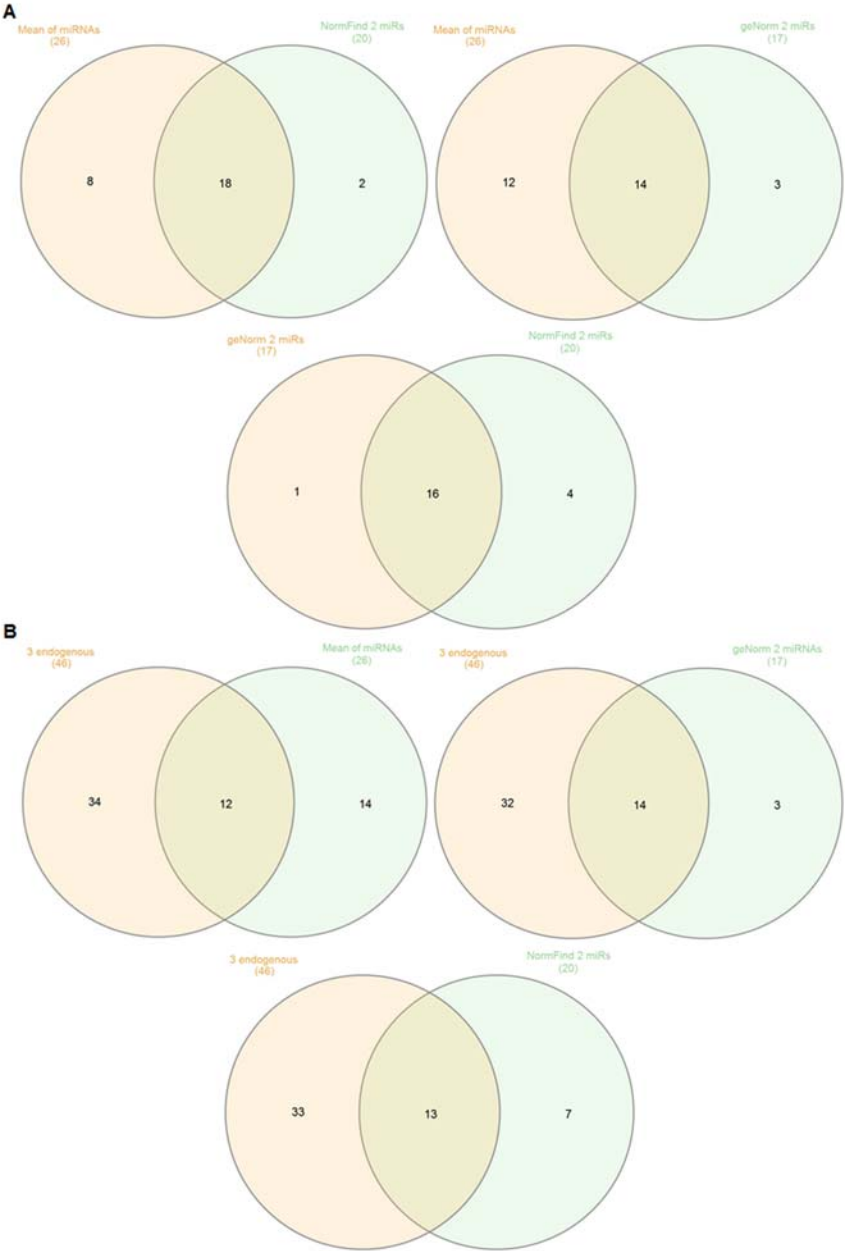
**Supplementary Table 8.** Dysregulated miRNAs identified by using 3 endogenous controls, the mean of miRNAs and the 2 most stable miRNAs as normalizers

Normalization strategies	Mean of miRNAs	3 endogenous controls
Mean of miRNAs	miR-221, miR-222, miR-324-5p, miR-550, miR-362, miR-148b, miR-93#	
3 endogenous controls	miR-598	miR-214#, miR-422a, miR-145, miR-376c, miR-204, miR-99a, miR-1201, miR-432#, miR-150, miR-195, miR-381, miR-130a, miR-142-3p, miR-455-3p, miR-378, miR-146a, miR-193a-5p, miR-411, miR-26b, miR-342-3p, miR-574-3p, let-7g, let-7e, miR-101, miR-30d#, miR-30e-3p, miR-374, miR-29c, miR-628-5p, miR-28, miR-28-3p
geNorm		miR-99a#
NormFinder	miR-1180, miR-130b#, miR-339-3p, miR-21	
geNorm and NormFinder	miR-183, miR-18a, miR-106a	let-7b, miR-100
Mean of miRNAs, geNorm and NormFinder		miR-196b, miR-182, miR-10b#, miR-139-5p, miR-144#, miR-214, miR-486, miR-199a-3p, miR-511, miR-424 and miR-125b

**Supplementary Figure 1.** The distribution of M scores for 157 miRNAs/ncRNAs tested by geNorm tool in HCC tissues. The combination of miR-30c/miR-30b had the smallest M score of 0.024. The stabilities of U6 snRNA, RNU48 and RNU44 ranked 17<sup>th</sup>, 32<sup>nd</sup> and 50<sup>th</sup> respectively, out of 157 candidates, indicating their unsuitability as normalizers.



**Supplementary Figure 2.** Comparisons of the consistency and discrepancy of the identified miRNA panels using different normalization strategies. (A) Most miRNAs (14-18) identified by using the mean of miRNAs overlapped with those identified using 2 stable miRNAs as the normalizer. (B) 12-14 miRNAs overlapped with the 46 identified using 3 endogenous controls as the normalizer.





**Supplementary Figure 3.** Comparisons of the consistency and discrepancy of miRNA panels identified using global mean or top stable miRNAs as normalizers. (A) Using the mean of global miRNAs or miR-30c/miR-126 as normalizers, 7 dysregulated miRNAs (miR-183, miR-1180, miR-18a, miR-130b#, miR-339-3p, miR-21 and miR-106a) were identified in HCC tumor tissues. (B) Using the mean of global miRNAs or miR-30c/miR-30b as normalizers, 3 dysregulated oncogenic miRNAs (miR-183, miR-18a and miR-106a) were identified. These miRNAs were not identified using 3 endogenous ncRNAs as normalizer.

**Supplementary Figure 3.**

