Table 1. Differentially expressed miRNAs in the screening phase.

miRNA	Fold change		
	Pool 1	Pool 2	Mean fold
let-7b-5p	3.23	3.11	3.17
miR-106a-5p	2.97	2.76	2.76
miR-144-5p	4.15	1.80	2.97
miR-15b-3p	3.36	2.25	2.80
miR-17-5p	1.74	1.78	1.76
miR-18a-5p	2.37	2.36	2.36
miR-18b-5p	1.73	1.77	1.75
miR-20a-5p	2.28	2.58	2.43
miR-20b-5p	6.28	3.87	5.08
miR-25-3p	4.08	2.97	3.52
miR-296-5p	2.27	1.74	2.01
miR-29b-2-5p	4.24	2.98	3.61
miR-324-3p	2.68	2.35	2.51
miR-331-3p	2.81	1.86	2.33
miR-451a	2.41	2.29	2.35
miR-484	2.32	1.58	1.95
miR-486-5p	4.75	2.33	3.54
miR-500a-5p	2.68	2.68	2.68
miR-574-3p	1.95	1.82	1.89
miR-92a-3p	4.90	2.02	3.46
miR-92b-3p	4.11	1.62	2.87
miR-93-3p	4.51	2.40	3.46
miR-93-5p	2.30	2.61	2.45
miR-30b-5p	3.37	2.72	3.05
miR-375	3.44	2.78	3.11
miR-543	3.47	2.80	3.14
miR-139-5p	3.68	2.20	2.94
miR-150-5p	4.11	2.83	3.47
miR-18a-3p	4.13	2.41	3.27
miR-192-5p	4.57	1.80	3.19
miR-151a-3p	4.77	3.85	4.31
miR-200a-3p	5.19	4.19	4.69
miR-485-3p	7.13	5.75	6.44
miR-495-3p	7.20	5.81	6.51
miR-16-2-3p	8.34	6.73	7.54
miR-204-5p	10.38	8.37	9.38
miR-142-5p	-4.30	-3.64	-3.97
miR-338-3p	-4.62	-2.85	-3.73
miR-33a-5p	-8.01	-13.51	-10.76
miR-424-5p	-17.60	-23.29	-20.44

Table 2. Expression levels of the identified miRNAs from screening phase but not passed through the training stage and the testing stage.

miRNA	Training stage				Testing stage			
	Cases	Controls	FC	*P* value	Cases	Controls	FC	*P* value
let-7b-5p	4.22±1.69	5.57±1.78	2.56	0.003	4.38±0.89	4.93±0.67	1.46	0.100
miR-150-5p	5.15±1.63	6.49±1.28	2.52	<0.001	6.87±1.03	7.00±0.59	1.10	0.704
miR-204-5p	4.18±1.41	5.05±1.67	1.82	0.031	9.08±1.32	9.78±1.52	1.62	0.140
miR-485-3p	4.72±2.17	6.12±2.78	2.64	0.019	11.52±1.93	11.69±1.85	1.12	0.634
miR-139-5p	0.58±1.78	1.78±1.48	2.30	0.001	9.59±0.94	9.47±0.73	0.92	0.410
miR-200a-3p	5.10±1.62	6.32±1.78	2.33	0.005	7.08±0.87	7.44±0.71	1.28	0.067
miR-20a-5p	6.31±1.44	7.99±1.22	3.20	<0.001	11.00±1.75	11.54±1.49	1.46	0.227
miR-92b-3p	1.75±1.61	2.78±2.54	2.05	0.049	5.33±0.76	5.38±0.78	1.04	0.590
miR-93-5p	-0.38±2.27	1.13±2.79	2.83	0.006	4.18±0.89	4.56±0.70	1.30	0.038
miR-106a-5p	1.89±1.57	1.91±1.1.27	1.01	0.517				
miR-142-5p	5.36±2.10	6.04±1.82	1.60	0.081				
miR-144-5p	10.40±2.44	11.29±2.27	1.87	0.242				
miR-151a-3p	5.39±4.28	5.62±2.54	1.17	0.876				
miR-151a-5p	4.45±1.90	5.29±2.47	1.79	0.127				
miR-15b-3p	4.17±3.76	4.81±4.30	1.56	0.401				
miR-16-2-3p	8.09±2.45	8.98±1.91	1.86	0.143				
miR-17-5p	4.46±1.53	4.86±1.29	1.32	0.179				
miR-18a-3p	5.71±1.96	5.94±2.15	1.18	0.508				
miR-18a-5p	6.86±4.01	7.95±4.55	2.13	0.092				
miR-18b-5p	8.75±2.06	9.23±2.00	1.39	0.212				
miR-190a	9.71±2.24	10.66±2.11	1.93	0.183				
miR-192-5p	1.03±1.06	1.04±1.30	1.01	0.914				
miR-20b-5p	2.54±1.79	2.49±2.15	0.96	0.764				
miR-222-3p	-0.72±2.14	0.08±2.34	1.74	0.077				
miR-29b-2-5p	6.58±4.01	7.30±4.67	1.65	0.341				
miR-30b-5p	3.28±4.32	4.06±4.67	1.72	0.143				
miR-324-3p	3.61±4.24	4.68±4.29	2.10	0.103				
miR-331-3p	9.13±3.06	9.96±3.71	1.79	0.081				
miR-338-3p	7.24±4.13	7.84±4.51	1.52	0.408				
miR-33a-5p	3.64±2.98	4.27±3.60	1.54	0.401				
miR-375	2.53±4.11	3.34±4.38	1.75	0.157				
miR-424-5p	5.83±3.68	6.41±4.38	1.50	0.259				
miR-451a	3.02±4.14	3.57±3.84	1.47	0.421				
miR-484	1.14±4.10	1.55±4.23	1.33	0.302				
miR-486-5p	-3.26±2.52	-2.26±2.64	1.99	0.171				
miR-495-3p	0.77±1.39	1.58±2.10	1.76	0.105				
miR-500a-5p	6.63±4.03	6.96±4.73	1.25	0.524				
miR-543	6.55±3.82	7.29±4.46	1.67	0.127				
miR-574-3p	-6.33±2.39	-5.62±2.86	1.63	0.199				
miR-93-3p	8.25±1.82	8.35±2.47	1.07	0.308				

miR-95-5p	7.33±1.06	8.10±4.62	1.71	0.271

Data are presented as median ± standard deviation; FC: Fold change.

Table 3. Expression levels of the three miRNAs in the external cohort.

miRNA	Cases	Controls	FC	*P* value
miR-25-3p	1.68±1.67	2.95±0.58	2.40	0.037
miR-296-5p	2.24±1.37	3.36±0.63	2.18	0.044
miR-92a-3p	6.91±0.87	7.90±0.92	1.99	0.019

Data are presented as median ± standard deviation; FC: Fold change.

Table 4. Differentially expressed miRNAs in the 2 NG pools and 1 HC pool.

miRNA	Fold change		
	Pool 1	Pool 2	Mean fold
miR-375	5.94	1.53	3.74
miR-16-5p	3.60	1.80	2.70
miR-483-5p	1.71	3.36	2.54
miR-144-3p	2.57	1.83	2.20
miR-501-3p	1.76	2.39	2.07
miR-885-5p	1.62	2.40	2.01
miR-33a-5p	2.28	1.69	1.98
miR-324-3p	2.13	1.70	1.91
miR-150-5p	1.54	1.57	1.56
miR-454-3p	-1.81	-1.95	-1.88
let-7e-5p	-2.20	-1.70	-1.95
miR-423-3p	-1.90	-2.04	-1.97
miR-339-5p	-1.80	-2.48	-2.14
miR-27b-3p	-1.81	-2.74	-2.27
miR-30b-5p	-1.97	-2.64	-2.31
miR-301a-3p	-2.73	-2.07	-2.40
miR-30e-3p	-1.93	-2.88	-2.41
miR-103a-3p	-2.13	-2.83	-2.48
let-7a-5p	-1.94	-3.07	-2.50
miR-221-3p	-1.72	-3.40	-2.56
miR-151a-5p	-1.82	-3.35	-2.59
miR-26a-5p	-1.89	-3.30	-2.59
miR-23b-3p	-2.41	-2.90	-2.65
miR-223-5p	-1.85	-3.52	-2.68
miR-376a-3p	-1.72	-3.75	-2.73
miR-27a-3p	-2.17	-3.35	-2.76
let-7f-5p	-1.82	-3.90	-2.86
miR-199a-3p	-1.94	-3.80	-2.87

miR-133a-3p	-2.31	-3.50	-2.91
miR-485-3p	-1.89	-4.03	-2.96
miR-146b-5p	-2.12	-3.92	-3.02
miR-495-3p	-2.48	-3.57	-3.03
miR-199a-5p	-1.98	-4.09	-3.04
miR-28-5p	-2.52	-3.82	-3.17
miR-181a-5p	-2.85	-3.54	-3.19
miR-143-3p	-2.47	-4.37	-3.42
miR-326	-3.01	-3.84	-3.42
miR-30c-5p	-2.13	-4.79	-3.46
let-7d-5p	-2.42	-4.51	-3.47
miR-374b-5p	-2.43	-5.28	-3.86
miR-223-3p	-2.29	-5.97	-4.13
miR-155-5p	-4.07	-4.30	-4.18
miR-766-3p	-2.59	-5.94	-4.27
miR-382-5p	-2.79	-6.07	-4.43
miR-195-5p	-3.62	-5.97	-4.80
miR-154-5p	-4.33	-7.58	-5.96
miR-133b	-4.39	-10.92	-7.66
miR-136-5p	-5.34	-10.63	-7.99
miR-127-3p	-9.89	-7.61	-8.75
miR-200c-3p	-12.48	-10.64	-11.56
miR-543	-11.96	-12.07	-12.02

NG: Nodular goiter; HC: Healthy control.