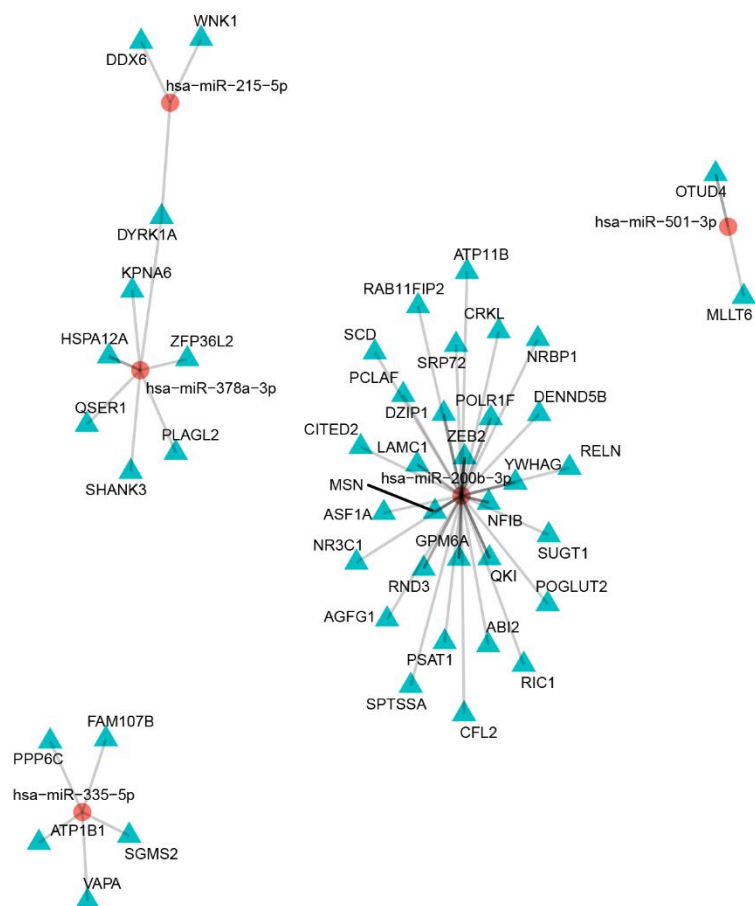
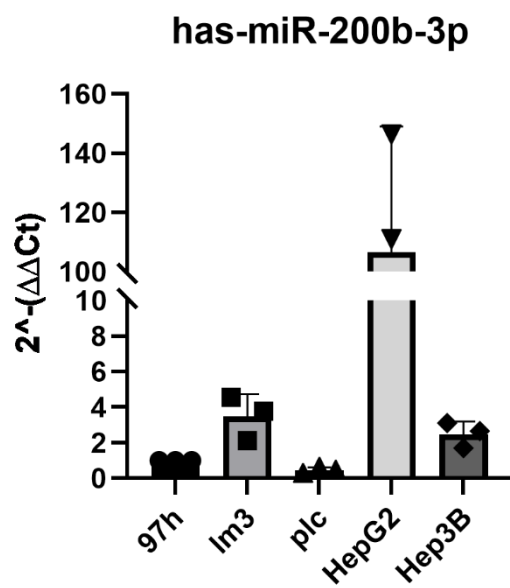




Supplementary Figure 1 Network diagram displaying 40 targets of 4 miRNAs.



Supplementary Figure 2 Expression of miR-200b-3p in HCC cell lines.

Supplementary Table 1 qPCR primer

Gene symbol	Primer sequence	
<i>miR-200b-3p</i>	CTCAACTGGTGTCTCGTGGAGTCGGCAATTCAGTTGAGTCATCATT	
<i>RT primer</i>		
<i>miR-200b-3p</i>	F:5'- GCCGCTAATACTGCCTGGTAATG- 3'	R:5'-GTGCAGGGTTCCGAGGT-3'
<i>PSAT1</i>	F:5'- TGCCGCACTCAGTGTTGTTAG-3'	R:5'- GCAATTCCCGCACAAGATTCT- 3'
<i>U6</i>	F:5'-CTCGCTTCGGCAGCACA-3'	R:5'- AACGCTTCACGAATTTGCGT-3'
<i>GAPDH</i>	F:5'-CATCCTGGGCTACACTGAGC- 3'	R:5'- AAAGTGGTCGTTGAGGGCAA- 3'

Supplementary Table 2 Complete list of 112 differentially expressed miRNAs identified by DESeq2 between HCC and non-HCC groups (FDR < 0.05).

	baseMean	log2FoldChange	padj
<i>hsa-miR-215-5p</i>	1756.385416	1.687471235	3.17E-12
<i>hsa-miR-200c-3p</i>	31.52472246	1.240528417	2.08E-09
<i>hsa-miR-141-3p</i>	24.73291433	1.329918361	1.21E-07
<i>hsa-miR-4446-3p</i>	34.38128496	-0.735702377	6.21E-06
<i>hsa-miR-429</i>	15.36552275	1.310809113	6.21E-06
<i>hsa-miR-150-5p</i>	27.6315418	-0.797642165	1.00E-05
<i>hsa-miR-122b-5p</i>	13.5191613	1.40891929	1.90E-05
<i>hsa-miR-744-5p</i>	340.9257692	-0.519451608	1.92E-05
<i>hsa-miR-503-5p</i>	52.34741451	0.500101816	1.92E-05
<i>hsa-miR-320c</i>	560.9253344	0.684556667	1.92E-05
<i>hsa-miR-130b-3p</i>	13.57009371	0.795114118	1.92E-05
<i>hsa-miR-125a-5p</i>	512.8227317	-0.60488753	2.16E-05
<i>hsa-miR-651-5p</i>	38.44408916	0.643460232	4.94E-05
<i>hsa-miR-4510</i>	5.163308587	-0.790283618	5.39E-05
<i>hsa-miR-501-3p</i>	285.8243587	0.391698087	5.53E-05
<i>hsa-miR-200b-3p</i>	46.51689505	0.939487127	5.91E-05
<i>hsa-miR-941</i>	88.75187317	-0.643131492	6.83E-05
<i>hsa-miR-10b-3p</i>	15.41950336	0.901990253	8.42E-05
<i>hsa-miR-6134</i>	5.400264526	-0.693317945	8.42E-05
<i>hsa-miR-452-5p</i>	14.72761233	1.024472193	9.79E-05
<i>hsa-miR-200a-3p</i>	344.2138392	0.896519661	9.79E-05
<i>hsa-miR-30e-3p</i>	214.8875018	-0.61400764	0.000107004
<i>hsa-miR-200b-5p</i>	8.437803266	1.066149027	0.000107004
<i>hsa-miR-328-3p</i>	248.5908784	-0.403872021	0.00020918
<i>hsa-let-7c-5p</i>	680.645518	-0.394030588	0.000373685
<i>hsa-let-7a-5p</i>	5771.073719	-0.339656059	0.000437457
<i>hsa-miR-335-5p</i>	41.42896495	0.421271935	0.000474836

<i>hsa-let-7d-5p</i>	468.5722058	-0.306990298	0.000695263
<i>hsa-miR-10b-5p</i>	5910.110837	0.542634118	0.000831735
<i>hsa-miR-16-2-3p</i>	3722.305251	0.370568162	0.000831735
<i>hsa-miR-323a-3p</i>	40.57918588	0.735549407	0.000868526
<i>hsa-miR-381-3p</i>	72.01431522	-0.674172011	0.001169491
<i>hsa-miR-30a-3p</i>	196.4600815	-0.55746737	0.001169491
<i>hsa-miR-10a-5p</i>	5775.816756	0.490895114	0.001169491
<i>hsa-miR-671-3p</i>	23.96845738	-0.483325446	0.00117431
<i>hsa-miR-452-3p</i>	2.372883188	1.467007206	0.00117431
<i>hsa-miR-6842-3p</i>	37.94985007	-0.433419222	0.001566295
<i>hsa-miR-1180-3p</i>	185.8011531	0.380525905	0.001566295
<i>hsa-miR-181b-5p</i>	235.7085877	0.367631703	0.002099032
<i>hsa-miR-22-3p</i>	5972.391883	0.344803831	0.002527212
<i>hsa-let-7e-5p</i>	59.8803528	-0.467285417	0.002725724
<i>hsa-miR-412-5p</i>	5.226973924	1.054640486	0.00293973
<i>hsa-miR-30c-5p</i>	178.9154715	-0.474340265	0.002957552
<i>hsa-miR-3613-5p</i>	29.22507338	0.57990464	0.003311568
<i>hsa-miR-378a-3p</i>	888.0131838	0.223567624	0.00376298
<i>hsa-miR-505-3p</i>	8.317370343	-0.855624535	0.004763155
<i>hsa-miR-432-5p</i>	112.0993028	-0.577068839	0.004763155
<i>hsa-miR-203a-3p</i>	171.9598712	0.660268317	0.0055868
<i>hsa-miR-659-5p</i>	2.493980912	-1.203568672	0.006583556
<i>hsa-miR-145-3p</i>	237.2541002	0.308660465	0.00677208
<i>hsa-miR-423-5p</i>	55008.59395	0.219493135	0.007573505
<i>hsa-miR-10399-3p</i>	33.38976923	-0.430039721	0.007604725
<i>hsa-miR-99b-5p</i>	542.6927322	0.28830666	0.007907367
<i>hsa-miR-21-5p</i>	16906.0756	0.315602095	0.007949655
<i>hsa-miR-502-3p</i>	34.40126188	0.306218395	0.008747658
<i>hsa-miR-20a-5p</i>	192.1995664	-0.325039356	0.009046051
<i>hsa-miR-10a-3p</i>	9.801188529	0.779969934	0.00915764
<i>hsa-miR-361-3p</i>	230.9883826	-0.262345442	0.010539336
<i>hsa-miR-224-5p</i>	119.4867322	0.485390449	0.01193156

<i>hsa-miR-144-3p</i>	106.89623	0.358453352	0.012997955
<i>hsa-miR-576-3p</i>	24.52649534	0.291598846	0.012997955
<i>hsa-miR-330-3p</i>	54.10701653	-0.380118376	0.013908401
<i>hsa-let-7a-3p</i>	194.6227542	0.241423698	0.014206114
<i>hsa-miR-338-5p</i>	147.4680752	0.347120021	0.014600216
<i>hsa-miR-30b-5p</i>	10.63042797	-0.704081529	0.014731518
<i>hsa-miR-26b-5p</i>	274.3298836	-0.276923096	0.014927104
<i>hsa-miR-532-5p</i>	1405.025715	0.232104529	0.015989617
<i>hsa-miR-340-5p</i>	636.7137084	0.286725415	0.016398799
<i>hsa-miR-378i</i>	12.02128546	-0.385061787	0.01692424
<i>hsa-miR-93-3p</i>	4.863715849	-0.848232145	0.017253622
<i>hsa-miR-509-3-5p</i>	1.102693261	-1.87468452	0.017253622
<i>hsa-miR-1301-3p</i>	40.46333907	-0.35772901	0.01782545
<i>hsa-miR-410-3p</i>	4.50331799	0.995752333	0.01782545
<i>hsa-miR-223-3p</i>	158.3189351	-0.496912562	0.017908645
<i>hsa-miR-1-3p</i>	196.3047297	-0.58047671	0.018438232
<i>hsa-miR-1307-3p</i>	694.9724228	-0.243556663	0.019272994
<i>hsa-miR-484</i>	404.2728091	0.194268829	0.019272994
<i>hsa-miR-483-5p</i>	561.8513836	0.582806634	0.0195077
<i>hsa-miR-548e-3p</i>	18.53483405	0.411101711	0.0195077
<i>hsa-miR-514a-5p</i>	26.76725809	-0.678219553	0.0195077
<i>hsa-miR-450b-5p</i>	67.13024378	0.424941653	0.019610163
<i>hsa-miR-32-5p</i>	76.55694831	0.27370553	0.022121946
<i>hsa-miR-7848-3p</i>	2.210102887	-0.996927467	0.022626196
<i>hsa-miR-6747-3p</i>	10.29739129	-0.585263092	0.023162522
<i>hsa-miR-148a-3p</i>	159044.2732	-0.262872655	0.023162522
<i>hsa-miR-455-5p</i>	27.06731316	-0.68491	0.024232431
<i>hsa-miR-610</i>	1.212809012	1.106100181	0.024824544
<i>hsa-miR-200a-5p</i>	9.502245292	0.724355998	0.024824544
<i>hsa-miR-99a-5p</i>	11773.90682	-0.357562492	0.024824544
<i>hsa-miR-675-5p</i>	0.824350289	1.839785097	0.024824544
<i>hsa-miR-500a-3p</i>	45.29387722	0.272865835	0.024935702

<i>hsa-miR-3690</i>	3.088810679	-0.838560202	0.025616393
<i>hsa-miR-542-3p</i>	30.15056135	0.428914573	0.025616393
<i>hsa-miR-126-3p</i>	2923.310541	-0.233613148	0.026799542
<i>hsa-miR-3181</i>	4.2726956	-0.772520781	0.027821288
<i>hsa-miR-6068</i>	1.316206124	-1.097401666	0.032382022
<i>hsa-miR-450a-5p</i>	39.78474228	0.466301744	0.036406842
<i>hsa-miR-8069</i>	1.26999053	-0.791888086	0.036680709
<i>hsa-miR-11400</i>	74.80251762	-0.324801602	0.039274863
<i>hsa-miR-148b-3p</i>	1151.501236	0.147611693	0.039751877
<i>hsa-miR-323b-3p</i>	43.16859632	0.527254036	0.040920937
<i>hsa-miR-151a-3p</i>	7441.909814	-0.192143543	0.042415875
<i>hsa-miR-499a-5p</i>	38.77348304	0.337471814	0.042415875
<i>hsa-miR-197-3p</i>	62.02962156	-0.306213605	0.04502558
<i>hsa-miR-214-3p</i>	7.995932467	0.539708016	0.04625385
<i>hsa-miR-4686</i>	3.760458954	-1.076487827	0.04625385
<i>hsa-miR-5589-5p</i>	0.892333496	-1.202788431	0.049186549
<i>hsa-miR-144-5p</i>	34.28674076	0.380690111	0.04923532
<i>hsa-miR-4488</i>	0.988588618	0.907560303	0.04941095
<i>hsa-miR-937-3p</i>	6.132275446	0.663218661	0.04941095
<i>hsa-miR-1307-5p</i>	26.19990791	0.340624239	0.049423339
<i>hsa-miR-9985</i>	3.512893045	0.45845791	0.049423339

Supplementary Table 3 Differential expression of candidate miRNAs in age-matched HCC-nonHCC pairs

miRNA	HCC (mean $\pm$ SD)	nonHCC (mean $\pm$ SD)	Paired <i>P</i>-value	t-test
miR-200b-3p	66.82 $\pm$ 25.3	35.84 $\pm$ 20.1	0.0024	
miR-215-5p	4261.92 $\pm$ 1850.5	1440.78 $\pm$ 920.3	0.0034	
miR-335-5p	56.68 $\pm$ 22.4	39.87 $\pm$ 18.6	0.0018	
miR-378a-3p	1098.98 $\pm$ 350.2	871.99 $\pm$ 290.5	0.0014	
miR-452-5p	28.18 $\pm$ 15.8	12.56 $\pm$ 9.5	0.0232	
miR-501-3p	431.72 $\pm$ 120.5	268.54 $\pm$ 95.3	<0.0001	

Supplementary Table 4 Univariate logistic regression analysis of six miRNAs for HCC diagnosis

miRNA	Odds Ratio (OR)	95% CI	<i>P</i>-value
miR-200b-3p	2.589	1.734-3.867	<0.0001
miR-215-5p	4.712	2.843-7.811	<0.0001
miR-335-5p	2.966	1.891-4.652	<0.0001
miR-378a-3p	2.867	1.954-4.207	<0.0001
miR-452-5p	2.193	1.636-2.940	<0.0001
miR-501-3p	3.600	2.314-5.600	<0.0001