

**Table S1.** Comparison of anthropometric and sociodemographic characteristics between participants groups.

Characteristics	PD+ (N=144)	PD- (N=86)	<i>p</i> -value	Total (N=230)
<u>Sex</u>			<b>0.012</b>	
Female	116 (80.6)	80 (93.0)		196 (85.2)
Male	28 (19.4)	6 (7.0)		34 (14.8)
<u>Age (years)</u>	53.88 ± 10.39	47.59 ± 13.99	<b>&lt;0.001</b>	51.53 ± 12.22
<u>Tobacco usage</u>			<b>0.011</b>	
Never	77(53.5)	60 (69.8)		137 (59.6)
Former	40 (27.8)	21 (24.4)		61 (26.5)
Current smoker	27 (18.8)	5 (5.8)		32 (13.9)
<u>Alcohol consumption</u>			0.806	
Never	42 (29.2)	28 (32.6)		70 (30.4)
Once per week	22 (15.3)	14 (16.3)		36 (15.7)
Once per month	80 (55.6)	44 (51.2)		124 (53.9)
<u>Education</u>			0.058	
Secondary	26 (18.1)	6 (7.0)		32 (13.9)
Higher non-university	34 (23.6)	21 (24.4)		55 (23.9)
University education	84 (58.3)	59 (68.6)		143 (62.2)
<u>Annual dental prophylaxis</u>			0.885	
≤ Once per year	98 (68.1)	57 (66.3)		155 (67.4)
≥ Two times per year	46 (31.9)	29 (33.7)		75 (32.6)
<u>Tooth brushing frequency</u>			0.345	
≤ Once per day	39 (27.1)	18 (20.99)		57 (24.8)
≥ Two times per day	105 (72.9)	68 (79.1)		173 (75.2)
<u>Approximal teeth cleaning</u>			<b>0.002</b>	
Yes	100 (69.4)	75 (87.2)		175 (76.1)
No	44 (30.6)	11 (12.8)		55 (23.9)
<u>BMI (kg/m<sup>2</sup>)</u>	25.49 ± 4.04	24.47 ± 4.08	0.066	25.11 ± 4.08

BMI: body mass index; PD: periodontitis.

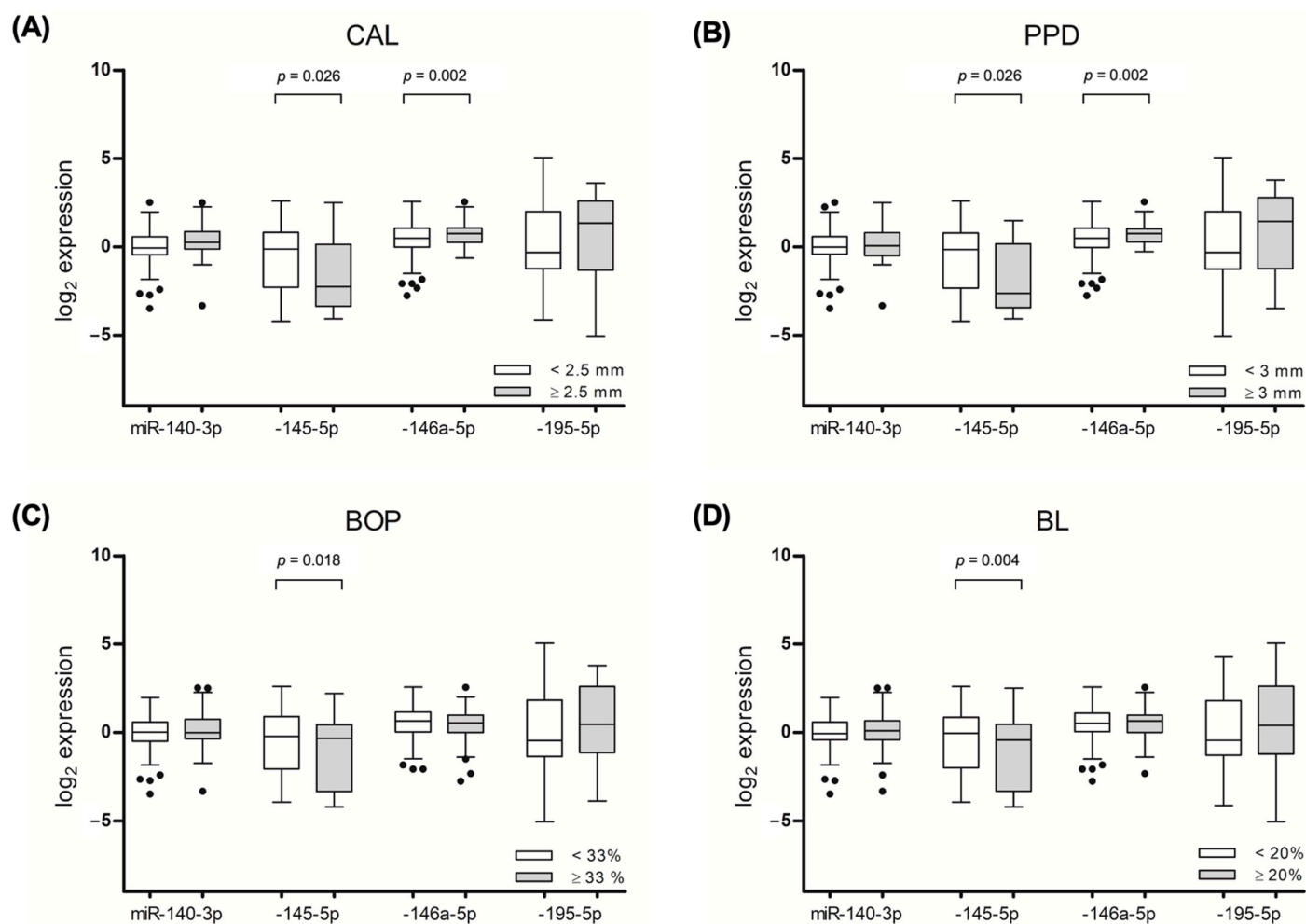
Values are presented as number (%) or mean ± standard deviation. Significant *p*-values are presented in bold.

**Table S2.** List of all human (hsa-) mature miRNAs significantly deregulated (fold change  $\geq 1.5$  or  $\leq -1.5$ ;  $p \leq 0.05$ ) in periodontitis-affected tissues as compared to healthy gingiva.

Mature miRNA	Change	Log <sub>2</sub> fold change	<i>p</i> -value
miR-3609	UP	21.097752	5.982961E-6
miR-4539	UP	13.911187	0.0034073854
miR-378c	UP	13.431882	2.5006192E-10
miR-4441	UP	12.385956	0.003198552
miR-30c-2-3p	UP	11.029368	5.418997E-6
miR-30a-3p	UP	10.593317	0.0017030366
miR-5008-5p	UP	10.312013	0.0026602696
miR-4697-5p	UP	10.024114	0.005105327
miR-3192-3p	UP	9.723486	0.020792214
miR-424-3p	UP	9.569782	0.0070886305
miR-4470	UP	8.668313	0.005056986
miR-3622b-5p	UP	8.42965	4.78392E-4
miR-378e	UP	8.383979	0.002259727
miR-3064-5p	UP	8.212205	0.014977334
miR-4633-5p	UP	7.852584	0.0011231073
miR-4418	UP	7.691243	0.022530572
miR-4513	UP	6.820944	0.006500478
miR-6894-5p	UP	6.8161774	0.0067733973
miR-7515	UP	6.53498	0.011592695
miR-6861-5p	UP	6.5065513	0.009267809
miR-4685-5p	UP	6.432738	0.0012611016
miR-3202	UP	6.3974605	0.004982368
miR-4690-5p	UP	6.3139095	0.013501005
miR-4436b-3p	UP	6.1638193	0.024903229
miR-4419b	UP	6.136029	0.005548597
miR-4769-5p	UP	6.0760255	0.011993192
miR-4496	UP	5.969935	0.009363752
miR-4429	UP	5.90162	0.0051523037
miR-4502	UP	5.797169	0.047689036
miR-4468	UP	5.77554	0.012844757
miR-6837-5p	UP	5.6663938	0.007101256
miR-4538	UP	5.601535	0.017772188
miR-6857-5p	UP	5.483419	0.018755458
miR-6856-5p	UP	4.9241266	0.01511683
miR-3620-5p	UP	4.8548417	0.04710426
miR-4776-5p	UP	4.622304	0.020126823
miR-195-3p	UP	4.517651	0.011706592
miR-4303	UP	4.3227415	0.027616186
miR-450a-5p	UP	4.2617965	0.010951824
miR-4746-5p	UP	4.232331	0.0366363
miR-330-3p	UP	4.2140427	0.006444162
miR-206	UP	4.1199203	0.042994898
miR-4436a	UP	4.060867	0.02800539
miR-23a-5p	UP	3.9183314	0.014982747
miR-3605-5p	UP	3.7601562	0.029584713
miR-6809-5p	UP	3.7239244	3.2156786E-5
miR-3934-5p	UP	3.630751	0.023955273
miR-500a-5p	UP	3.5253022	0.01454097
miR-6848-5p	UP	3.4622562	0.014737124
miR-575	UP	3.4531016	0.0011067445
miR-4260	UP	3.2527676	0.04791562
miR-145-5p	UP	3.1845005	0.021697244
miR-342-5p	UP	3.1619499	0.048123162
miR-298	UP	3.120741	0.029798966
miR-630	UP	3.0428808	0.009250191
miR-6860	UP	2.9854276	0.013185181
miR-4741	UP	2.973071	0.0012034714

miR-664b-3p	UP	2.9504206	0.005567918
miR-5703	UP	2.8355925	0.011031834
miR-6797-5p	UP	2.6717365	0.047991127
miR-4778-5p	UP	2.65862	7.407193E-5
miR-378f	UP	2.6352327	0.010649294
miR-4667-5p	UP	2.5545022	1.3657047E-4
miR-4449	UP	2.5493603	0.0019621078
miR-4485-5p	UP	2.5399292	0.017961767
miR-6740-5p	UP	2.445647	0.002228632
miR-125a-3p	UP	2.44189	0.022030998
miR-6867-5p	UP	2.4399276	2.5397007E-4
miR-4530	UP	2.4129372	0.00584117
miR-6833-5p	UP	2.346126	5.0820694E-5
miR-4299	UP	2.3412848	0.030506475
miR-6509-5p	UP	2.333467	0.0064273607
miR-195-5p	UP	2.3163059	0.038429923
miR-1273e	UP	2.310981	0.00876341
miR-4417	UP	2.2925766	0.011851156
miR-4673	UP	2.2872994	0.023105094
miR-6769b-5p	UP	2.255693	9.867043E-4
miR-1273g-3p	UP	2.2523165	0.026946027
miR-140-3p	UP	2.2518585	9.440837E-5
miR-155-5p	UP	2.2384453	0.01930039
miR-3917	UP	2.230352	0.008262329
miR-29c-5p	UP	2.1508615	0.006506333
miR-6779-5p	UP	2.1423898	0.0020925484
miR-126-5p	UP	2.120029	0.023130203
miR-4800-5p	UP	2.1096334	4.4997458E-4
miR-8071	UP	2.109437	0.0024428465
miR-30a-5p	UP	2.105474	0.012757925
miR-3135b	UP	2.063051	0.0022571874
miR-146a-5p	UP	2.060337	0.015934054
miR-3653-3p	UP	2.040937	0.04503131
miR-6845-5p	UP	1.9597281	0.0012857373
miR-6797-5p	UP	1.9570135	0.04799698
miR-3198	UP	1.9380133	0.017172765
miR-126-3p	UP	1.9271178	0.042272385
miR-4726-5p	UP	1.924321	0.039449226
miR-7846-3p	UP	1.9166954	7.393787E-4
miR-6869-5p	UP	1.9058439	0.038597155
miR-1587	UP	1.8904784	0.0021048759
miR-6785-5p	UP	1.8745447	0.028154764
miR-1236-5p	UP	1.8654809	1.9044965E-4
miR-5787	UP	1.8623778	0.034411028
miR-619-5p	UP	1.8036032	0.018589552
miR-6089	UP	1.7807527	0.010131884
miR-4688	UP	1.7667979	0.010726886
miR-1273f	UP	1.7483053	0.0023988842
miR-151b	UP	1.7471061	0.010215847
miR-663a	UP	1.7395145	0.026515884
miR-6880-5p	UP	1.7364151	0.016118988
miR-939-5p	UP	1.7321529	0.011508225
miR-146b-5p	UP	1.7312315	0.02566925
miR-4306	UP	1.7062432	0.04094264
miR-6727-5p	UP	1.6939839	0.022205204
miR-4505	UP	1.6833506	0.004957147
miR-454-3p	UP	1.6546508	0.005893807
miR-6757-5p	UP	1.6535947	9.5336325E-4
miR-4743-5p	UP	1.6515175	0.0036350158
miR-6088	UP	1.6448472	0.017500624

let-7i-5p	UP	1.6409252	0.025608461
miR-6800-5p	UP	1.6326962	0.041857917
miR-7150	UP	1.6209935	0.04087265
miR-151a-5p	UP	1.6191373	0.02545305
miR-3679-5p	UP	1.6182171	0.003557818
miR-7110-5p	UP	1.6021211	0.044018492
miR-6086	UP	1.5929787	2.3032364E-4
miR-6807-5p	UP	1.5885594	0.019388216
miR-652-3p	UP	1.5882461	0.0021738857
miR-185-5p	UP	1.584046	0.043001547
miR-4646-5p	UP	1.5774035	0.005415294
miR-6124	UP	1.5709971	0.0028802548
miR-550a-3-5p	UP	1.5602642	0.031311247
miR-423-5p	UP	1.5595804	0.0073272916
miR-6512-5p	UP	1.5541701	0.009410762
miR-4656	UP	1.5516189	0.015074907
miR-6819-5p	UP	1.5400215	0.005807056
miR-186-5p	UP	1.5377585	5.2593544E-4
miR-6831-5p	UP	1.5365962	0.012452283
miR-6778-5p	UP	1.5287228	0.008788148
miR-6510-5p	UP	1.5262713	0.02339382
miR-6780b-5p	UP	1.5160023	0.013042399
miR-4793-5p	UP	1.5123715	0.0029080445
miR-3065-3p	DOWN	-19.018412	3.860544E-4
miR-4310	DOWN	-7.878956	0.018763479
miR-4664-3p	DOWN	-5.686357	0.026030745
miR-203a-3p	DOWN	-5.1764946	0.033030972
miR-1246	DOWN	-3.7977161	3.0806994E-5
miR-4644	DOWN	-3.494985	0.033787355
miR-933	DOWN	-3.3012435	0.0017494974
miR-197-5p	DOWN	-3.2965791	6.982468E-4
miR-1290	DOWN	-3.0894573	0.004031998
miR-6824-3p	DOWN	-2.8438542	0.034796074
miR-210-3p	DOWN	-2.6959174	0.023188422
miR-4788	DOWN	-2.4317288	3.4581788E-4
miR-636	DOWN	-2.399055	0.03535577
miR-6848-3p	DOWN	-2.3979795	0.007723487
miR-6076	DOWN	-2.198916	0.03849026
miR-6777-3p	DOWN	-2.119105	0.01939316
miR-1908-3p	DOWN	-2.0877237	0.0078876065
miR-4271	DOWN	-2.061026	0.04601549
miR-1224-5p	DOWN	-2.0331528	0.02894065
miR-937-5p	DOWN	-1.969027	0.021730866
miR-6800-3p	DOWN	-1.9490974	0.003593747
miR-1304-3p	DOWN	-1.9389137	0.034340326
miR-1234-3p	DOWN	-1.9386121	0.024319692
miR-425-3p	DOWN	-1.8585198	0.022727754
miR-1238-3p	DOWN	-1.8552052	0.029386519
miR-191-3p	DOWN	-1.8225256	0.04069585
miR-1825	DOWN	-1.7523289	0.03864391
miR-6765-3p	DOWN	-1.7489574	0.030737506
miR-6126	DOWN	-1.7358894	0.0048215017
miR-1228-3p	DOWN	-1.7327114	0.020878114
miR-6069	DOWN	-1.7129666	0.043092586
miR-4665-3p	DOWN	-1.6860542	0.011447039
miR-4497	DOWN	-1.653489	0.028820565
miR-6127	DOWN	-1.5607718	0.02591698
miR-6165	DOWN	-1.5342814	0.035260037
miR-6756-5p	DOWN	-1.5064877	0.03753026
miR-4261	DOWN	-1.5037313	0.04282309



**Figure S1.** Comparison of blood plasma miR-140-3p, miR-145-5p, -146a-5p, and -195-5p levels with regard to cut-off points of (A) mean clinical attachment loss (CAL); (B) periodontal probing depth (PPD); (C) bleeding on probing (BOP); (D) bone loss (BL). The bands inside the boxes indicate the median, the whiskers show the data interval, and the dots represent outliers.

**Table S3.** Periodontal, rheumatological and tobacco usage status (*N* or mean  $\pm$  SD) of study participants of genome-wide miRNA expression profiling stage.

Periodontal status, <i>N</i>	PD+, 8		PD−, 8	
RA status, <i>N</i>	RA+, 2	RA−, 2	RA+, 2	RA−, 2
PD clinical parameters				
CAL (mm)	3.25 ± 0.44	3.13 ± 0.75	1.1 ± 0.66	1.3 ± 0.70
	3.19 ± 0.57		1.2 ± 0.64	
PPD (mm)	3.23 ± 0.24	3 ± 0.12	2.13 ± 0.24	2 ± 0.27
	3.11 ± 0.21		2.06 ± 0.24	
BOP (%)	59.5 ± 11.79	53.75 ± 8.85	12.75 ± 1.5	11.75 ± 2.22
	56.63 ± 10.13		12.25 ± 1.83	
BL (proportion of root length)	36.12 ± 7.34	30.39 ± 7.26	15.4 ± 6.79	15.85 ± 5.38
	33.26 ± 7.42		15.63 ± 5.68	
Missing teeth ( <i>N</i> ) BOP (%)	11.5 ± 6.02	8.5 ± 3.87	4.25 ± 5.44	5 ± 4.97
	10 ± 4.96		4.63 ± 4.84	
PD Stages				
Stage III ( <i>N</i> )	<div>11</div> 2		N.A.	
Stage IV ( <i>N</i> )	<div>33</div> 6		N.A.	
RA clinical parameters and treatment				
DAS28-CRP (score)	4.07 ± 1.2	N.A.	3.83 ± 2.53	N.A.
RAID (score)	3.96 ± 2.65	N.A.	3.96 ± 1.0	N.A.
HAQ (score)	0.68 ± 0.5	N.A.	1.15 ± 0.16	N.A.
Tobacco usage				
Former ( <i>N</i> )	3	3	0	0
	6		0	
Never ( <i>N</i> )	1	1	4	4
	2		8	

Abbreviations: bDMARDs: biologic disease-modifying antirheumatic drugs; BL: bone loss; BOP: bleeding on probing; CAL: clinical attachment loss; DAS28-CRP: Disease Activity Score 28-joint count C reactive protein; HAQ: health assessment questionnaire; N.A.: not applicable; PD: periodontitis; PPD: periodontal probing depth; RA: rheumatoid arthritis; RAID: rheumatoid arthritis impact of disease; SD: standard deviation; sDMARDs: synthetic disease-modifying antirheumatic drugs.