

Table S1. Clinical information of the breast cancer patients and healthy controls.

Characteristics	RNA sequence analysis						qPCR validation		
	Basal-like group (n=6)	Her-2 ⁺ group (n=6)	Luminal A group (n=3)	Luminal B group (n=6)	TNBC group (n=6)	HC group (n=3)	TNBC group (n=20)	HC group (n=20)	
Age (years)	50.33±15.77	50.33±6.83	49.33±6.03	45.67±7.76	54.67±10.65	47.00±6.08	47.50±10.15	51.25±7.95	
Stage	II:III:IV=2:1:3	II:III=3:3	II:III=2:1	II:III:IV=1:1:4	I:II:III=1:4:1	-	I:II:III:IV=3:8:4:5	-	
ER status (positive)	0 (0%)	0 (0%)	2 (66.67%)	3 (50.0%)	0 (0%)	-	0 (0%)	-	
PR status (positive)	0 (0%)	0 (0%)	2 (66.67%)	4 (66.67%)	0 (0%)	-	0 (0%)	-	
Hypertension	0 (0%)	2 (33.33%)	1 (33.33%)	0 (0%)	1 (16.67%)	0 (0%)	3 (15.0%)	4 (20.0%)	
Diabetes	1 (16.67%)	1 (16.67%)	1 (33.33%)	0 (0%)	0 (0%)	0 (0%)	1 (5.0%)	2 (10.0%)	
Hyperlipidemia	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (5.0%)	6 (30.0%)	
CA15-3, U/ml	90.017±146.447	13.150±5.468	13.367±16.051	18.467±17.211	14.400±9.737	3.200±0.400	23.758±2.536	9.093±5.485	
CEA, ng/ml	20.913±40.791	2.730±1.292	7.390±9.051	3.728±5.537	1.930±1.348	1.510±0.312	2.536±4.225	1.811±0.834	
Ferritin, ng/ml	293.465±234.648	405.652±205.862	68.850±29.914	101.732±90.838	189.815±133.199	44.733±10.588	-	-	
β-HCG, mIU/ml	0.500±0.200	1.452±1.508	0.400±0.173	0.700±0.352	1.178±0.681	0.927±0.162	-	-	
TG, mmol/l	5.093±0.494	5.210±0.658	4.800±1.262	5.292±1.297	5.093±0.711	4.290±0.790	5.518±1.183	4.845±1.391	
TC, mmol/l	1.500±0.904	1.357±0.778	0.797±0.035	0.902±0.353	1.680±1.055	1.167±0.179	1.660±0.653	2.082±2.552	
HDL-C, mmol/l	1.300±0.249	1.497±0.306	1.707±0.240	1.588±0.290	1.432±0.342	1.213±0.219	1.362±0.330	1.388±0.341	
LDL-C, mmol/l	2.940±0.727	2.913±0.373	2.500±0.893	3.093±1.241	2.817±0.386	2.537±0.179	3.234±0.887	2.610±1.069	

HC, healthy control; TNBC, triple-negative breast cancer; CA15-3, carbohydrate antigen 15-3; CEA, carcinoembryonic antigen; HCG, human chorionic gonadotropin; TG, triglycerides; TC, total cholesterol; LDL-C, low-density lipoprotein cholesterol; HDL-C, high-density lipoprotein cholesterol.

Table SII. Overall situation of the sequencing data.

Subtype	Sample	Total reads	Q30 (%)	Clean reads	Mapped genome miRNA	Mapped known mature	Mapped known total miRNA
Basal-like	BN1	13,331,966	93.72	12,661,357	6,222,085	6,222,085	977
	BN2	13,541,822	93.58	12,860,608	758,775	8,342,033	790
	BN3	14,647,152	93.72	13,970,543	9,792,136	9,792,136	1,020
	BR1	12,747,814	93.12	12,019,593	6,625,029	6,625,029	964
	BR2	11,341,605	91.44	10,701,883	1,548,099	6,174,566	909
	BR3	11,600,378	91.54	10,909,679	5,963,147	6,498,789	1,017
HER-2+	HN1	15,417,590	94.80	14,517,814	9,407,343	9,407,343	977
	HN2	11,931,617	91.48	11,205,489	6,188,178	6,522,751	852
	HN3	14,320,374	91.67	13,593,315	8,246,739	8,246,739	1,031
	HR1	14,220,831	93.13	13,192,134	7,428,747	7,428,747	1,066
	HR2	13,690,196	97.83	13,229,847	10,379,595	10,379,595	673
	HR3	12,134,154	91.44	11,450,051	1,800,160	6,394,946	955
Luminal A	LA1	11,713,338	92.30	10,989,341	5,727,728	5,727,728	900
	LA2	11,472,001	91.42	10,767,391	6,622,095	6,622,095	953
	LA3	15,067,616	91.13	14,050,990	8,634,222	8,634,222	1,000
Luminal B	LN1	11,839,975	92.33	11,059,810	5,922,966	5,922,966	971
	LN2	12,327,522	91.68	11,653,968	152,115	6,645,275	932
	LN3	14,313,723	93.45	13,564,273	8,869,285	8,869,285	950
	LR1	13,117,572	94.59	12,441,898	6,775,954	6,775,954	1,074
	LR2	14,219,172	93.92	13,461,417	8,937,593	8,937,593	805
	LR3	14,207,546	95.39	13,437,766	9,593,294	9,593,294	836
TNBC	TN1	12,825,265	93.07	12,189,260	6,563,108	6,563,108	961
	TN2	12,246,032	92.23	11,511,210	6,863,815	6,863,815	876
	TN3	13,406,552	94.01	12,877,657	578,078	8,465,949	745
	TR1	12,434,001	92.39	11,587,403	6,216,282	6,216,282	919
	TR2	13,272,109	91.89	12,418,512	2,093,981	8,061,634	829
	TR3	13,646,652	91.39	12,751,482	1,809,416	7,171,377	823
HC	HC1	12,516,111	92.40	11,113,923	5,634,796	5,634,796	668
	HC2	13,907,950	91.91	13,134,382	8,153,275	8,153,275	971
	HC3	14,316,379	91.77	13,465,764	7,752,683	7,752,683	944

HER-2, human epidermal growth factor receptor-2; TNBC, triple-negative breast cancer; HC, healthy control.

Table SIII. List of miRNAs found to be differentially expressed between TNBC patients and HCs.

miRNAs	Log ₂ FC	P-value
Downregulation		
hsa-miR-483-5p	-3.9840	0.0003
hsa-miR-490-3p	-3.2004	0.0066
hsa-miR-1250-5p	-2.8505	0.0271
hsa-miR-4665-5p	-2.9013	0.0273
hsa-miR-148a-5p	-2.3689	0.0284
hsa-miR-3620-5p	-3.7847	0.0291
hsa-miR-3928-3p	-2.8148	0.0291
hsa-miR-378a-3p	-2.5487	0.0302
hsa-miR-7110-5p	-4.0376	0.0302
hsa-miR-122-5p	-2.3101	0.0311
hsa-miR-210-3p	-2.3713	0.0311
hsa-miR-22-3p	-2.4360	0.0311
hsa-miR-320a	-2.8459	0.0311
hsa-miR-3591-3p	-2.3098	0.0311
hsa-miR-378c	-2.6547	0.0311
hsa-miR-5187-5p	-2.6634	0.0311
novel_136	-2.9586	0.0322
hsa-miR-1299	-2.5060	0.0358
hsa-miR-3175	-2.7338	0.0360
hsa-miR-3198	-3.1701	0.0360
hsa-miR-4433a-5p	-2.5945	0.0389
hsa-miR-4433b-3p	-2.5915	0.0389
hsa-miR-4470	-2.8356	0.0398
hsa-miR-769-5p	-2.2977	0.0398
hsa-miR-34a-5p	-2.0256	0.0468
hsa-miR-4646-5p	-3.8800	0.0468
hsa-miR-4667-5p	-3.2829	0.0468
hsa-miR-6724-5p	-3.4145	0.0468
novel_85	-3.0230	0.0468
novel_90	-3.9641	0.0468
hsa-miR-185-3p	-1.9976	0.0480
hsa-miR-378d	-2.4216	0.0483
hsa-miR-6763-5p	-3.4658	0.0483
hsa-miR-7845-5p	-3.8334	0.0483
Up-regulation		
hsa-miR-150-5p	4.6930	<0.001
hsa-miR-664a-3p	4.8060	0.0002
hsa-miR-342-3p	3.0973	0.0059
hsa-miR-374b-5p	3.2359	0.0095
hsa-miR-374c-3p	3.2341	0.0095
hsa-miR-155-5p	2.7868	0.0273
hsa-miR-576-5p	3.2565	0.0291
hsa-miR-889-3p	2.4883	0.0291
hsa-miR-23b-3p	2.3769	0.0311
hsa-miR-361-5p	2.8404	0.0311
hsa-miR-379-3p	3.5850	0.0311
hsa-miR-654-3p	2.1065	0.0311
hsa-miR-30c-5p	2.3318	0.0389
hsa-miR-411-3p	3.6379	0.0389
hsa-miR-655-3p	3.0701	0.0445
hsa-miR-429	3.1438	0.0468
hsa-miR-668-3p	3.8973	0.0468
hsa-miR-95-3p	2.8315	0.0468
hsa-miR-369-3p	2.4143	0.0483
hsa-miR-92a-3p	2.2695	0.0483

TNBC, triple negative breast cancer; HC, healthy control; FC, Fold-change.