

Supplementary Table 1. Characteristics of the included studies.

Author	Year	Country	microRNAs	Regulation mode	Sample size				Specimen	Diagnostic power		
					Case	No.	Control	No.		Sen (%)	Spe (%)	AUC
Mitchell, P. S.	2008	USA	miR-141	Up	PCA	25	HI	25	Serum	0.80	0.92	0.91
Mahn, R.	2011	Germany	let-7i	Up	PCA	35	BPH	7	Serum	0.83	0.86	0.91
Mahn, R.	2011	Germany	miR-16	Up	PCA	35	BPH	7	Serum	0.69	1.00	0.84
Mahn, R.	2011	Germany	miR-26a	Up	PCA	35	BPH	7	Serum	0.97	0.86	0.92
Mahn, R.	2011	Germany	miR-32	Up	PCA	35	BPH	7	Serum	0.60	0.71	0.65
Mahn, R.	2011	Germany	miR-195	Up	PCA	35	BPH	7	Serum	0.77	1.00	0.88
Mahn, R.	2011	Germany	let-7i	Up	PCA	37	BPH	18	Serum	0.81	0.61	0.70
Mahn, R.	2011	Germany	miR-16	Up	PCA	37	BPH	18	Serum	0.62	0.72	0.64
Mahn, R.	2011	Germany	miR-26a	Up	PCA	37	BPH	18	Serum	0.89	0.56	0.70
Mahn, R.	2011	Germany	miR-32	Up	PCA	37	BPH	18	Serum	0.49	0.72	0.59
Mahn, R.	2011	Germany	miR-195	Up	PCA	37	BPH	18	Serum	0.76	0.67	0.67
Chen, Z. H.	2012	China	let-7c	Down	PCA	80	HI	54	Plasma	0.69	0.70	0.78
Chen, Z. H.	2012	China	let-7e	Down	PCA	80	HI	54	Plasma	0.78	0.75	0.80
Chen, Z. H.	2012	China	miR-30c	Down	PCA	80	HI	54	Plasma	0.80	0.69	0.82
Chen, Z. H.	2012	China	miR-622	Up	PCA	80	HI	54	Plasma	0.90	0.63	0.79
Chen, Z. H.	2012	China	miR-1285	Up	PCA	80	HI	54	Plasma	0.61	0.57	0.64
Chen, Z. H.	2012	China	let-7c	Down	PCA	80	BPH	44	Plasma	0.75	0.71	0.78
Chen, Z. H.	2012	China	let-7e	Down	PCA	80	BPH	44	Plasma	0.77	0.73	0.80
Chen, Z. H.	2012	China	miR-30c	Down	PCA	80	BPH	44	Plasma	0.61	0.83	0.76
Chen, Z. H.	2012	China	miR-622	Up	PCA	80	BPH	44	Plasma	0.71	0.68	0.76
Chen, Z. H.	2012	China	miR-1285	Up	PCA	80	BPH	44	Plasma	0.61	0.64	0.64
Chen, Z. H.	2012	China	let-7c+let-7e+ miR-30c+ miR- 622+ miR-1285	*	PCA	80	HI	54	Plasma	0.74	0.84	0.86
Chen, Z. H.	2012	China	let-7c+let-7e+ miR-30c+ miR- 622+ miR-1285	*	PCA	80	BPH	44	Plasma	0.81	0.93	0.92
Bryant, R. J.	2012	UK	miR-107	Down	PCA	78	HI	28	Plasma	0.67	0.43	0.62
Egidi, M. G.	2013	Italy	miR-21	Down	PCA	38	HI	40	Serum	0.53	0.73	0.60
Egidi, M. G.	2013	Italy	miR-141	Up	PCA	38	HI	40	Serum	0.79	0.83	0.81

Egidi, M. G.	2013	Italy	miR-21+ miR-141	Up	PCA	38	HI	40	Serum	0.68	0.85	0.81
Srivastava, A.	2013	USA	miR-205+ miR-214	Down	PCA	36	HI	12	Urine	0.89	0.80	0.87
Kotb, S.	2014	Egypt	miR-21	Up	PCA	10	BPH	10	Serum	0.90	0.90	*
Kotb, S.	2014	Egypt	miR-221	Up	PCA	10	BPH	10	Serum	0.80	0.80	*
Liao YF.	2014	China	miR-141	Up	PCA	75	BPH	52	Serum	0.68	0.70	0.79
Liao YF.	2014	China	miR-141	Up	PCA	75	HI	40	Serum	0.73	0.77	0.80
Kelly, B. D	2015	Ireland	miR-141	Up	PCA	75	BPH	27	Serum	0.94	0.53	0.66
Kelly, B. D	2015	Ireland	let-7a	Down	PCA	75	BPH	27	Serum	0.93	0.51	0.68
Kelly, B. D	2015	Ireland	let-7a+ miR-141+ miR-145+ miR-155	*	PCA	75	BPH	27	Serum	0.97	0.63	0.80
Xu, S.	2015	China	miR-129	Down	PCA	98	HI	56	Blood	0.89	0.67	0.85
Huang, W.	2015	China	miR-21	Up	PCA	75	HI	75	Blood	0.88	0.86	0.90
Kachakova, D	2015	Bulgaria	let-7c	Down	PCA	59	BPH	16	Plasma	0.75	0.61	0.76
Kachakova, D	2015	Bulgaria	miR-30c	Down	PCA	59	BPH	16	Plasma	0.63	0.42	0.63
Kachakova, D	2015	Bulgaria	miR-141	Down	PCA	59	BPH	16	Plasma	0.50	0.71	0.51
Kachakova, D	2015	Bulgaria	miR-375	Down	PCA	59	BPH	16	Plasma	0.81	0.73	0.81
Kachakova, D	2015	Bulgaria	let-7c	Down	PCA	59	HI	11	Plasma	0.63	0.71	0.63
Kachakova, D	2015	Bulgaria	miR-30c	Down	PCA	59	HI	11	Plasma	0.56	0.54	0.59
Kachakova, D	2015	Bulgaria	miR-141	Down	PCA	59	HI	11	Plasma	0.57	0.57	0.57
Kachakova, D	2015	Bulgaria	miR-375	Down	PCA	59	HI	11	Plasma	0.78	0.63	0.71
Kachakova, D	2015	Bulgaria	let-7c + miR-141	Down	PCA	59	BPH	16	Plasma	0.80	0.81	0.75
Kachakova, D	2015	Bulgaria	miR-141 + miR-375	Down	PCA	59	BPH	16	Plasma	0.75	0.75	0.70
Kachakova, D	2015	Bulgaria	let-7c+ miR-30c+ miR-141	Down	PCA	59	BPH	16	Plasma	0.80	0.81	0.75
Kachakova, D	2015	Bulgaria	let-7c+miR-141+ miR-375	Down	PCA	59	BPH	16	Plasma	0.78	0.88	0.82
Kachakova, D	2015	Bulgaria	miR-30c+miR-141+ miR-375	Down	PCA	59	BPH	16	Plasma	0.76	0.88	0.81
Kachakova, D	2015	Bulgaria	let-7c+miR-30c+miR-375	Down	PCA	59	BPH	16	Plasma	0.71	0.63	0.66
Kachakova, D	2015	Bulgaria	miR-141 + miR-375	Down	PCA	59	HI	11	Plasma	0.77	0.70	0.75
Kachakova, D	2015	Bulgaria	let-7c+miR-375	Down	PCA	59	HI	11	Plasma	0.76	0.67	0.70

Kachakova, D	2015	Bulgaria	miR-30c + miR-375	Down	PCA	59	HI	11	Plasma	0.75	0.70	0.69
Kachakova, D	2015	Bulgaria	let-7c+ miR-141+miR-375	Down	PCA	59	HI	11	Plasma	0.73	0.74	0.71
Kachakova, D	2015	Bulgaria	miR-30c+miR-141+ miR-375	Down	PCA	59	HI	11	Plasma	0.82	0.61	0.69
Kachakova, D	2015	Bulgaria	let-7c+ miR-30c+miR-141 +miR-375	Down	PCA	59	HI	11	Plasma	0.77	0.78	0.77
Akbayır, S.	2016	Turkey	miR-125b-5p	Down	PCA	13	BPH	44	Plasma	1.00	0.73	0.82
Akbayır, S.	2016	Turkey	miR-194-5p	Down	PCA	13	BPH	44	Plasma	1.00	0.50	0.81
Gao, Y.	2016	China	miR-21	Up	PCA	57	BPH	28	Plasma	0.88	0.75	0.80
Gao, Y.	2016	China	miR-375	Up	PCA	57	BPH	28	Plasma	0.75	0.75	0.76
Gao, Y.	2016	China	miR-21+ miR-375	Up	PCA	57	BPH	28	Plasma	0.86	0.68	0.80
Yang, B.	2016	China	miR-21	Up	PCA	92	BPH	85	Blood	0.94	0.93	0.97
Yang, B.	2016	China	miR-21	Up	PCA	92	HI	97	Blood	0.95	0.93	0.98
Salido-Guadarrama	2016	Mexico	miR-100+miR-200b	Up	PCA	73	BPH	70	Urine	0.82	0.81	0.88
Feng, Q.	2016	China	miR-32	Up	PCA	103	HI	103	Serum	0.87	0.90	0.91
Alekseev, B.	2017	Russian	miR- 155-5p+miR-619-5p	*	PCA	188	BPH+HI	57	Serum	0.81	0.69	0.82
Alekseev, B.	2017	Russian	miR-155-5p+miR-619-5p+miR- 6777-5p	*	PCA	188	BPH+HI	57	Serum	0.80	0.81	0.85
Alekseev, B.	2017	Russian	miR-6085+miR-6511b-5p+miR-6886-5p	*	PCA	188	BPH+HI	57	Serum	0.81	0.81	0.86
Alekseev, B.	2017	Russian	miR-155-5p+miR-619-5p+miR- 6777-5p+ miR-6085+miR-6511b-5p+miR-6886-5p	*	PCA	188	BPH+HI	57	Serum	0.84	0.85	0.91
Zidan, H. E.	2018	Egypt	miR-15a	Down	PCA	70	BPH	70	Serum	0.89	0.85	0.88
Zidan, H. E.	2018	Egypt	miR-16-1	Down	PCA	70	HI	70	Serum	0.85	0.83	0.85
Porzycki, P.	2018	Poland	miR-106b	Up	PCA	20	HI	10	Serum	0.95	0.50	0.75
Porzycki, P.	2018	Poland	miR-141-3p	Up	PCA	20	HI	10	Serum	0.65	0.88	0.83
Porzycki, P.	2018	Poland	miR-21	Up	PCA	20	HI	10	Serum	0.90	0.75	0.86

Porzycki, P.	2018	Poland	miR-375	Up	PCA	20	HI	10	Serum	1.00	0.75	0.91
Porzycki, P.	2018	Poland	miR-141-3p+ miR-21+ miR-375	Up	PCA	20	HI	10	Serum	0.93	0.63	0.86
Luo, ZG.	2018	China	miR-107	Up	PCA	30	BPH	30	Serum	0.67	0.83	0.81
Bidarra, D.	2019	Portugal	miR-182-5p	Up	PCA	252	HI	52	Plasma	0.48	0.77	0.64
Dülgeroğlu, Y.	2019	Turkey	miR-375	Down	PCA	25	BPH	33	Serum	0.76	0.80	0.83
Dülgeroğlu, Y.	2019	Turkey	miR-93-5p	Down	PCA	25	BPH	33	Serum	0.61	0.71	0.63
Dülgeroğlu, Y.	2019	Turkey	miR-125b-5p	Down	PCA	25	BPH	33	Serum	0.67	0.88	0.81
Dülgeroğlu, Y.	2019	Turkey	miR-30c-5p	Down	PCA	25	BPH	33	Serum	0.73	0.80	0.79
Dülgeroğlu, Y.	2019	Turkey	miR-26b-5p	Down	PCA	25	BPH	33	Serum	0.82	0.92	0.92
Dülgeroğlu, Y.	2019	Turkey	let-7c-5p	Down	PCA	25	BPH	33	Serum	0.91	0.72	0.89
Ibrahim, N. H.	2019	Egypt	miR- 21	Up	PCA	50	BPH+HI	80	Plasma	0.91	1.00	0.96
Ibrahim, N. H.	2019	Egypt	miR- 221	Up	PCA	50	BPH+HI	80	Plasma	0.46	1.00	0.87
Ibrahim, N. H.	2019	Egypt	miR- 18a	Up	PCA	50	BPH+HI	80	Plasma	0.96	1.00	0.996
Ibrahim, N. H.	2019	Egypt	miR- 21+miR- 18a	Up	PCA	50	BPH+HI	80	Plasma	0.96	1.00	0.97
Jin, Y. Y.	2019	China	miR-324	Up	PCA	50	BPH+HI	50	Serum	0.86	0.82	0.91
Lyu, J.	2019	China	miR-365a-3p	Up	PCA	36	BPH	54	Serum	0.46	0.81	0.60
Lyu, J.	2019	China	miR-4286	Up	PCA	36	BPH	54	Serum	0.68	0.53	0.61
Lyu, J.	2019	China	miR-424-5p	Down	PCA	36	BPH	54	Serum	0.32	0.95	0.67
Lyu, J.	2019	China	miR-29b-3p	Up	PCA	36	BPH	54	Serum	0.27	0.95	0.59
Lyu, J.	2019	China	miR-27a-3p	Up	PCA	36	BPH	54	Serum	0.28	0.97	0.60
Urabe, F.	2019	Japan	miR-17-3p	Up	PCA	384	BPH	100	Serum	0.88	0.93	0.97
Urabe, F.	2019	Japan	miR-1185-2-3p	Up	PCA	384	BPH	100	Serum	0.89	0.81	0.92
Urabe, F.	2019	Japan	miR-17-3p +miR- 1185-2-3p	Up	PCA	384	BPH	100	Serum	0.91	0.97	0.99
Urabe, F.	2019	Japan	miR-17-3p	Up	PCA	384	BPH	100	Serum	0.87	0.83	0.91
Urabe, F.	2019	Japan	miR-1185-2-3p	Up	PCA	384	BPH	100	Serum	0.86	0.79	0.92
Urabe, F.	2019	Japan	miR-17-3p +miR- 1185-2-3p	Up	PCA	384	BPH	100	Serum	0.90	0.90	0.95
Yang, X.	2019	China	miR-221	Up	PCA	43	BPH+HI	62	Serum	0.33	0.98	0.71
Ghorbanmehr, N.	2019	Iran	miR-21-5p	Up	PCA	23	BPH+HI	42	Urine	0.81	0.88	0.88
Ghorbanmehr, N.	2019	Iran	miR-141-3p	Up	PCA	23	BPH+HI	42	Urine	0.81	0.86	0.79
Ghorbanmehr, N.	2019	Iran	miR-205-5p	Up	PCA	23	BPH+HI	42	Urine	0.82	0.69	0.76

Borkowetz, A.	2020	Germany	miR-16	Down	PCA	26	BPH	24	Urine	0.65	0.88	0.74
Borkowetz, A.	2020	Germany	miR-195	Down	PCA	26	BPH	24	Urine	0.62	0.79	0.73
Borkowetz, A.	2020	Germany	miR-16	Down	PCA	15	BPH	19	Urine	0.80	0.90	0.82
Borkowetz, A.	2020	Germany	miR-195	Down	PCA	15	BPH	19	Urine	0.67	0.79	0.77
Ciszkowicz, E.	2020	Poland	miR-21	Up	PCA	40	BPH	62	Serum	0.50	0.92	0.76
Ciszkowicz, E.	2020	Poland	miR-93	Up	PCA	40	BPH	62	Serum	0.95	0.79	0.92
Ciszkowicz, E.	2020	Poland	miR-141	Up	PCA	40	BPH	62	Serum	0.92	0.66	0.85
Ciszkowicz, E.	2020	Poland	miR-182	Up	PCA	40	BPH	62	Serum	0.85	0.79	0.88
Ciszkowicz, E.	2020	Poland	miR-205	Down	PCA	40	BPH	62	Serum	0.90	0.52	0.70
Ciszkowicz, E.	2020	Poland	miR-375	Up	PCA	40	BPH	62	Serum	0.73	0.90	0.89
Ciszkowicz, E.	2020	Poland	let-7a	Down	PCA	40	BPH	62	Serum	0.40	0.92	0.67
Ciszkowicz, E.	2020	Poland	miR-93+miR-375	Up	PCA	40	BPH	62	Serum	0.81	0.85	0.91
Zheng, XM.	2020	China	miR-34b	Up	PCA	40	BPH+HI	80	Serum	0.73	0.77	0.79
Peng, YG.	2020	China	miR-135	Up	PCA	108	BPH+HI	102	Serum	0.82	0.93	0.93

Note: Up: upregulated, Down: downregulated, PCA: prostate cancer, BPH: benign prostate hyperplasia, HI: healthy individuals, Se: sensitivity, Sp specificity, AUC: area under the curve, *: no reported.