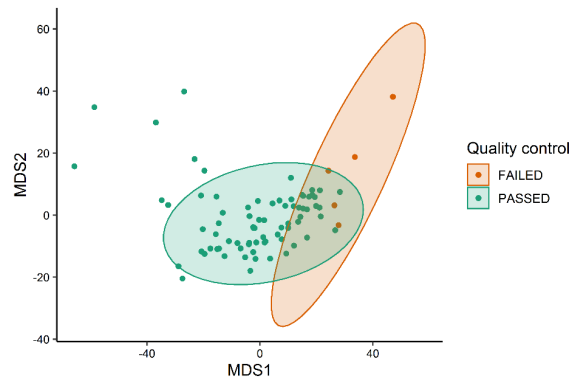


SUPPLEMENTARY INFORMATION

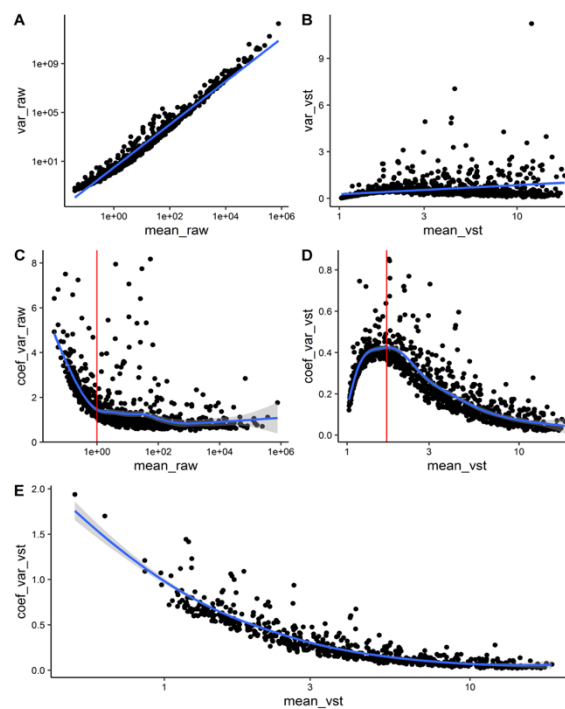
Atrophic gastritis and gastric cancer tissue miRNome analysis reveal hsa-miR-129-1 and hsa-miR-196a as potential early diagnostic biomarkers

Greta Varkalaite, Evelina Vaitkeviciute, Ruta Inciuraite, Violeta Salteniene, Simonas Juzenas, Vytenis Petkevicius, Rita Gudaityte, Antanas Mickevicius, Alexander Link, Limas Kupcinskas, Marcis Leja, Juozas Kupcinskas, Jurgita Skieceviciene

SUPPLEMENTARY FIGURES

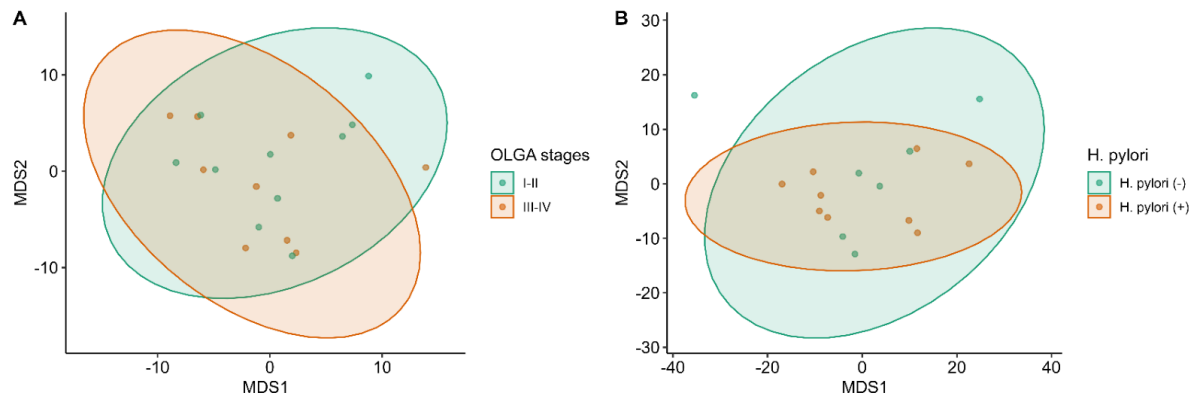


Supplementary Figure 1 Multidimensional scaling plot showing outliers of control, atrophic gastritis, and gastric cancer samples after quality control analysis. The analysis was performed based on sequencing depth ($> 1e6$ of mapped reads) and the number of detected miRNAs (> 1.5 interquartile range on \log_2 scale). MDS: multidimensional scaling.



Supplementary Figure 2 Results of miRNAs quality control analysis on the log-log scale.

A: Mean-variance relationship in raw sequencing data; B: Mean-variance relationship in variance stabilizing transformation data; C: Mean-coefficient of variation relationship in raw sequencing data; D: Mean-coefficient of variation relationship in variance stabilizing transformation data; E: Mean-coefficient of variation relationship in variance stabilizing transformation data after low-abundant and non-variable miRNAs filtering. miRNA filtering threshold was considered: average raw counts > 1 . var: variance; coef_var: coefficient of variation; vst: variance stabilizing transformation.



Supplementary Figure 3 Multidimensional scaling plots based on normalized data showing a clustering. A: corresponding to Operative Link on Gastritis Assessment staging of atrophic gastritis samples; B: corresponding to *H. pylori* infection status of gastric cancer samples. MDS: multidimensional scaling; OLGA: Operative Link on Gastritis Assessment; *H. pylori* (-): *Helicobacter pylori*-negative; *H. pylori* (+): *Helicobacter pylori*-positive.

SUPPLEMENTARY TABLES

Supplementary Table S1. Differentially expressed miRNAs (Bonferroni adjusted p-value < 0.05 and absolute value of log2 fold change > 1) between GC and CON tissues (NGS data). MiRNAs selected for validation are marked in bold.

miRNA ID	base mean	log2 fold change	log2 fold change SE	Wald statistic	p-value	Bonferroni adjusted p-value
hsa-miR-199a-5p	1923.55381	1.509275515	0.184520308	8.17945476	2.8513E-16	9.13845E-14
hsa-miR-99a-5p	915.46045	2.668732405	0.323429775	8.25135042	1.5661E-16	9.13845E-14
hsa-let-7c-5p	2656.56252	2.587268037	0.320667143	8.06839147	7.123E-16	1.52196E-13
hsa-miR-100-3p	20.8698377	2.592743328	0.327057845	7.92747635	2.2364E-15	3.5839E-13
hsa-miR-125b-1-3p	65.3461013	2.700911512	0.34751865	7.77199011	7.7262E-15	7.43966E-13
hsa-miR-642a-5p	10.3278826	-2.511344769	0.323139092	-7.77171452	7.7431E-15	7.43966E-13
hsa-miR-99a-3p	40.7770903	2.8151512	0.362514495	7.76562384	8.1244E-15	7.43966E-13
hsa-miR-214-5p	120.369389	1.547205339	0.199818368	7.74305863	9.7053E-15	7.77639E-13
hsa-miR-642a-3p	6.53562547	-2.902193642	0.380488035	-7.62755559	2.3925E-14	1.70397E-12
hsa-miR-1468-5p	71.8952669	-1.866461132	0.251646538	-7.41699506	1.1981E-13	7.15027E-12
hsa-miR-625-3p	74.7345901	-2.053351356	0.276962304	-7.41382971	1.227E-13	7.15027E-12
hsa-miR-125b-5p	3692.86025	2.120830283	0.288190512	7.35912598	1.8512E-13	9.72748E-12
hsa-miR-224-5p	90.3618721	2.746055859	0.373581243	7.35062563	1.9728E-13	9.72748E-12
hsa-miR-125b-2-3p	238.789965	2.605742793	0.358223309	7.27407382	3.4881E-13	1.59703E-11
hsa-miR-148a-5p	1478.77265	-2.017151362	0.28767121	-7.01200291	2.3493E-12	1.00394E-10
hsa-miR-100-5p	3586.51069	2.031933191	0.292553828	6.94550199	3.7712E-12	1.51082E-10
hsa-miR-196a-5p	71.1709809	4.841584448	0.702637631	6.89058518	5.5563E-12	2.09506E-10
hsa-miR-10a-3p	65.8564924	1.634670418	0.238174769	6.8633232	6.7277E-12	2.3958E-10
hsa-miR-1266-5p	9.05885807	-1.807313953	0.27237801	-6.63531521	3.2381E-11	1.09243E-09
hsa-miR-10a-5p	106909.267	1.397691517	0.21545514	6.48715791	8.7471E-11	2.66994E-09
hsa-miR-27a-5p	54.2163088	2.004778097	0.311669814	6.43237814	1.2562E-10	3.66019E-09
hsa-miR-148a-3p	140868.388	-1.856908142	0.295297605	-6.28826009	3.2104E-10	8.94735E-09
hsa-miR-1224-5p	3.35378493	-2.806947016	0.465015398	-6.03624532	1.5774E-09	4.21301E-08
hsa-miR-3065-3p	30.3393438	-1.925221714	0.322667368	-5.96658325	2.4227E-09	6.21188E-08
hsa-miR-452-5p	31.7334123	1.558260629	0.263248979	5.9193416	3.2323E-09	7.96894E-08
hsa-miR-196b-5p	82.4691205	4.236369584	0.723444495	5.85583222	4.7463E-09	1.08654E-07
hsa-miR-23a-5p	11.2454658	2.388133387	0.408227894	5.85000051	4.9157E-09	1.08654E-07
hsa-miR-199b-5p	1678.24915	1.135993139	0.197439484	5.75362697	8.7349E-09	1.80615E-07
hsa-let-7c-3p	2.17447317	3.334834203	0.584902611	5.70152046	1.1874E-08	2.37858E-07
hsa-miR-375-3p	41671.8555	-2.23613569	0.396581778	-5.63852354	1.7151E-08	3.33154E-07
hsa-miR-452-3p	18.4675238	1.599296417	0.285287765	5.60590608	2.0717E-08	3.90573E-07
hsa-miR-625-5p	85.3198435	-1.044977411	0.18661618	-5.59960775	2.1484E-08	3.93459E-07
hsa-miR-1179	3.68171391	-2.556143505	0.46160015	-5.53757078	3.067E-08	5.3133E-07
hsa-miR-549a-5p	2.84482993	4.857045189	0.876462341	5.54164733	2.9964E-08	5.3133E-07
hsa-miR-34c-5p	52.7232921	1.647449207	0.299067126	5.50862687	3.6164E-08	6.10036E-07
hsa-miR-129-1-3p	4.16370754	-2.917862469	0.531727675	-5.48751289	4.0763E-08	6.6998E-07
hsa-miR-375-5p	6.16830641	-1.772386795	0.324459791	-5.46257763	4.6927E-08	7.52006E-07

hsa-miR-561-5p	151.983532	-1.163927936	0.213893018	-5.44163595	5.2793E-08	8.25381E-07
hsa-miR-203b-3p	19.6607574	-1.62726381	0.300887534	-5.40821279	6.3657E-08	9.71524E-07
hsa-miR-3065-5p	23.492851	-1.753098974	0.325201952	-5.39080089	7.0144E-08	1.02188E-06
hsa-miR-214-3p	92.2642608	1.197129158	0.223350812	5.35986033	8.3286E-08	1.18637E-06
hsa-miR-552-3p	6.73851351	6.716740816	1.254664535	5.3534157	8.6309E-08	1.2027E-06
hsa-miR-181a-3p	196.572976	1.080531459	0.20249172	5.336176	9.4927E-08	1.29465E-06
hsa-miR-143-3p	617589.776	2.012162987	0.377951516	5.32386537	1.0159E-07	1.35658E-06
hsa-miR-145-3p	2201.36667	1.945868433	0.368358192	5.2825442	1.274E-07	1.66663E-06
hsa-miR-130b-5p	66.0954566	-1.059684765	0.20086969	-5.27548365	1.3241E-07	1.69745E-06
hsa-miR-552-5p	6.7710961	6.753868667	1.3017005	5.18849664	2.12E-07	2.66453E-06
hsa-miR-615-3p	6.93069538	2.12637842	0.415073103	5.12290101	3.0087E-07	3.70881E-06
hsa-miR-487a-3p	6.50289071	1.226979918	0.248302651	4.94146927	7.7536E-07	9.03647E-06
hsa-miR-335-3p	217.315554	1.353217421	0.274515312	4.92947884	8.2449E-07	9.4375E-06
hsa-miR-490-3p	67.1813054	3.105257167	0.636221403	4.88078073	1.0567E-06	1.1678E-05
hsa-miR-218-1-3p	18.1755036	1.844974047	0.385167456	4.79005695	1.6673E-06	1.75207E-05
hsa-miR-873-5p	74.1496393	-2.457657482	0.514186704	-4.77969863	1.7556E-06	1.81504E-05
hsa-miR-499a-5p	11.429701	1.005112418	0.210871837	4.76646116	1.8749E-06	1.89395E-05
hsa-miR-873-3p	5.58744105	-2.547657461	0.535419292	-4.75824741	1.9528E-06	1.92577E-05
hsa-miR-216a-5p	3.44393511	3.069130382	0.648471422	4.73286914	2.2137E-06	2.14995E-05
hsa-miR-101-5p	31.5405901	1.018589857	0.215960913	4.71654727	2.3988E-06	2.26123E-05
hsa-miR-548o-3p	15.8079406	1.096429675	0.234243355	4.68072904	2.8586E-06	2.60076E-05
hsa-miR-670-3p	5.34647069	-2.410686115	0.515197821	-4.67914656	2.8807E-06	2.60076E-05
hsa-miR-223-3p	1068.5533	2.075978675	0.445143931	4.66361221	3.1071E-06	2.76615E-05
hsa-miR-204-5p	648.841238	-2.0647562	0.44398174	-4.65054306	3.3106E-06	2.82948E-05
hsa-miR-548ba	15.1438697	3.589419588	0.772437842	4.64687175	3.3701E-06	2.84238E-05
hsa-miR-4521	5.65381208	-2.363304543	0.509823983	-4.63553034	3.5602E-06	2.96378E-05
hsa-miR-497-3p	11.7075009	2.275487292	0.491587408	4.62885594	3.6769E-06	3.02167E-05
hsa-miR-153-3p	229.421639	-1.107176886	0.242272138	-4.569972	4.8779E-06	3.95789E-05
hsa-miR-92a-1-5p	12.1766448	1.27395065	0.28150667	4.52547234	6.0261E-06	4.82839E-05
hsa-miR-31-5p	3933.16977	-1.644106781	0.363739087	-4.52001679	6.1835E-06	4.89334E-05
hsa-miR-429	6315.94474	-1.295814367	0.295942432	-4.37860282	1.1944E-05	8.80031E-05
hsa-miR-135b-5p	76.9989248	1.774007084	0.406913943	4.35966158	1.3026E-05	9.48853E-05
hsa-miR-133a-3p	1478.75411	2.077263115	0.477645151	4.34896724	1.3678E-05	9.8007E-05
hsa-miR-143-5p	229.850377	1.684237781	0.387390864	4.34764455	1.3761E-05	9.8007E-05
hsa-miR-29b-1-5p	3.50217563	1.765055268	0.406532048	4.34173708	1.4136E-05	9.91393E-05
hsa-miR-187-3p	5.48986724	3.500594838	0.809838152	4.32258573	1.5421E-05	0.000105159
hsa-miR-3934-5p	5.69143408	-1.408414195	0.32954071	-4.27387012	1.9211E-05	0.000128273
hsa-miR-584-5p	23.5613213	1.094648302	0.260231469	4.20644092	2.5942E-05	0.00016797
hsa-miR-135a-2-3p	3.24588636	-1.885957583	0.4514938	-4.17715057	2.9518E-05	0.000187794
hsa-miR-431-5p	9.01628703	1.430810805	0.342577995	4.17659869	2.959E-05	0.000187794
hsa-miR-223-5p	7.00516675	1.597975723	0.386608116	4.13332172	3.5756E-05	0.0002247
hsa-miR-135a-5p	57.9868688	-1.564673009	0.380151489	-4.11591971	3.8564E-05	0.000237687
hsa-miR-380-3p	2.41035521	1.685885247	0.414143435	4.07077622	4.6857E-05	0.000278103
hsa-miR-218-5p	146.061665	1.159577141	0.291925192	3.97217223	7.122E-05	0.000407608
hsa-miR-1246	2.67706787	2.974535363	0.759078233	3.91861502	8.9059E-05	0.000500763

hsa-miR-3182	5.86725695	2.820209502	0.721636846	3.90807304	9.3035E-05	0.00051857
hsa-miR-551b-3p	32.5174462	-1.061434761	0.276745485	-3.83541853	0.00012535	0.00068675
hsa-miR-196b-3p	0.95695086	3.527688934	0.936674727	3.76618354	0.00016576	0.000885445
hsa-miR-135b-3p	2.08968879	2.164609898	0.592796981	3.65151977	0.00026069	0.001347615
hsa-miR-196a-1-3p	1.71194551	2.815824533	0.776199402	3.62770768	0.00028595	0.001465756
hsa-miR-203a-3p	3506.27967	-1.163383205	0.333524094	-3.48815341	0.00048637	0.002398173
hsa-miR-2114-5p	3.23822188	-1.520606053	0.436478017	-3.48380902	0.00049433	0.002400507
hsa-miR-200c-3p	6685.16638	-1.121021845	0.323425967	-3.46608486	0.0005281	0.002545187
hsa-miR-152-5p	13.6416617	1.051758284	0.303809717	3.46189811	0.00053638	0.002546813
hsa-miR-145-5p	6722.35295	1.409781381	0.408457276	3.4514782	0.00055752	0.002608565
hsa-miR-1261	5.78253599	-1.129057692	0.338498736	-3.3354857	0.00085151	0.003816888
hsa-miR-1271-5p	17.8485342	1.039658018	0.315278943	3.29758153	0.00097521	0.004341055
hsa-miR-200a-3p	15651.789	-1.091979667	0.335381604	-3.25593191	0.00113021	0.004895025
hsa-miR-490-5p	2.30641459	3.456573777	1.061376252	3.25669033	0.00112719	0.004895025
hsa-let-7e-3p	8.35784966	1.098272439	0.342853961	3.20332434	0.00135851	0.005728975
hsa-miR-3609	3.42594573	1.292582839	0.40398193	3.19960558	0.00137616	0.005765471
hsa-miR-1197	1.21219033	1.580878062	0.502568146	3.14559941	0.00165747	0.006681996
hsa-miR-34b-5p	6.6580535	1.108147296	0.355835428	3.11421295	0.00184436	0.007297758
hsa-miR-7974	19.4989276	1.282891377	0.413165438	3.10503072	0.00190259	0.007481975
hsa-miR-3690	2.31006534	1.901049489	0.616012027	3.08605905	0.00202829	0.007927628
hsa-miR-1295a	1.45919221	-1.759963957	0.576820081	-3.0511489	0.00227967	0.008750129
hsa-miR-3614-3p	1.65999605	-1.432531185	0.474944204	-3.01620943	0.00255956	0.009631898
hsa-miR-4284	1.30872979	2.953965728	0.980736063	3.01198848	0.00259542	0.009672483
hsa-miR-676-3p	1.31080558	-1.763233337	0.593076715	-2.97302742	0.00294878	0.010739595
hsa-miR-6504-5p	1.5026286	1.400102751	0.47621873	2.94004133	0.00328168	0.011817752
hsa-miR-1-3p	95.3768805	1.292901936	0.445135047	2.90451615	0.00367821	0.013098522
hsa-miR-184	1.85045778	2.557760748	0.890088263	2.8736035	0.00405818	0.014292824
hsa-miR-618	2.36971147	1.634671223	0.571008008	2.86278161	0.0041994	0.014629428
hsa-miR-5683	3.03839512	1.575711649	0.556645089	2.83072945	0.0046442	0.01566806
hsa-miR-133a-5p	4.19146049	1.681129742	0.595896789	2.82117604	0.00478479	0.015974234
hsa-miR-876-5p	1.35284655	-1.851348455	0.668852249	-2.76794831	0.00564104	0.018448504
hsa-miR-1251-5p	1.43818891	-1.479480871	0.537780895	-2.75108485	0.00593983	0.018989748
hsa-miR-449b-5p	3.51476564	2.162791607	0.786393186	2.75026748	0.00595466	0.018989748
hsa-miR-5001-3p	2.06601618	-1.213213918	0.446812507	-2.71526401	0.0066223	0.020706788
hsa-miR-4707-3p	2.60633079	-1.746457256	0.647998602	-2.6951559	0.00703557	0.021786477
hsa-miR-944	1.49156445	1.391096183	0.521631999	2.66681528	0.00765737	0.023373225
hsa-miR-885-5p	1.36352692	-1.582111012	0.600086148	-2.63647314	0.00837728	0.025210509
hsa-miR-153-5p	3.7536534	-1.154495958	0.440038031	-2.62362768	0.00869988	0.026058995
hsa-miR-181b-3p	2.58416552	1.06138323	0.405325127	2.61859717	0.00882921	0.026201511
hsa-miR-2116-3p	0.71475011	1.599728349	0.61446715	2.60343998	0.00922934	0.027192213
hsa-miR-449a	6.00782904	1.123765581	0.445372675	2.5232028	0.01162913	0.033073164
hsa-miR-3130-5p	2.11470499	-1.081115698	0.442770661	-2.44170582	0.01461805	0.039205741
hsa-miR-129-2-3p	18.254172	-1.155889077	0.478978418	-2.41323833	0.01581148	0.041880813
hsa-miR-548w	1.19332901	1.192886097	0.502527176	2.3737743	0.01760731	0.046399742
hsa-miR-4497	3.53087349	-1.63160541	0.692657795	-2.35557215	0.01849421	0.047995084

hsa-miR-548au-5p	2.00036226	1.078355027	0.461005865	2.33913516	0.01932844	0.049638091
hsa-miR-654-5p	1.80913625	1.052010597	0.449799863	2.33884152	0.01934364	0.049638091

Supplementary Table S2. Differentially expressed miRNAs (Bonferroni adjusted p-value < 0.05 and absolute value of log2 fold change > 1) between GC and AG tissues (NGS data). MiRNAs selected for validation are marked in bold.

miRNA ID	base mean	log2 fold change	log2 fold change SE	Wald statistic	p-value	Bonferroni adjusted p-value
hsa-miR-199a-5p	1923.55381	1.462058674	0.184398107	7.92881607	2.2124E-15	1.41818E-12
hsa-miR-99a-5p	915.46045	2.486865407	0.323135334	7.69604912	1.4034E-14	4.49783E-12
hsa-miR-214-5p	120.369389	1.477748492	0.197945533	7.46542984	8.3028E-14	1.77403E-11
hsa-miR-125b-1-3p	65.3461013	2.315611025	0.342803914	6.75491418	1.4292E-11	2.29029E-09
hsa-miR-214-3p	92.2642608	1.460348756	0.222137057	6.57408889	4.8952E-11	6.27564E-09
hsa-miR-1266-5p	9.05885807	-1.736830432	0.265848876	-6.53314944	6.4401E-11	6.63297E-09
hsa-miR-642a-5p	10.3278826	-2.090968128	0.320920807	-6.51552684	7.2435E-11	6.63297E-09
hsa-miR-125b-5p	3692.86025	1.854113267	0.288121491	6.43517865	1.2333E-10	9.88167E-09
hsa-miR-625-3p	74.7345901	-1.768551392	0.276399204	-6.39854011	1.5687E-10	1.00553E-08
hsa-miR-99a-3p	40.7770903	2.270300746	0.354348913	6.40696404	1.4845E-10	1.00553E-08
hsa-miR-125b-2-3p	238.789965	2.203883311	0.3570524	6.17243663	6.7245E-10	3.91858E-08
hsa-miR-625-5p	85.3198435	-1.132228326	0.185074231	-6.11769839	9.4937E-10	5.07119E-08
hsa-miR-642a-3p	6.53562547	-2.270671974	0.380226187	-5.97189791	2.3451E-09	1.15631E-07
hsa-miR-27a-5p	54.2163088	1.829660467	0.307810184	5.94411935	2.7795E-09	1.2726E-07
hsa-miR-100-5p	3586.51069	1.707671229	0.292483403	5.83852351	5.2665E-09	2.25057E-07
hsa-miR-199b-5p	1678.24915	1.149751326	0.197332745	5.82645991	5.6615E-09	2.26816E-07
hsa-let-7c-5p	2656.56252	1.848703206	0.320519906	5.76782649	8.03E-09	3.0278E-07
hsa-miR-4521	5.65381208	-2.828322292	0.500512369	-5.65085394	1.5965E-08	5.68541E-07
hsa-miR-487a-3p	6.50289071	1.271100587	0.22904904	5.54946917	2.8654E-08	9.6669E-07
hsa-miR-100-3p	20.8698377	1.706984404	0.308576046	5.53181112	3.1694E-08	1.0158E-06
hsa-miR-224-5p	90.3618721	2.004590781	0.369801797	5.42071671	5.9361E-08	1.81191E-06
hsa-let-7c-3p	2.17447317	2.697808528	0.499866066	5.39706276	6.7741E-08	1.8879E-06
hsa-miR-551b-3p	32.5174462	-1.474891023	0.273056026	-5.40142273	6.6114E-08	1.8879E-06
hsa-miR-216a-5p	3.44393511	3.206674652	0.623404092	5.14381393	2.6922E-07	6.39139E-06
hsa-miR-10a-3p	65.8564924	1.195574809	0.233950199	5.11038167	3.2151E-07	7.10645E-06
hsa-miR-615-3p	6.93069538	2.022505042	0.395316553	5.11616584	3.1181E-07	7.10645E-06
hsa-miR-549a-5p	2.84482993	4.300431674	0.844288342	5.09355804	3.5141E-07	7.50836E-06
hsa-miR-218-1-3p	18.1755036	1.914940657	0.378969398	5.05302187	4.3487E-07	8.80231E-06
hsa-miR-584-5p	23.5613213	1.285153508	0.256262283	5.01499282	5.3035E-07	1.03017E-05
hsa-miR-452-5p	31.7334123	1.268628172	0.256626127	4.94348796	7.6737E-07	1.40538E-05
hsa-miR-29b-1-5p	3.50217563	1.872038374	0.380004352	4.92636036	8.3775E-07	1.49167E-05
hsa-miR-375-5p	6.16830641	-1.567608719	0.318981039	-4.91442603	8.9043E-07	1.54261E-05
hsa-miR-148a-5p	1478.77265	-1.394505165	0.287667328	-4.84763137	1.2494E-06	2.10761E-05
hsa-miR-1224-5p	3.35378493	-2.228119072	0.463875709	-4.8032674	1.561E-06	2.5656E-05

hsa-miR-431-5p	9.01628703	1.593205304	0.333547182	4.77655154	1.7833E-06	2.85769E-05
hsa-miR-452-3p	18.4675238	1.293656471	0.274680311	4.70968038	2.4811E-06	3.87892E-05
hsa-miR-138-5p	53.9041464	-1.309476348	0.279350258	-4.6875788	2.7646E-06	4.21925E-05
hsa-miR-552-5p	6.7710961	5.863646659	1.288984907	4.54904214	5.3891E-06	7.85089E-05
hsa-miR-23a-5p	11.2454658	1.73661618	0.385421247	4.5057614	6.6135E-06	9.21582E-05
hsa-miR-145-3p	2201.36667	1.656542123	0.368259485	4.4983013	6.8499E-06	9.34204E-05
hsa-miR-34c-5p	52.7232921	1.320959334	0.295234218	4.47427586	7.6671E-06	9.63646E-05
hsa-miR-552-3p	6.73851351	5.520330722	1.232037924	4.48065	7.4416E-06	9.63646E-05
hsa-miR-490-3p	67.1813054	2.780816047	0.63238874	4.39732062	1.096E-05	0.000135097
hsa-miR-455-3p	84.7688955	-1.020985678	0.236615716	-4.31495293	1.5964E-05	0.000189495
hsa-miR-203b-3p	19.6607574	-1.283488853	0.29934797	-4.28761502	1.806E-05	0.000208316
hsa-miR-31-5p	3933.16977	-1.558898474	0.363726308	-4.2859107	1.8199E-05	0.000208316
hsa-miR-409-5p	4.13921093	1.455511649	0.342055098	4.25519649	2.0887E-05	0.000234882
hsa-miR-125a-3p	13.2934161	1.049114494	0.248783869	4.21697154	2.4761E-05	0.000273646
hsa-miR-1179	3.68171391	-1.922426002	0.461294314	-4.16746087	3.0801E-05	0.00032753
hsa-miR-138-1-3p	1.02607459	-2.440245126	0.610429672	-3.99758602	6.3992E-05	0.000621496
hsa-miR-3934-5p	5.69143408	-1.275298826	0.32170012	-3.96424728	7.3628E-05	0.000688316
hsa-miR-335-3p	217.315554	1.08149223	0.273643368	3.95219602	7.7437E-05	0.000699117
hsa-miR-378i	7.89533114	2.639257322	0.675928589	3.90463929	9.4366E-05	0.000817414
hsa-miR-196b-5p	82.4691205	2.772500384	0.7151162	3.87699283	0.00010576	0.000869093
hsa-miR-4697-3p	1.812283	1.963537426	0.507156464	3.87166006	0.0001081	0.000877088
hsa-miR-497-3p	11.7075009	1.810914651	0.475788072	3.80613714	0.00014115	0.001103412
hsa-miR-1271-5p	17.8485342	1.178293465	0.30984319	3.8028703	0.00014303	0.001104599
hsa-miR-3614-5p	12.7035334	-1.276724094	0.336672998	-3.79217847	0.00014933	0.001139542
hsa-miR-670-3p	5.34647069	-1.925070116	0.513270519	-3.75059553	0.00017642	0.001299794
hsa-miR-5571-3p	12.7526107	-1.585862306	0.428014744	-3.70515812	0.00021126	0.001514201
hsa-miR-802	28.4825354	-3.765737066	1.016790883	-3.70355117	0.0002126	0.001514201
hsa-miR-133a-3p	1478.75411	1.764688608	0.477500238	3.69568111	0.0002193	0.001527936
hsa-miR-218-5p	146.061665	1.041127342	0.290897964	3.57901213	0.0003449	0.002302896
hsa-miR-6504-5p	1.5026286	1.565951822	0.44535893	3.51615678	0.00043784	0.002806569
hsa-miR-375-3p	41671.8555	-1.392413331	0.396582043	-3.51103475	0.00044637	0.002832878
hsa-miR-187-3p	5.48986724	2.679944588	0.764294267	3.50643031	0.00045416	0.002854086
hsa-miR-148a-3p	140868.388	-1.011332927	0.29529772	-3.42479084	0.00061527	0.003792211
hsa-miR-3182	5.86725695	2.373128366	0.695466086	3.41228482	0.00064421	0.003932734
hsa-miR-143-5p	229.850377	1.310717339	0.386396013	3.39216062	0.00069344	0.004193336
hsa-miR-548w	1.19332901	1.660550183	0.490471813	3.38561797	0.00071018	0.00421506
hsa-miR-944	1.49156445	1.66098283	0.497899179	3.33598226	0.00084999	0.004953099
hsa-miR-143-3p	617589.776	1.244334559	0.377950965	3.29231745	0.00099365	0.005686894
hsa-miR-31-3p	56.7948034	-1.118178145	0.342705819	-3.26279299	0.0011032	0.006257979
hsa-miR-194-3p	81.6439854	-1.143649471	0.358373322	-3.19122379	0.00141672	0.007695884
hsa-miR-196a-5p	71.1709809	2.180248775	0.68759654	3.17082569	0.00152006	0.008052566
hsa-miR-9-3p	3.00893269	-1.223496345	0.386403305	-3.16637132	0.00154354	0.008109891
hsa-miR-1197	1.21219033	1.360344882	0.433803548	3.13585467	0.00171354	0.008857901
hsa-miR-1261	5.78253599	-1.029181769	0.329931179	-3.11938317	0.0018123	0.009219722
hsa-miR-135b-5p	76.9989248	1.246153741	0.40478008	3.07859453	0.0020798	0.010176709

hsa-miR-708-5p	77.3389977	1.093138332	0.355612447	3.0739597	0.00211238	0.010257844
hsa-miR-184	1.85045778	2.633855125	0.864578251	3.04640456	0.00231596	0.011078584
hsa-miR-223-3p	1068.5533	1.316343074	0.444949853	2.95840771	0.00309233	0.014080863
hsa-miR-196b-3p	0.95695086	2.666096116	0.919637439	2.89907305	0.00374268	0.016146514
hsa-miR-548ba	15.1438697	2.169840134	0.750563355	2.89094867	0.00384081	0.016413055
hsa-miR-708-3p	23.1420359	1.068771081	0.374275495	2.85557322	0.00429592	0.017997946
hsa-miR-133a-5p	4.19146049	1.620643676	0.573309615	2.82682103	0.00470126	0.019431123
hsa-miR-618	2.36971147	1.498470448	0.534698778	2.80245721	0.00507149	0.020216937
hsa-miR-6716-3p	1.23427799	1.376159625	0.49687498	2.76962954	0.00561201	0.021987174
hsa-miR-4446-3p	1.18877024	-1.510397458	0.554486367	-2.72395779	0.00645048	0.024611634
hsa-miR-146a-5p	3050.86477	-1.054126551	0.388597985	-2.71264029	0.00667495	0.025281489
hsa-miR-490-5p	2.30641459	2.757824086	1.017213573	2.71115541	0.00670492	0.025281489
hsa-miR-3614-3p	1.65999605	-1.226122415	0.459130777	-2.67052978	0.00757317	0.027739423
hsa-miR-5683	3.03839512	1.364244525	0.526261828	2.59233038	0.00953282	0.033222215
hsa-miR-122-5p	4.57164931	2.548412686	0.988220161	2.57879042	0.00991469	0.033985655
hsa-miR-885-5p	1.36352692	-1.473014009	0.580370012	-2.53806017	0.01114688	0.037021509
hsa-miR-135b-3p	2.08968879	1.308762896	0.521540559	2.50941729	0.01209305	0.039348462
hsa-miR-34b-3p	1.05061099	1.624245916	0.665993357	2.43883201	0.01473482	0.046990136
hsa-miR-449a	6.00782904	1.053878999	0.432657641	2.43582662	0.0148578	0.047147785
hsa-miR-129-1-3p	4.16370754	-1.335264011	0.549463003	-2.43012542	0.0150936	0.047426455

Supplementary Table S3. Differentially expressed miRNAs (Bonferroni adjusted p-value < 0.05 and absolute value of log2 fold change > 1) between AG and CON tissues (NGS data). MiRNAs selected for validation are marked in bold.

miRNA ID	base mean	log2 fold change	log2 fold change SE	Wald statistic	p-value	Bonferroni adjusted p-value
hsa-miR-1468-5p	71.8952669	-1.388744536	0.249984344	-5.55532605	2.7709E-08	1.72899E-05
hsa-miR-3065-5p	23.492851	-1.468230473	0.322709846	-4.54969221	5.3724E-06	0.001147912
hsa-miR-106a-5p	21.4930176	-1.15638735	0.265073593	-4.36251433	1.2858E-05	0.00154601
hsa-miR-1251-5p	1.43818891	-2.67835803	0.615749936	-4.34974959	1.3629E-05	0.00154601
hsa-miR-3065-3p	30.3393438	-1.355865313	0.31915971	-4.24823457	2.1546E-05	0.001973014
hsa-miR-873-5p	74.1496393	-2.010494464	0.513015491	-3.91897418	8.8927E-05	0.006333553
hsa-miR-489-3p	7.98983458	-1.211793899	0.314833791	-3.84899568	0.0001186	0.007157297
hsa-miR-204-5p	648.841238	-1.693111096	0.443872891	-3.81440527	0.00013651	0.007291978
hsa-miR-196a-5p	71.1709809	2.661335673	0.703915211	3.78076171	0.00015635	0.007709222
hsa-miR-142-3p	1280.96419	1.031155963	0.280353976	3.67805007	0.00023502	0.010760734
hsa-miR-873-3p	5.58744105	-1.86321982	0.516622804	-3.60653809	0.00031031	0.013260552
hsa-miR-215-3p	108.968894	2.989564561	0.856750214	3.48942377	0.00048406	0.018879456
hsa-miR-215-5p	37600.4975	2.753292512	0.806861322	3.41234911	0.00064406	0.021728406
hsa-miR-378i	7.89533114	-2.310910047	0.680229731	-3.3972494	0.00068067	0.021815441
hsa-miR-129-1-3p	4.16370754	-1.582598458	0.469804164	-3.36863438	0.00075542	0.022010065
hsa-miR-4697-3p	1.812283	-1.783874543	0.5294659	-3.36919628	0.00075388	0.022010065

hsa-miR-4772-5p	6.45821463	1.335098825	0.406011262	3.28832954	0.00100784	0.028088006
hsa-miR-4497	3.53087349	-2.302289689	0.730346995	-3.15232308	0.00161977	0.039933547
hsa-miR-135a-5p	57.9868688	-1.18357104	0.379122171	-3.1218724	0.00179705	0.041302124
hsa-miR-1246	2.67706787	2.348829874	0.764993153	3.07039333	0.00213777	0.044203574

Supplementary Table S4. Differentially expressed miRNAs (Bonferroni adjusted p-value < 0.05 and absolute value of log2 fold change > 1) between GC and GCaj tissues (NGS data). MiRNAs selected for validation are marked in bold.

miRNA ID	base mean	log2 fold change	log2 fold change SE	Wald statistic	p-value	Bonferroni adjusted p-value
hsa-miR-199a-5p	1923.55381	1.306625996	0.187060539	6.985043468	2.8477E-12	1.81068E-09
hsa-miR-642a-5p	10.3278826	-2.278192816	0.33073761	-6.888218176	5.6496E-12	1.81068E-09
hsa-miR-4508	27.0618456	-3.572655572	0.565331288	-6.319578711	2.6228E-10	5.60399E-08
hsa-miR-4497	3.53087349	-4.105927614	0.659007689	-6.230469971	4.6504E-10	7.45223E-08
hsa-miR-7704	38.3907038	-1.485219265	0.246400669	-6.027659234	1.6635E-09	2.13262E-07
hsa-miR-135b-5p	76.9989248	2.47779933	0.415735072	5.960044022	2.5217E-09	2.58384E-07
hsa-miR-21-3p	5885.6166	1.118979465	0.188328063	5.941650172	2.8217E-09	2.58384E-07
hsa-miR-214-5p	120.369389	1.182221748	0.201997419	5.852657681	4.8378E-09	3.87628E-07
hsa-miR-129-1-3p	4.16370754	-3.032439391	0.537261316	-5.644254112	1.659E-08	1.06341E-06
hsa-miR-378a-3p	12127.0453	-1.059020739	0.190711472	-5.552999671	2.8081E-08	1.63635E-06
hsa-miR-4516	13.3407327	-2.20759336	0.400189632	-5.516368197	3.4608E-08	1.84863E-06
hsa-miR-148a-5p	1478.77265	-1.602009992	0.291690827	-5.492150737	3.9707E-08	1.95785E-06
hsa-miR-625-3p	74.7345901	-1.488690241	0.282255615	-5.274262634	1.3329E-07	5.33997E-06
hsa-miR-148a-3p	140868.388	-1.560018206	0.299371262	-5.210981823	1.8784E-07	7.08282E-06
hsa-miR-100-3p	20.8698377	1.624617803	0.319690212	5.081850303	3.7378E-07	1.00695E-05
hsa-miR-199b-5p	1678.24915	1.018451136	0.200175453	5.087792328	3.6226E-07	1.00695E-05
hsa-miR-378d	41.8790556	-1.249624611	0.250898178	-4.98060457	6.3386E-07	1.56271E-05
hsa-miR-224-5p	90.3618721	1.850951313	0.37634996	4.918165304	8.7359E-07	1.96941E-05
hsa-miR-6126	1.71881183	-4.641545421	0.944497491	-4.914301484	8.91E-07	1.96941E-05
hsa-miR-642a-3p	6.53562547	-1.973388924	0.400715458	-4.924663835	8.4506E-07	1.96941E-05
hsa-miR-99a-5p	915.46045	1.55239607	0.327572388	4.739093179	2.1468E-06	4.30024E-05
hsa-miR-941	397.92822	1.200922297	0.255253266	4.704826364	2.5408E-06	4.7902E-05
hsa-miR-10a-3p	65.8564924	1.120914285	0.239804145	4.674290705	2.9497E-06	5.40219E-05
hsa-miR-452-3p	18.4675238	1.298045887	0.287223179	4.519293649	6.2046E-06	0.000100002
hsa-miR-452-5p	31.7334123	1.198165156	0.265193578	4.518077568	6.2404E-06	0.000100002
hsa-miR-216a-5p	3.44393511	2.941470651	0.658052971	4.469960294	7.8234E-06	0.000122312
hsa-miR-486-3p	15.4228474	-1.37558198	0.309844279	-4.439591347	9.013E-06	0.000125594
hsa-miR-549a-5p	2.84482993	3.828608593	0.864397496	4.429222217	9.4574E-06	0.000128982
hsa-miR-223-3p	1068.5533	1.990176249	0.45130592	4.409816403	1.0346E-05	0.00013816
hsa-miR-99a-3p	40.7770903	1.577496898	0.359958489	4.382441157	1.1736E-05	0.000153522
hsa-miR-125b-2-3p	238.789965	1.573978199	0.362157591	4.346114067	1.3857E-05	0.000170815
hsa-miR-873-5p	74.1496393	-2.26840477	0.521504223	-4.349734234	1.363E-05	0.000170815

hsa-miR-1468-5p	71.8952669	-1.114807105	0.257044646	-4.337017414	1.4443E-05	0.000171671
hsa-miR-584-5p	23.5613213	1.154326044	0.266174575	4.336725408	1.4462E-05	0.000171671
hsa-let-7c-5p	2656.56252	1.389353672	0.324969318	4.275337988	1.9085E-05	0.00021462
hsa-miR-125b-5p	3692.86025	1.249344927	0.292110039	4.276966765	1.8946E-05	0.00021462
hsa-miR-375-3p	41671.8555	-1.714349037	0.402053655	-4.263980726	2.0082E-05	0.000221937
hsa-miR-138-5p	53.9041464	-1.193165066	0.285222369	-4.183280124	2.8733E-05	0.00031217
hsa-miR-100-5p	3586.51069	1.229307808	0.296539053	4.145517409	3.3905E-05	0.000350531
hsa-miR-204-5p	648.841238	-1.85828947	0.450143134	-4.128219075	3.6558E-05	0.000366826
hsa-miR-5100	9.31581889	-1.432086787	0.346937247	-4.127797749	3.6625E-05	0.000366826
hsa-miR-95-3p	62.9842836	1.041276787	0.253230926	4.111965328	3.9231E-05	0.000386873
hsa-miR-34c-5p	52.7232921	1.211588192	0.301920282	4.012940716	5.9967E-05	0.000565277
hsa-miR-335-3p	217.315554	1.111189285	0.278222084	3.993893188	6.4997E-05	0.000603814
hsa-miR-210-5p	11.9516788	-1.308927314	0.329925588	-3.967341002	7.2679E-05	0.000665532
hsa-miR-378i	7.89533114	2.787328833	0.711259946	3.918860959	8.8968E-05	0.000792066
hsa-miR-135b-3p	2.08968879	2.424030133	0.621307947	3.901495456	9.56E-05	0.000839449
hsa-miR-6504-5p	1.5026286	1.96767898	0.515930295	3.813846556	0.00013682	0.001153972
hsa-miR-449a	6.00782904	1.80135906	0.474647547	3.795150887	0.00014755	0.001228337
hsa-miR-431-5p	9.01628703	1.294205498	0.347525459	3.724059534	0.00019604	0.001542441
hsa-miR-7974	19.4989276	1.578484064	0.424047014	3.722427022	0.00019732	0.001542441
hsa-miR-615-3p	6.93069538	1.511128816	0.407433973	3.708892521	0.00020817	0.001590847
hsa-miR-125b-1-3p	65.3461013	1.281682429	0.34698568	3.693761745	0.00022096	0.001646929
hsa-miR-4448	4.39413178	1.92446301	0.542759643	3.545700264	0.00039157	0.002642076
hsa-miR-670-3p	5.34647069	-1.84505052	0.531794894	-3.469477688	0.00052147	0.003314594
hsa-miR-1266-5p	9.05885807	-1.003586398	0.291289779	-3.445319645	0.00057038	0.003584475
hsa-miR-873-3p	5.58744105	-1.866215064	0.551676208	-3.382808679	0.00071749	0.004422197
hsa-miR-449b-5p	3.51476564	2.809787832	0.832260229	3.376092879	0.00073523	0.004446066
hsa-miR-1179	3.68171391	-1.648359698	0.48932256	-3.368656659	0.00075535	0.004483169
hsa-miR-205-5p	2.70077086	2.588372361	0.779711975	3.319651927	0.0009013	0.005252106
hsa-miR-3065-5p	23.492851	-1.093869965	0.333667313	-3.278325216	0.00104425	0.005976467
hsa-miR-223-5p	7.00516675	1.263249051	0.386259411	3.270468024	0.0010737	0.006090616
hsa-miR-944	1.49156445	1.760649616	0.552574594	3.186265956	0.00144122	0.007963985
hsa-miR-31-5p	3933.16977	-1.154002255	0.368777446	-3.12926473	0.00175244	0.009439632
hsa-miR-23a-5p	11.2454658	1.217804197	0.394630095	3.085938484	0.00202911	0.010838818
hsa-miR-4517	2.13031231	1.388329	0.451555847	3.074545509	0.00210824	0.011168421
hsa-miR-34a-3p	5.62103693	1.078033163	0.354631229	3.039870923	0.0023668	0.012136928
hsa-miR-552-5p	6.7710961	3.714671229	1.267327528	2.931105927	0.00337758	0.016526917
hsa-miR-31-3p	56.7948034	-1.018284438	0.349139073	-2.916558236	0.00353917	0.017057186
hsa-miR-329-3p	1.07562828	-1.587403054	0.549335223	-2.889680086	0.00385634	0.01817584
hsa-miR-184	1.85045778	2.619996518	0.910908809	2.876244571	0.00402438	0.018829387
hsa-miR-802	28.4825354	-2.956509672	1.032101483	-2.864553265	0.00417598	0.019397121
hsa-miR-34b-5p	6.6580535	1.021481451	0.361862946	2.822840695	0.00476002	0.02148714
hsa-miR-552-3p	6.73851351	3.382520369	1.210810459	2.793600223	0.00521249	0.023182364
hsa-miR-3130-5p	2.11470499	-1.235696665	0.443582911	-2.785717473	0.00534094	0.023382423
hsa-miR-548ba	15.1438697	2.133458037	0.766211346	2.784425015	0.00536227	0.023382423
hsa-let-7c-3p	2.17447317	1.283640948	0.465436087	2.757931719	0.00581683	0.024550362

hsa-miR-363-3p	391.765791	-1.045855406	0.385350691	-2.714035369	0.00664691	0.027488176
hsa-miR-3609	3.42594573	1.084405147	0.401747923	2.699217803	0.00695027	0.02855847
hsa-miR-885-5p	1.36352692	-1.634783923	0.606494407	-2.695464134	0.00702906	0.028698282
hsa-miR-218-1-3p	18.1755036	1.021676922	0.383712325	2.662611686	0.00775368	0.030960532
hsa-miR-3182	5.86725695	1.821838189	0.710240365	2.565100887	0.01031458	0.038822237
hsa-miR-1299	5.34273944	-1.765446949	0.693589038	-2.545378969	0.01091592	0.040680841
hsa-miR-153-5p	3.7536534	-1.110549595	0.449511101	-2.470572121	0.01348971	0.046994049
hsa-miR-137-3p	1.30923049	-1.789771205	0.73129563	-2.447397648	0.0143892	0.049323403
hsa-miR-1224-5p	3.35378493	-1.255300881	0.513857348	-2.442897596	0.01456987	0.04967706

Supplementary Table S5. Differentially expressed miRNAs (Bonferroni adjusted p-value < 0.05 and absolute value of log₂ fold change > 1) between AG and GCaj tissues (NGS data). MiRNAs selected for validation are marked in bold.

miRNA ID	base mean	log ₂ fold change	log ₂ fold change SE	Wald statistic	p-value	Bonferroni adjusted p-value
hsa-miR-664a-3p	118.552118	-1.32388729	0.181950555	-7.27608274	3.4365E-13	2.20281E-10
hsa-miR-4497	3.53087349	-4.776611893	0.698514928	-6.83823881	8.0173E-12	2.56953E-09
hsa-miR-4516	13.3407327	-2.666279507	0.405231439	-6.57964623	4.7157E-11	1.00759E-08
hsa-miR-4508	27.0618456	-3.539598842	0.564607402	-6.2691329	3.6306E-10	5.8181E-08
hsa-miR-4521	5.65381208	3.533529635	0.584380658	6.04662319	1.4791E-09	1.89625E-07
hsa-miR-4286	35.694394	-1.027166231	0.180433744	-5.69276128	1.25E-08	1.33543E-06
hsa-miR-375-5p	6.16830641	1.974005654	0.366173211	5.3909068	7.0103E-08	4.4936E-06
hsa-miR-30c-5p	6357.58358	-1.040736325	0.201401317	-5.16747528	2.3728E-07	1.38268E-05
hsa-miR-6126	1.71881183	-4.850044851	0.947264775	-5.12005194	3.0545E-07	1.63162E-05
hsa-miR-455-3p	84.7688955	1.22900133	0.243182312	5.05382699	4.3304E-07	2.13524E-05
hsa-miR-501-3p	177.263973	-1.024037539	0.204072354	-5.01801209	5.2209E-07	2.39042E-05
hsa-miR-149-5p	62.2865866	-1.147388892	0.237389147	-4.83336709	1.3424E-06	5.37811E-05
hsa-miR-205-5p	2.70077086	3.547943283	0.768923432	4.61416981	3.9467E-06	0.000140546
hsa-miR-143-5p	229.850377	-1.629266924	0.391858031	-4.15779899	3.2133E-05	0.000895529
hsa-miR-133a-3p	1478.75411	-1.997392871	0.484104814	-4.12595127	3.6921E-05	0.000986086
hsa-miR-504-5p	5.69149171	-1.723199147	0.429022711	-4.0165686	5.9052E-05	0.001351862
hsa-miR-490-3p	67.1813054	-2.566013767	0.641616715	-3.99929383	6.3532E-05	0.001404271
hsa-miR-5100	9.31581889	-1.378210774	0.345459675	-3.98949826	6.6213E-05	0.001414755
hsa-miR-145-5p	6722.35295	-1.608765435	0.414054687	-3.88539361	0.00010216	0.002046477
hsa-miR-3614-5p	12.7035334	1.365896925	0.354128337	3.85706757	0.00011476	0.002172969
hsa-miR-655-3p	4.74297439	-1.161815549	0.307103575	-3.78313912	0.00015486	0.002682893
hsa-miR-155-5p	1130.38351	1.00340038	0.268044993	3.7434028	0.00018154	0.002983852
hsa-miR-363-3p	391.765791	-1.406446038	0.385445081	-3.64888828	0.00026338	0.004019644
hsa-miR-129-1-3p	4.16370754	-1.69717538	0.476058138	-3.56505906	0.00036377	0.005181762
hsa-miR-873-5p	74.1496393	-1.821241751	0.520349477	-3.50003571	0.0004652	0.006212303
hsa-miR-409-5p	4.13921093	-1.263206476	0.363669471	-3.47350156	0.00051371	0.006585818
hsa-miR-137-3p	1.30923049	-2.666561251	0.777162549	-3.43114996	0.00060103	0.0075541

hsa-miR-145-3p	2201.36667	-1.274956533	0.373380567	-3.41463013	0.00063869	0.007718985
hsa-miR-204-5p	648.841238	-1.486644366	0.450035772	-3.30339155	0.00095523	0.009875836
hsa-miR-33b-3p	4.98848176	1.460903207	0.445288656	3.28080042	0.00103513	0.010532033
hsa-miR-3176	11.1756835	1.179069099	0.367344812	3.20970668	0.0013287	0.012524997
hsa-miR-1271-5p	17.8485342	-1.011644668	0.319323629	-3.16808584	0.00153446	0.013291759
hsa-miR-29b-1-5p	3.50217563	-1.277445505	0.40987839	-3.11664518	0.00182922	0.015427992
hsa-miR-196b-5p	82.4691205	-2.236724218	0.725499249	-3.08301383	0.00204916	0.017058561
hsa-miR-548a-3p	0.97629808	1.585783467	0.515125857	3.07843888	0.00208088	0.017100582
hsa-miR-135b-5p	76.9989248	1.231645589	0.416637784	2.95615433	0.00311501	0.023770507
hsa-miR-125b-1-3p	65.3461013	-1.033928595	0.350458747	-2.95021484	0.00317553	0.023947234
hsa-miR-329-3p	1.07562828	-1.581510377	0.548306575	-2.88435421	0.00392217	0.028248461
hsa-miR-7974	19.4989276	1.216260791	0.424890258	2.86252925	0.00420274	0.029499525
hsa-miR-133a-5p	4.19146049	-1.639474882	0.589115448	-2.78294329	0.00538682	0.035597453
hsa-miR-3157-5p	1.33799988	1.290365757	0.4807261	2.68420158	0.00727033	0.045245424

Supplementary Table S6. Differentially expressed miRNAs (Bonferroni adjusted p-value < 0.05 and absolute value of log2 fold change > 1) between CON and GCaj tissues (NGS data). MiRNAs selected for validation are marked in bold.

miRNA ID	base mean	log2 fold change	log2 fold change SE	Wald statistic	p-value	Bonferroni adjusted p-value
hsa-miR-375-5p	6.16830641	2.17878373	0.370955629	5.87343488	4.2686E-09	2.73615E-06
hsa-miR-4516	13.3407327	-2.19857602	0.408089021	-5.38749123	7.1448E-08	1.5266E-05
hsa-miR-145-5p	6722.35295	-2.15676398	0.414090271	-5.20843915	1.9044E-07	2.84439E-05
hsa-miR-4521	5.65381208	3.068511887	0.592375432	5.18001207	2.2187E-07	2.84439E-05
hsa-miR-143-5p	229.850377	-2.002787366	0.392839051	-5.09823899	3.4283E-07	3.50125E-05
hsa-miR-196b-5p	82.4691205	-3.700593418	0.733709706	-5.04367516	4.5667E-07	3.6591E-05
hsa-miR-133a-3p	1478.75411	-2.309967378	0.484247753	-4.77021806	1.8403E-06	0.000127557
hsa-miR-4508	27.0618456	-2.677740133	0.563208261	-4.75444044	1.99E-06	0.000127557
hsa-miR-196a-5p	71.1709809	-3.300589133	0.713451195	-4.62622973	3.7238E-06	0.000216997
hsa-miR-490-3p	67.1813054	-2.890454887	0.645394588	-4.47858557	7.5139E-06	0.000370494
hsa-miR-6126	1.71881183	-4.055482917	0.946502094	-4.2847057	1.8298E-05	0.000837793
hsa-miR-143-3p	617589.776	-1.615377825	0.383165027	-4.21588013	2.4881E-05	0.001044888
hsa-miR-455-3p	84.7688955	1.028005351	0.24445865	4.20523206	2.6081E-05	0.001044888
hsa-miR-145-3p	2201.36667	-1.564282844	0.373477922	-4.1884212	2.809E-05	0.001059165
hsa-miR-4497	3.53087349	-2.474322205	0.607997288	-4.06962704	4.7088E-05	0.001588616
hsa-miR-203b-3p	19.6607574	1.256241434	0.309777982	4.05529607	5.0071E-05	0.00160477
hsa-miR-125b-1-3p	65.3461013	-1.419229082	0.355071856	-3.99701936	6.4145E-05	0.001957952
hsa-let-7c-5p	2656.56252	-1.197914365	0.325176615	-3.68388842	0.0002297	0.00588958
hsa-miR-1224-5p	3.35378493	1.551646135	0.435111085	3.56609194	0.00036234	0.008295096
hsa-miR-196a-1-3p	1.71194551	-2.750974099	0.800237599	-3.43769663	0.00058668	0.011405921
hsa-miR-378i	7.89533114	2.458981558	0.715348688	3.43745868	0.0005872	0.011405921
hsa-miR-99a-5p	915.46045	-1.116336335	0.328155447	-3.40185222	0.00066931	0.012257901

hsa-miR-27a-5p	54.2163088	-1.076923694	0.319065511	-3.37524319	0.0007375	0.013131684
hsa-miR-99a-3p	40.7770903	-1.237654301	0.372794796	-3.31993449	0.00090039	0.015598574
hsa-let-7c-3p	2.17447317	-2.051193254	0.62955936	-3.25814114	0.00112145	0.018431974
hsa-miR-504-5p	5.69149171	-1.415894294	0.437331601	-3.237576	0.0012055	0.01931811
hsa-miR-489-3p	7.98983458	1.056797113	0.332722689	3.17620994	0.00149213	0.022772734
hsa-miR-655-3p	4.74297439	-1.001817021	0.323978095	-3.0922369	0.00198654	0.027093057
hsa-let-7e-3p	8.35784966	-1.090898927	0.355081318	-3.07225098	0.00212451	0.028371062
hsa-miR-7-5p	310.186006	1.070733179	0.362284082	2.95550711	0.00312156	0.033913844
hsa-miR-4284	1.30872979	-2.894034044	1.008563816	-2.86946051	0.00411173	0.041835188
hsa-miR-380-3p	2.41035521	-1.265036976	0.442957217	-2.85588975	0.00429164	0.042959541
hsa-miR-125b-2-3p	238.789965	-1.031764594	0.36412078	-2.8335779	0.00460301	0.043810924
hsa-miR-3116	3.33858367	1.124225341	0.397183732	2.83049191	0.00464765	0.043810924
hsa-miR-133a-5p	4.19146049	-1.699960949	0.611118723	-2.78171963	0.00540717	0.049257459