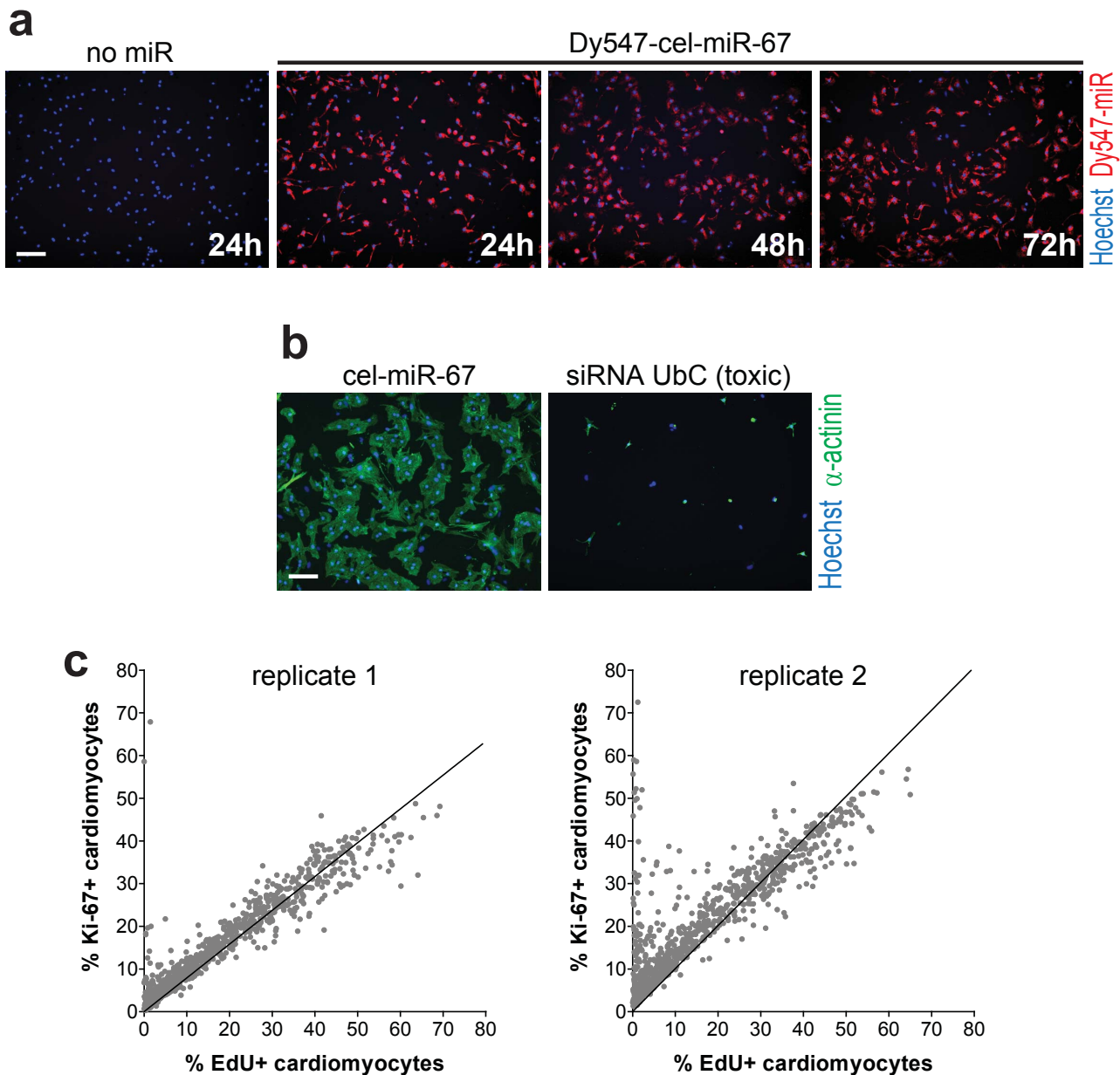


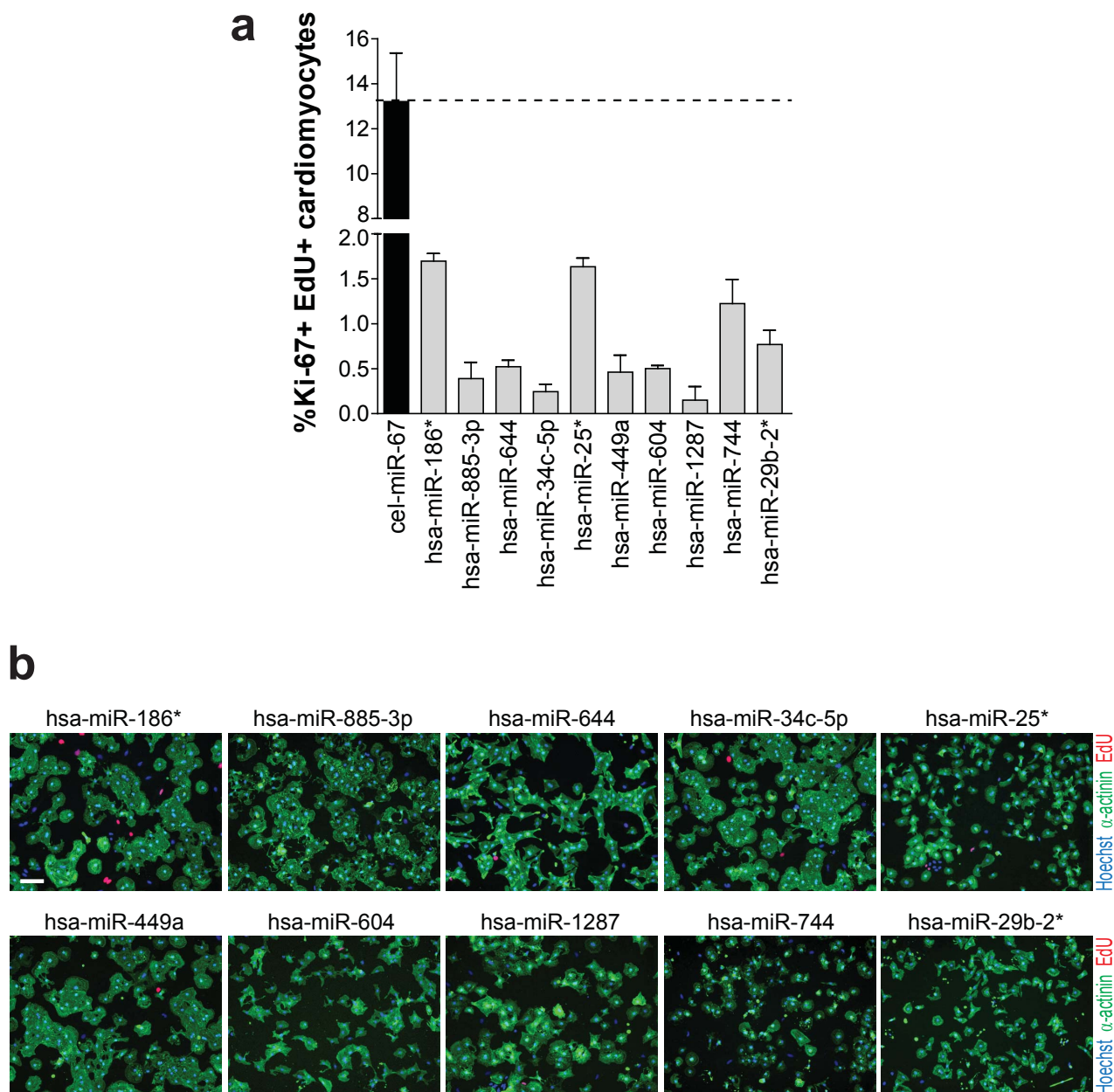


Supplementary Figure 1. Correlation between Ki-67 positivity and EdU incorporation in rat cardiomyocytes transfected with the miRNA mimics library.

a. Representative images of rat cardiomyocytes transfected with a fluorescently-labeled control microRNA (Dy547-cel-miR-67), at 24, 48 and 72 h after transfection. Mock-transfected cells are shown for comparison. Scale bar: 100 μ m.

b. Representative images of rat cardiomyocytes transfected with cel-miR-67 (control) and a toxic siRNA (siRNA against Ubiquitin C, UbC), at 48 h after transfection. Transfection with the toxic siRNA against UbC resulted in death of virtually all cells, indicating the high efficiency of functional transfection. Scale bar: 100 μ m.

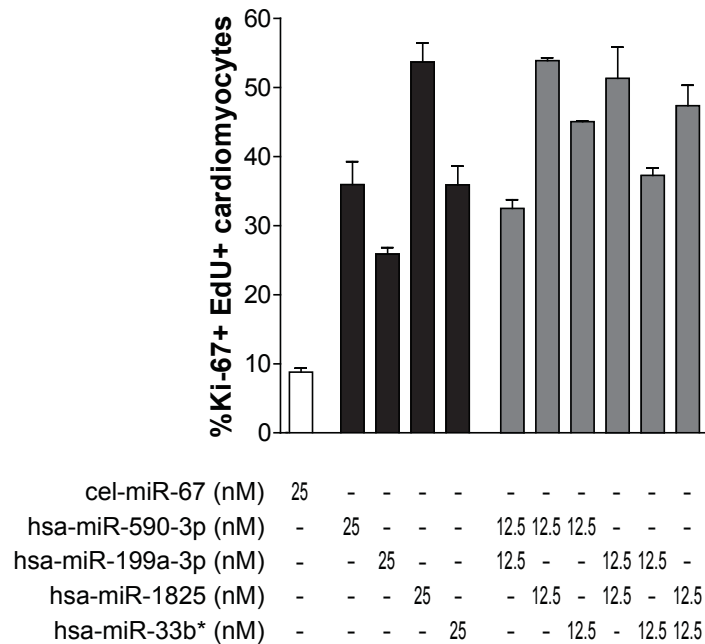
c. Correlation between the percentage of cardiomyocytes positive for Ki-67 and EdU, assessed 72 h after transfection with the 875 tested miRNA mimics. Results for the two replicates of the screening are shown: the regression line is shown in black.



Supplementary Figure 2. A subset of miRNAs decreases cardiomyocyte proliferation.

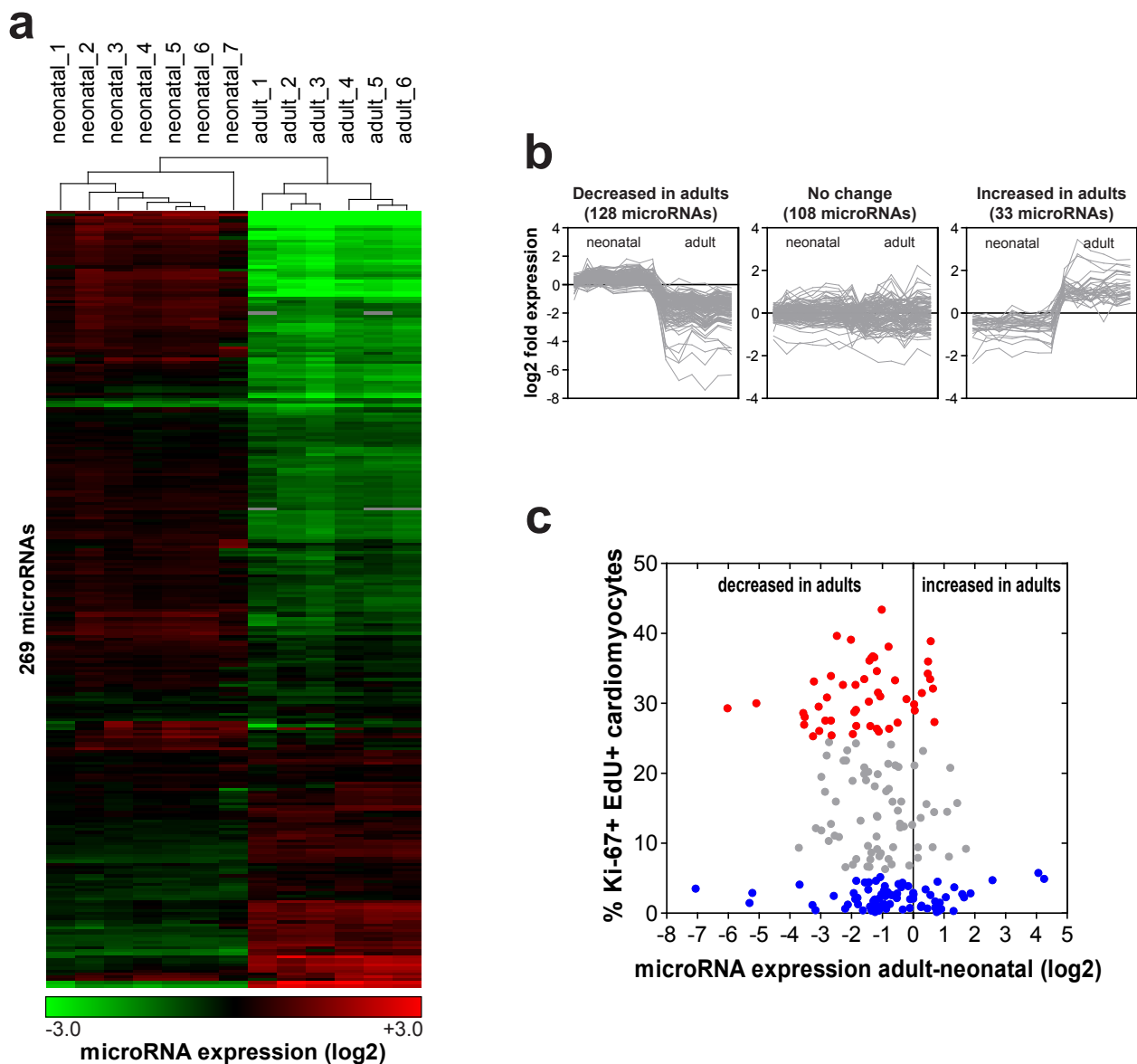
a. Percentage of proliferating cardiomyocytes (α -actinin+, Ki-67+ and EdU+ cells), assessed 72 h after transfection with cel-miR-67 (control), or the 10 miRNAs identified in the screening that inhibit neonatal cardiomyocyte proliferation more efficiently. Values are presented as mean $\pm$ s.e.m.; for all samples $P < 0.001$ relative to control, $n = 3$ per group.

b. Representative images of EdU staining of rat cardiomyocytes treated with the 10 miRNAs identified in the screening that inhibit neonatal cardiomyocyte proliferation more efficiently. The nuclei of proliferating cells are stained in red. Scale bar: 100 μ m.



Supplementary Figure 3. Effect of combined, pairwise administration of the four top miRNAs on rat cardiomyocyte proliferation.

Percentage of proliferating rat cardiomyocytes (α -actinin+, Ki-67+ and EdU+ cells) upon transfection of combinations of pairs of four miRNAs that strongly increase cardiomyocyte proliferation (miR-590-3p, miR-199a-3p, miR-1825 and miR-33b*), to ascertain whether these could exert a synergistic effect. The experiments were performed at final miRNA concentration at 25 nM. Under these conditions, the pro-proliferative effect obtained by the miRNA pairs was comparable to that of the single miRNA with the strongest effect in the pair. Values are presented as mean $\pm$ s.e.m.; for all samples $P < 0.001$ relative to control, $n = 3$ per group.

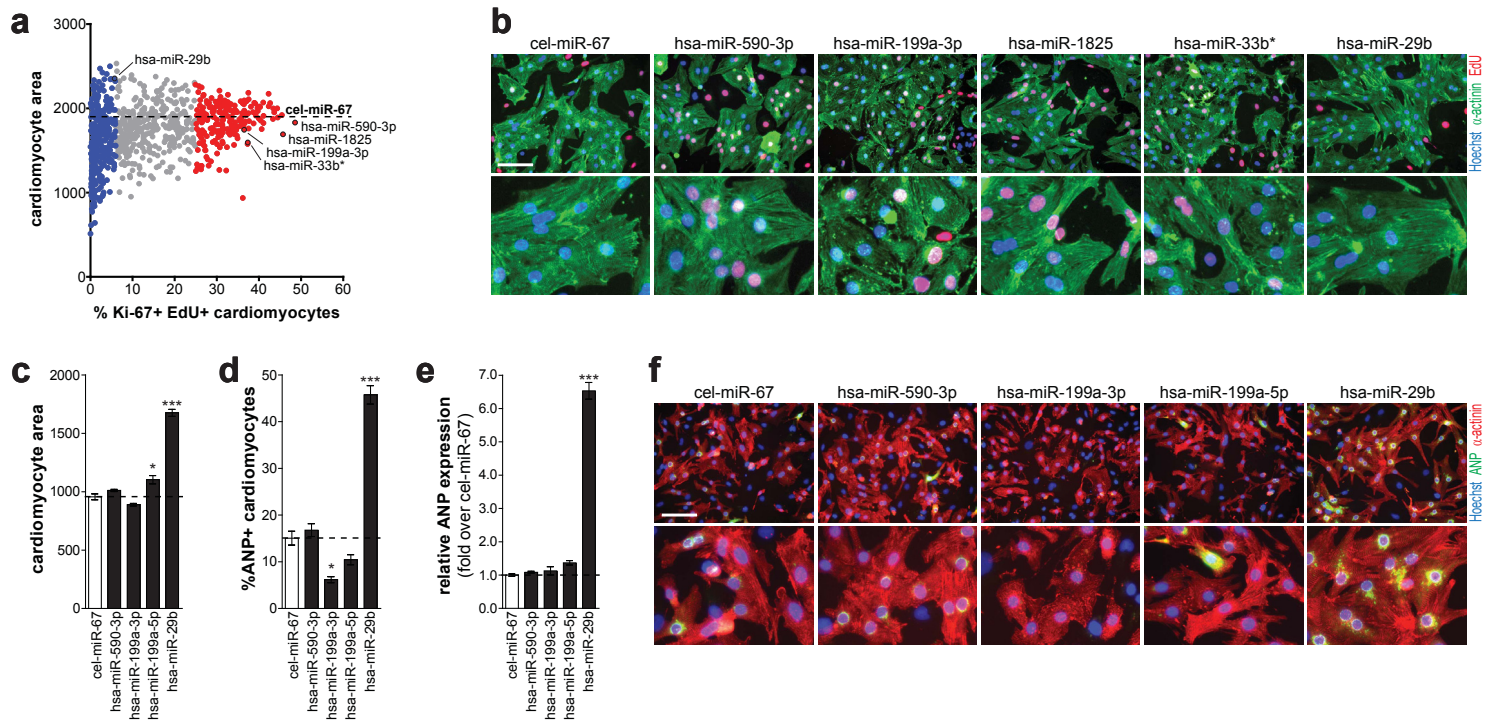


Supplementary Figure 4. miRNA expression in neonatal and adult rat cardiomyocytes.

a. Expression profiles of miRNAs in neonatal and adult rat cardiomyocytes. Heatmap represents the two-way hierarchical clustering of samples and miRNAs; each row represents one of the 269 miRNAs that were detectable in neonatal cardiomyocytes; each column corresponds to one independent sample. The color scale shown at the bottom illustrates the relative expression level of the miRNAs (log₂ scale); values ranged from -7.06 to +4.25. The different samples of neonatal (7 samples) and adult (6 samples) cardiomyocytes were obtained from independent cell isolations.

b. Changes in miRNA expression across neonatal and adult rat cardiomyocyte samples. Each line represents one of the 269 miRNAs detected in neonatal cardiomyocytes. Expression of 128 miRNAs is decreased by more than 2-fold in adult cardiomyocytes (left panel), whereas expression of 33 miRNAs is increased by more than 2-fold in adult cardiomyocytes (right panel); the expression of 108 miRNAs remains unchanged (less than 2-fold change, middle panel).

c. Analysis of correlation between the differences in miRNA expression in neonatal vs adult rat cardiomyocytes and the percentage of cardiomyocyte proliferation obtained after transfection of the miRNA mimic. Values are presented for the 194 miRNAs showing complete conservation between human and rat; miRNAs marked in red and blue are those that increased or decreased cardiomyocyte proliferation by more than 2-fold compared to the control (cel-miR-67), respectively.



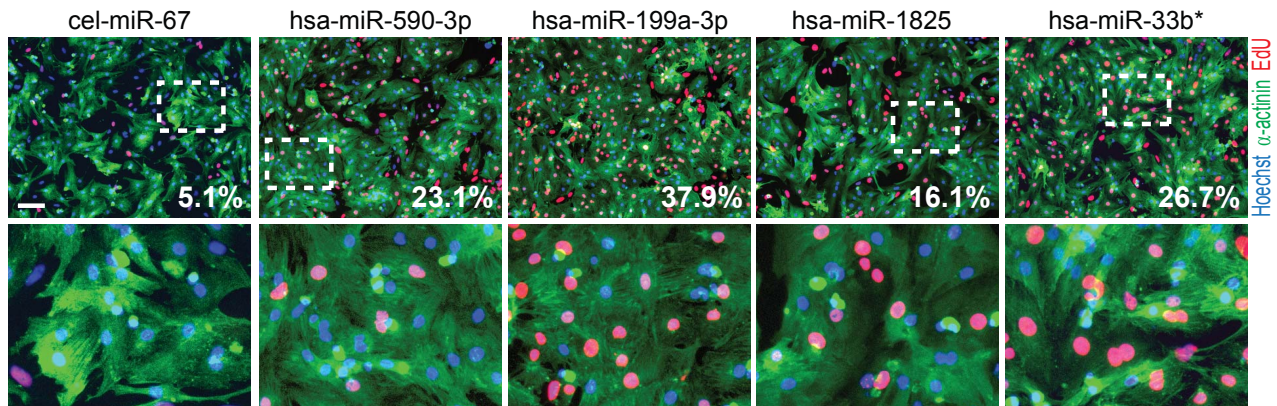
Supplementary Figure 5. Cardiomyocyte proliferation induced by the miRNAs does not correlate with an increase in cell size.

a. Analysis of correlation between the percentage of proliferating cardiomyocytes (α -actinin+, Ki-67+ and EdU+ cells) and the cardiomyocyte size, assessed 72 h after transfection with the 875 tested miRNA mimics; miRNAs marked in red and blue increase or decrease cardiomyocyte proliferation by more than 2-fold compared to the control (cel-miR-67), respectively. Dashed line represents the average size of cardiomyocytes treated with the control miRNA cel-miR-67.

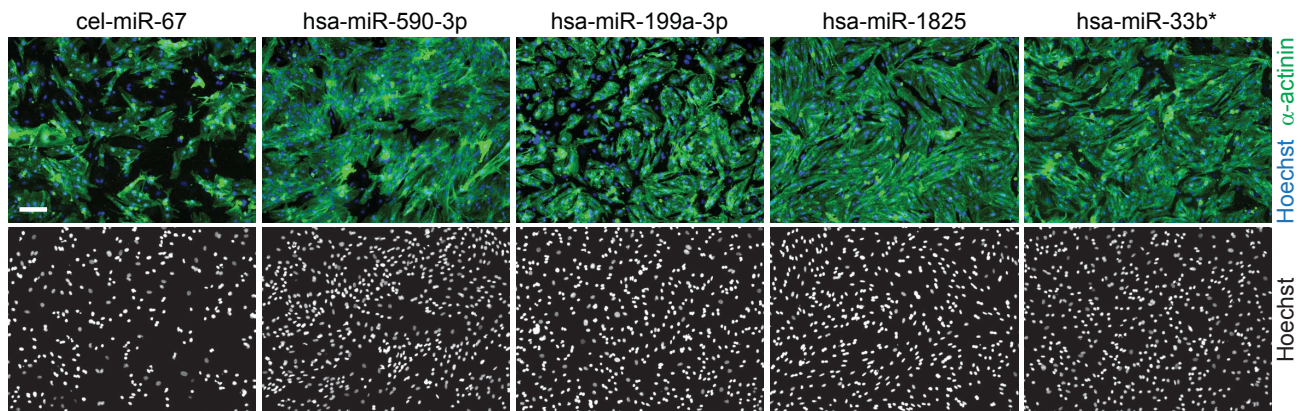
b. Representative images of EdU staining of rat cardiomyocytes treated with cel-miR-67 (control), hsa-miR-590-3p, hsa-miR-199a-3p, hsa-miR-1825 and hsa-miR-33b*, four miRNAs that strongly increase cardiomyocyte proliferation, and hsa-miR-29b, a miRNA that increases cardiomyocyte size significantly. The nuclei of proliferating cardiomyocytes are stained in red. Enlarged figures are shown in the bottom panels. Scale bar: 100 μ m.

c-e. Analysis of cardiomyocyte area (panel c), percentage of cardiomyocytes positive for ANP (panel d) and relative ANP expression levels (panel e), assessed 72h after transfection with cel-miR-67 (control), hsa-miR-590-3p, hsa-miR-199a-3p, hsa-miR-199a-5p and hsa-miR-29b. Cells were maintained in 0.1%FBS to limit the hypertrophy induced by serum and to better appreciate the effect of miRNAs on cardiomyocyte size. Values are presented as mean $\pm$ s.e.m.; * $P < 0.05$, *** $P < 0.001$ relative to control, $n = 3$ per group.

f. Representative images of ANP staining of rat cardiomyocytes treated with cel-miR-67 (control), hsa-miR-590-3p, hsa-miR-199a-3p, hsa-miR-199a-5p and hsa-miR-29b. Accumulation of ANP in the perinuclear region is shown in green. Enlarged figures are shown in the bottom panels. Scale bar: 100 μ m.

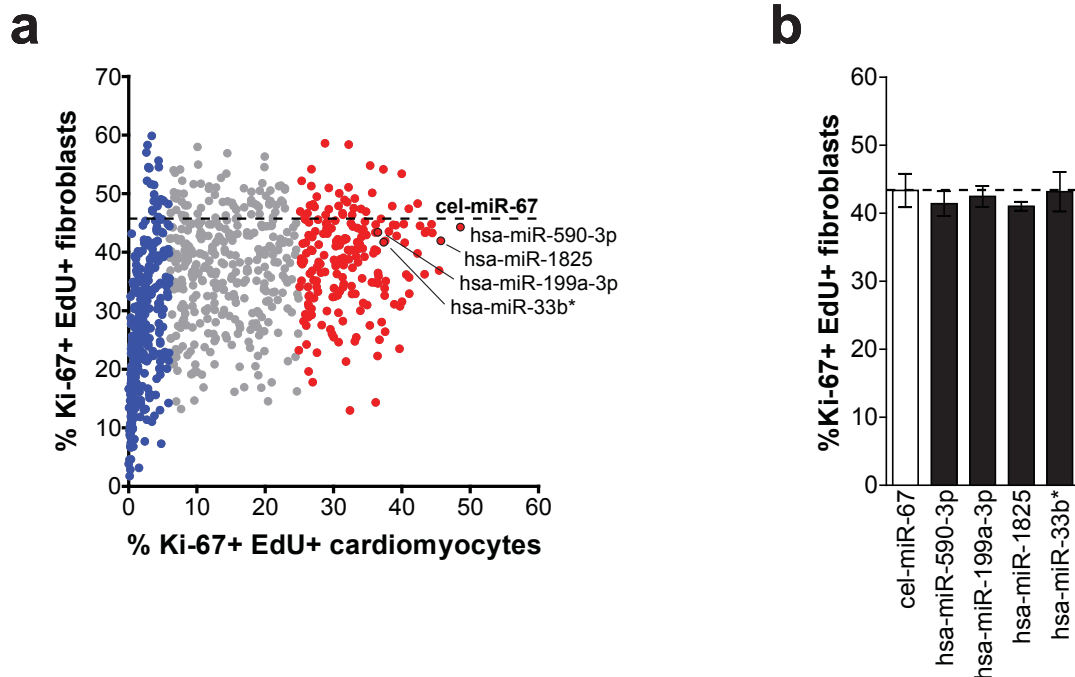


Supplementary Figure 6. Stimulation of mouse cardiomyocyte proliferation by miRNAs. Representative images of EdU staining of mouse cardiomyocytes treated with cel-miR-67 (control), hsa-miR-590-3p, hsa-miR-199a-3p, hsa-miR-1825 and hsa-miR-33b*. The nuclei of proliferating cardiomyocytes are stained in red. Enlarged figures are shown in the bottom panels. Scale bar: 100 μ m.



Supplementary Figure 7. Increase in cardiomyocyte number induced by miRNAs.

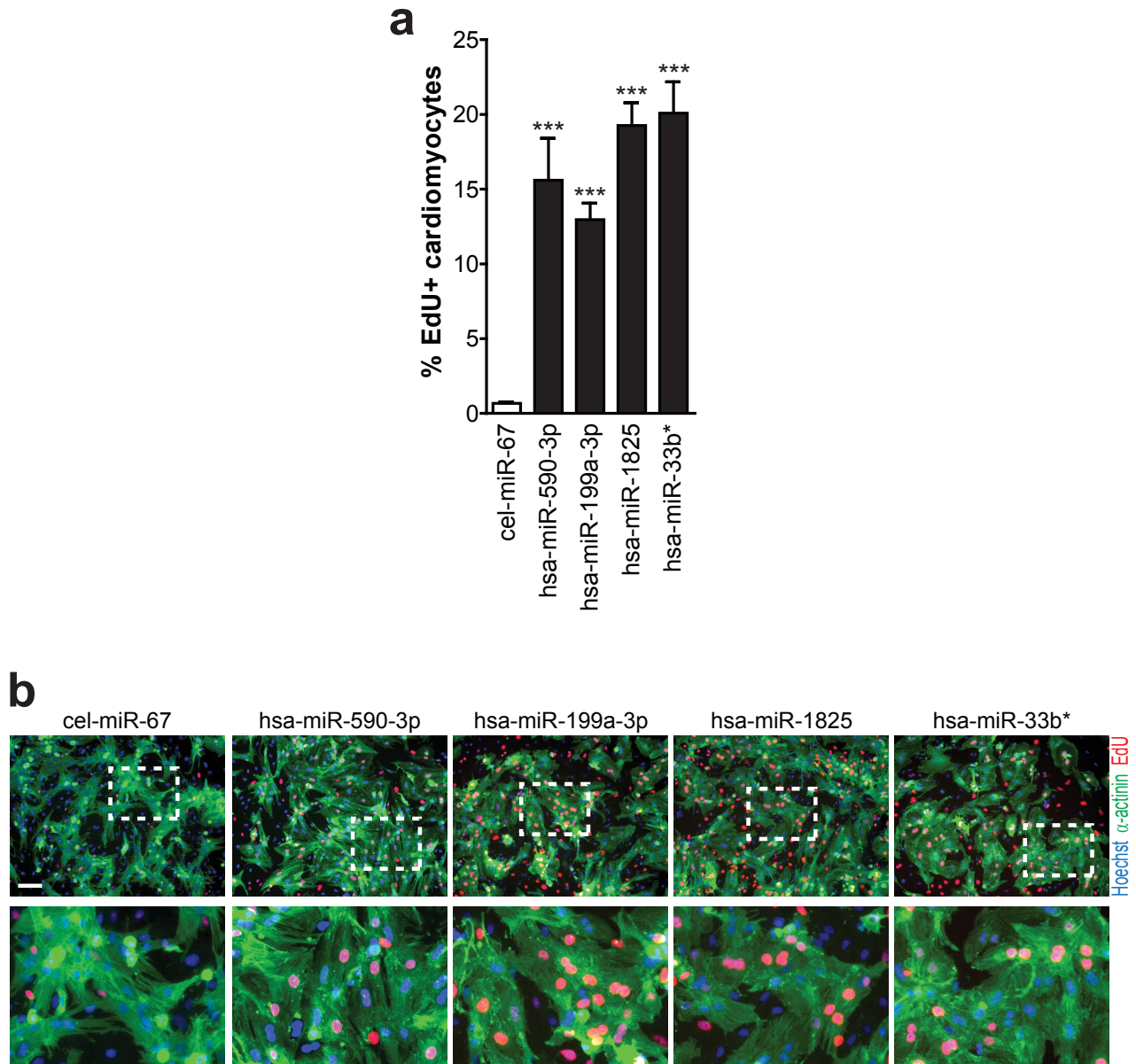
Representative images of rat cardiomyocytes treated with control (cel-miR-67), hsa-miR-590-3p, hsa-miR-199a-3p, hsa-miR-1825 and hsa-miR-33b* microRNAs, at day 6 after transfection. Hoechst channel is shown in the bottom panels. Scale bar: 100 μ m.



Supplementary Figure 8. Cardiomyocyte proliferation induced by the miRNAs does not correlate with an increase in fibroblast proliferation.

a. Analysis of correlation between the percentage of proliferating cardiomyocytes (α -actinin+, Ki-67+ and EdU+ cells) and the percentage of proliferating fibroblasts (α -actinin-, Ki-67+ and EdU+ cells), assessed 72 h after transfection with the 875 tested miRNA mimics; miRNAs marked in red and blue increase or decrease cardiomyocyte proliferation by more than 2-fold compared to the control (cel-miR-67), respectively. Dashed line represents the average proliferation of fibroblasts treated with the control miRNA cel-miR-67.

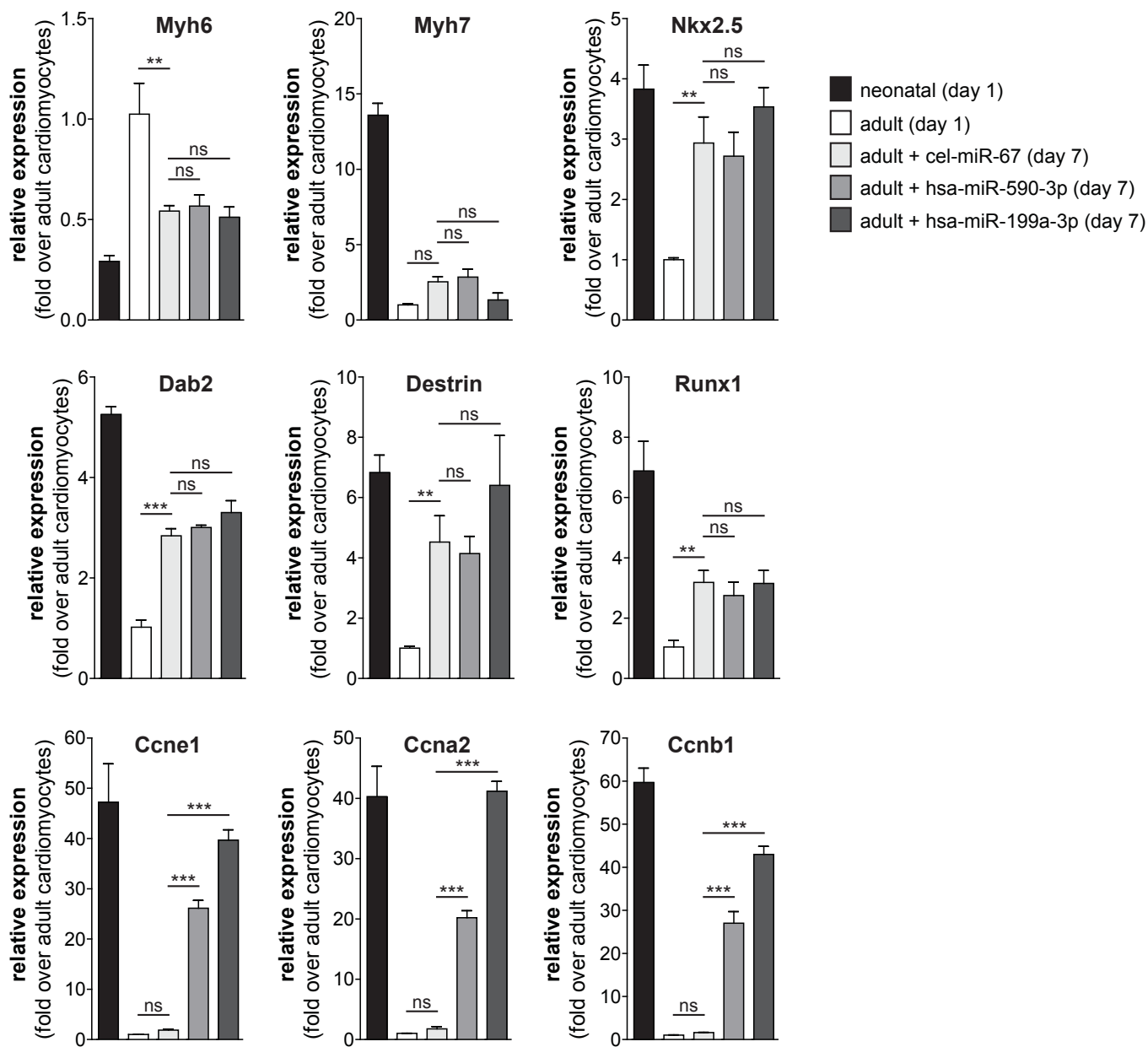
b. Percentage of Ki-67+ and EdU+ fibroblasts assessed 72 h after transfection with cel-miR-67 (control), hsa-miR-590-3p, hsa-miR-199a-3p, hsa-miR-1825 and hsa-miR-33b*, four miRNAs that strongly increase cardiomyocyte proliferation. Values are presented as mean $\pm$ s.e.m.; $n=3$ per group.



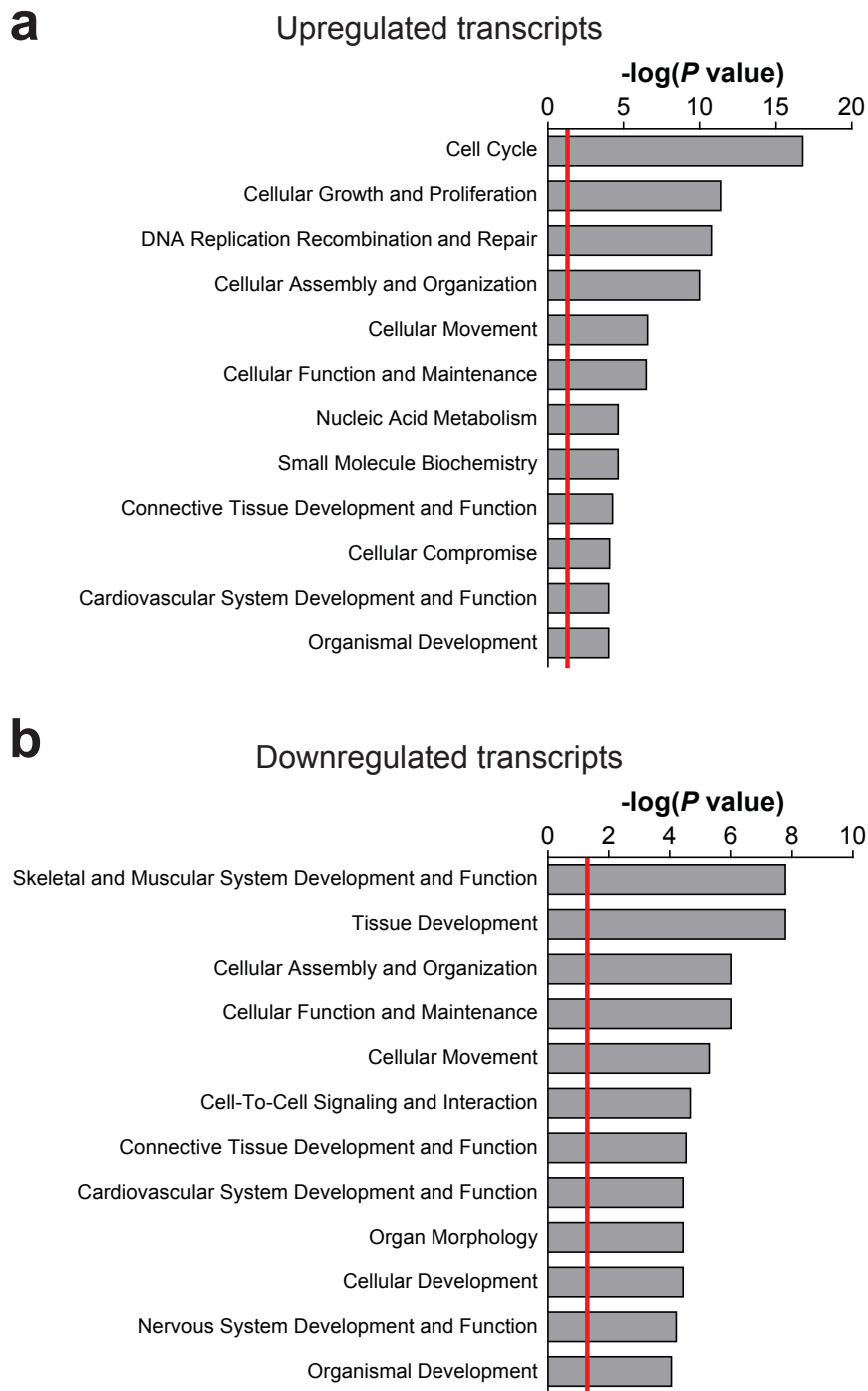
Supplementary Figure 9. miRNAs are able to induce proliferation of cardiomyocytes isolated from 7-day old rats.

a. Percentage of EdU-positive cardiomyocytes, extracted from 7-day old rats, assessed 72 h after transfection with cel-miR-67 (control), hsa-miR-590-3p, hsa-miR-199a-3p, hsa-miR-1825 and hsa-miR-33b*, four miRNAs that strongly increase neonatal cardiomyocyte proliferation. Values are presented as mean $\pm$ s.e.m.; *** $P < 0.001$ relative to control, $n = 3$ per group.

b. Representative images of EdU staining of rat cardiomyocytes, isolated from 7-day old animals and treated with cel-miR-67 (control), hsa-miR-590-3p, hsa-miR-199a-3p, hsa-miR-1825 and hsa-miR-33b*. The nuclei of proliferating cardiomyocytes are stained in red. Enlarged figures are shown in the bottom panels. Scale bar: 100 μ m.



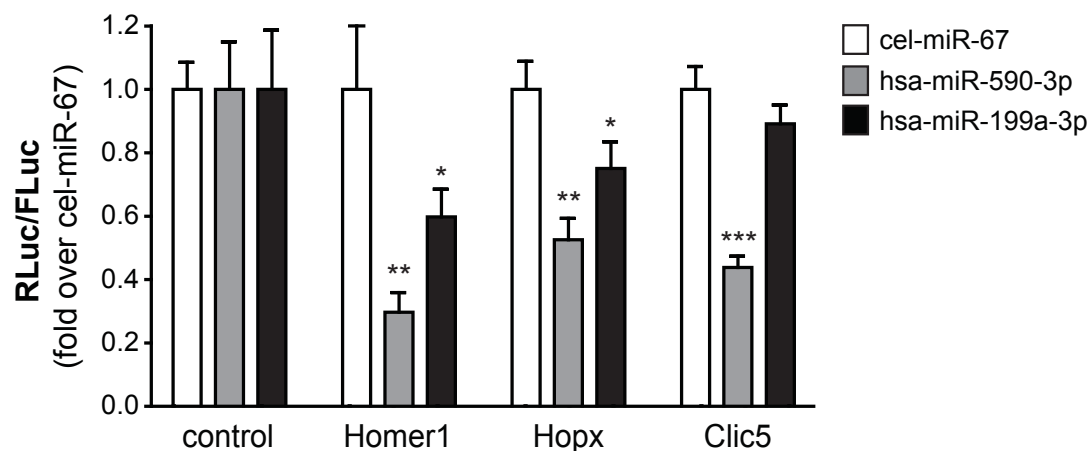
Supplementary Figure 10. Effect of miRNAs on the expression of selected genes related with cardiac differentiation and cell cycle. Levels of expression of a panel of genes related to cardiac differentiation (Myh6 - alpha-MHC, Myh7 - beta-MHC, Nkx2.5, Dab2, Destrin, Runx1) and cell cycle (Ccne1, Ccna2 and Ccnb1 - cyclins E1, A2 and B1, respectively), assessed at the day of extraction of adult cardiomyocytes (adult, white bars) or after transfection with cel-miR-67 (control), hsa-miR-590-3p and hsa-miR-199a-3p, at day 7 (gray bars); neonatal cardiomyocytes are shown for comparison (black bars). Values are presented as fold change over adult cardiomyocytes, after normalization with GAPDH, and represent mean $\pm$ s.e.m.; ns not significant, ** $P < 0.01$, *** $P < 0.001$ relative to adult cardiomyocytes (day 1) or cel-miR-67 treated adult cardiomyocytes (day 7), $n=3$ per group.



Supplementary Figure 11. Functional analysis of transcripts up- and down-regulated by hsa-miR-590-3p and hsa-miR-199a-3p.

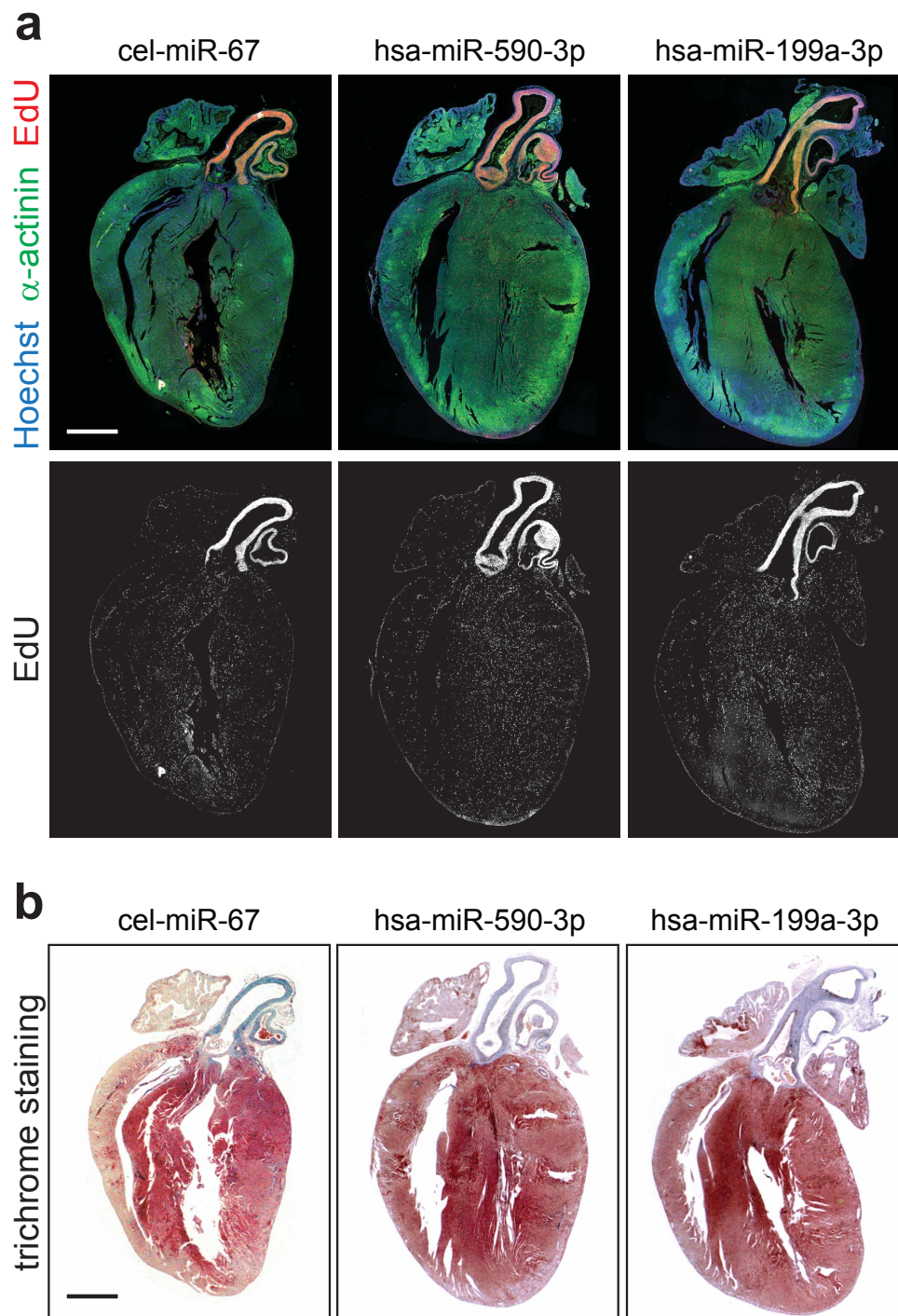
a. Functional categories enriched among the 1056 transcripts upregulated by hsa-miR-590-3p or hsa-miR-199a-3p, identified using Ingenuity Pathway Analysis (IPA); the twelve most enriched categories are shown. Red line represents $P=0.05$.

b. Functional categories enriched among the 697 transcripts downregulated by hsa-miR-590-3p or hsa-miR-199a-3p, identified using IPA; the twelve most enriched categories are shown. Red line represents $P=0.05$.



Supplementary Figure 12. Homer1 and Hopx are direct targets of hsa-miR-590-3p and hsa-miR-199a-3p.

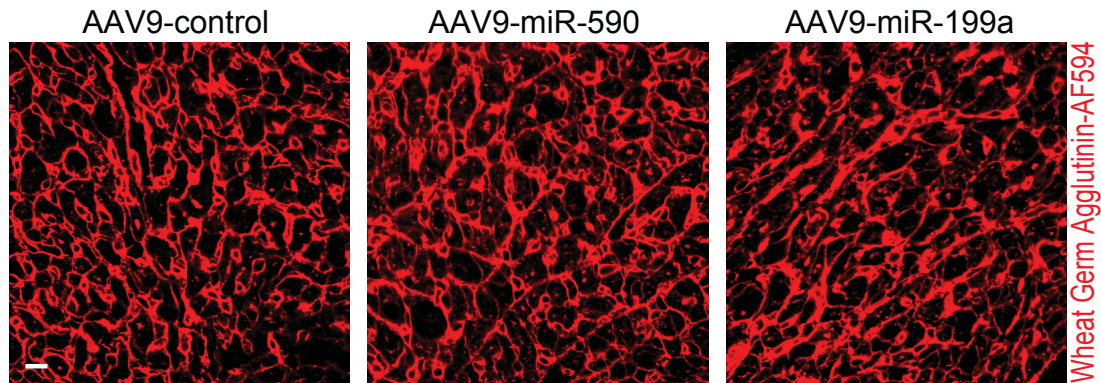
3'-UTR luciferase reporter assays performed in HeLa cells transfected with cel-miR-67, hsa-miR-590-3p and hsa-miR-199a-3p. Results are shown for the 3'-UTRs of Homer1, Hopx and Clic5, as well as for the empty vector (control); Renilla luciferase activity was normalized to that of Firefly luciferase. Values are presented as mean $\pm$ s.e.m.; * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$ relative to cel-miR-67, $n = 3$ per group.



Supplementary Figure 13. miR-590 and miR-199a increase proliferation in neonatal rat hearts without inducing fibrosis.

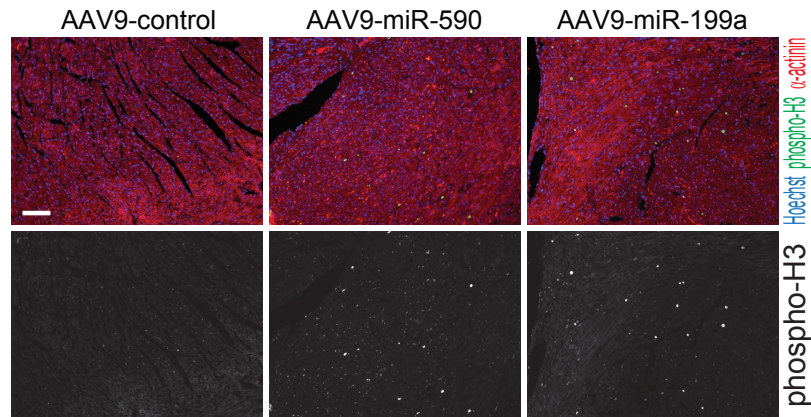
a. Representative images of EdU staining (red) and α -actinin (green) in sections of neonatal rat hearts injected with cel-miR-67, hsa-miR-590-3p or hsa-miR-199a-3p, 4 days after miRNA injection. EdU channel is shown in the lower panels. Scale bar: 1 mm.

b. Representative images of sections of rat hearts injected with cel-miR-67, hsa-miR-590-3p or hsa-miR-199a-3p (4 days post-injection), stained with Masson trichrome to reveal muscle fibers (red) and collagen (blue). Scale bar: 1 mm



Supplementary Figure 14. miR-590 and miR-199a do not induce hypertrophy in mouse hearts.

Confocal microscopy images of heart sections, from mice transduced with AAV9-control, AAV9-miR-590 or AAV9-miR-199a (12 days after transduction), stained with fluorescently labeled wheat germ agglutinin (WGA-AF594) to delimit the borders of the muscle fibers. Scale bar: 10 μ m. Quantification of cardiomyocyte cross-sectional area is shown in Fig. 4h. n=3 per group.



Supplementary Figure 15. miR-590 and miR-199a increase CM mitosis.

Representative images of phospho-H3 staining (green) and α -actinin (red) in heart sections of mice transduced with AAV9-control, AAV9-miR-590 or AAV9-miR-199a, 12 days after transduction. Phospho-H3 channel is shown in the lower panels. Cells that undergo mitosis are positive for phospho-H3 staining. Scale bar: 100 μ m.



AAV9-miRNA i.c. EdU Harvest

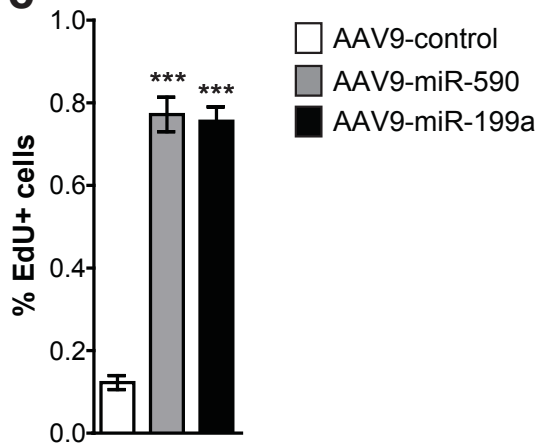
Day: 0 12

Adult mice

b

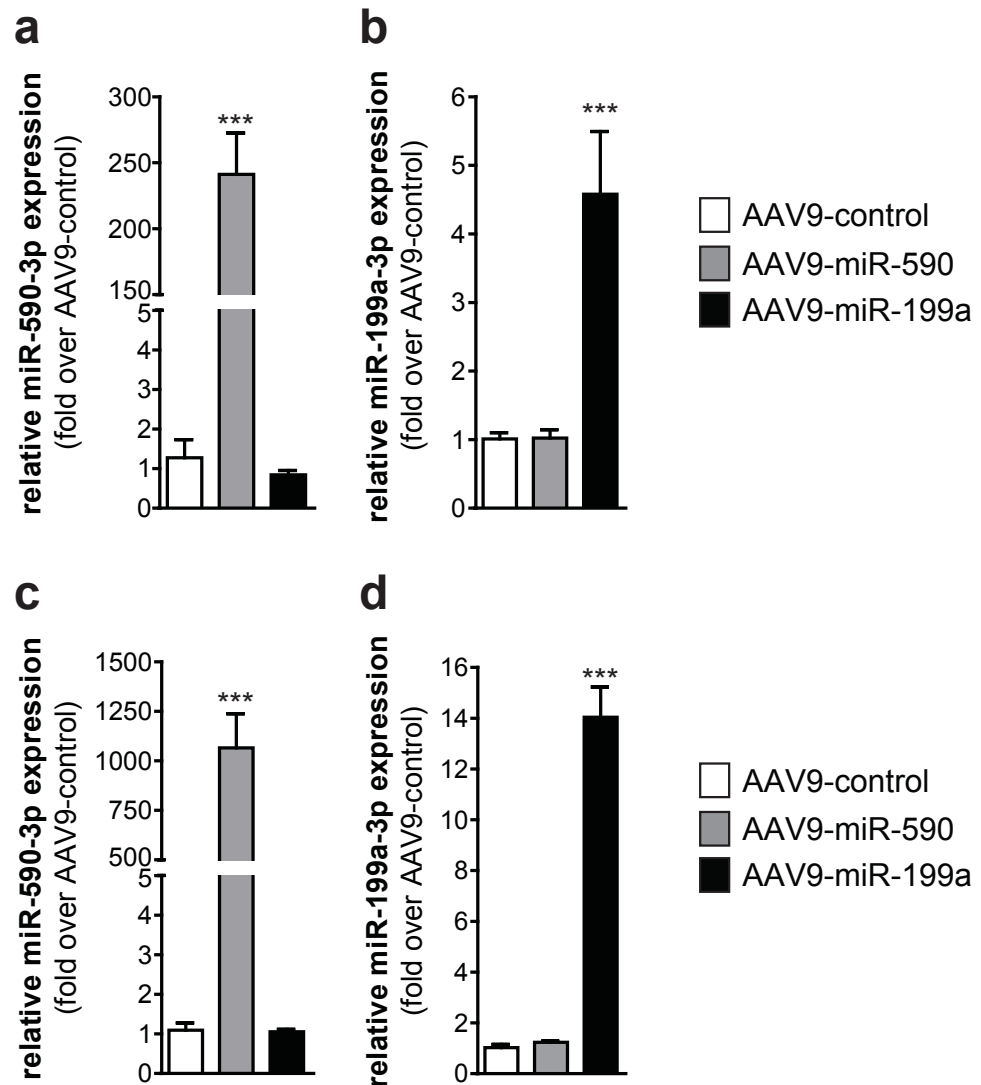
Figure 3 displays confocal microscopy images of muscle tissue. The top row shows merged images of Hoechst (blue), α -actinin (green), and EdU (red) staining for AAV9-control, AAV9-miR-590, and AAV9-miR-199a groups. The bottom row shows EdU staining only for the same groups. A scale bar is present in the top-left image.

C



a. Schematic of the experiments designed to evaluate the effect of selected miRNAs in the heart of adult mice. Mice were injected intracardially (i.c.) with AAV9-control, AAV9-miR-590 or AAV9-miR-199a and EdU was administered every 2 days until day 10; animals were sacrificed 12 days after transduction with the AAV9 vectors.

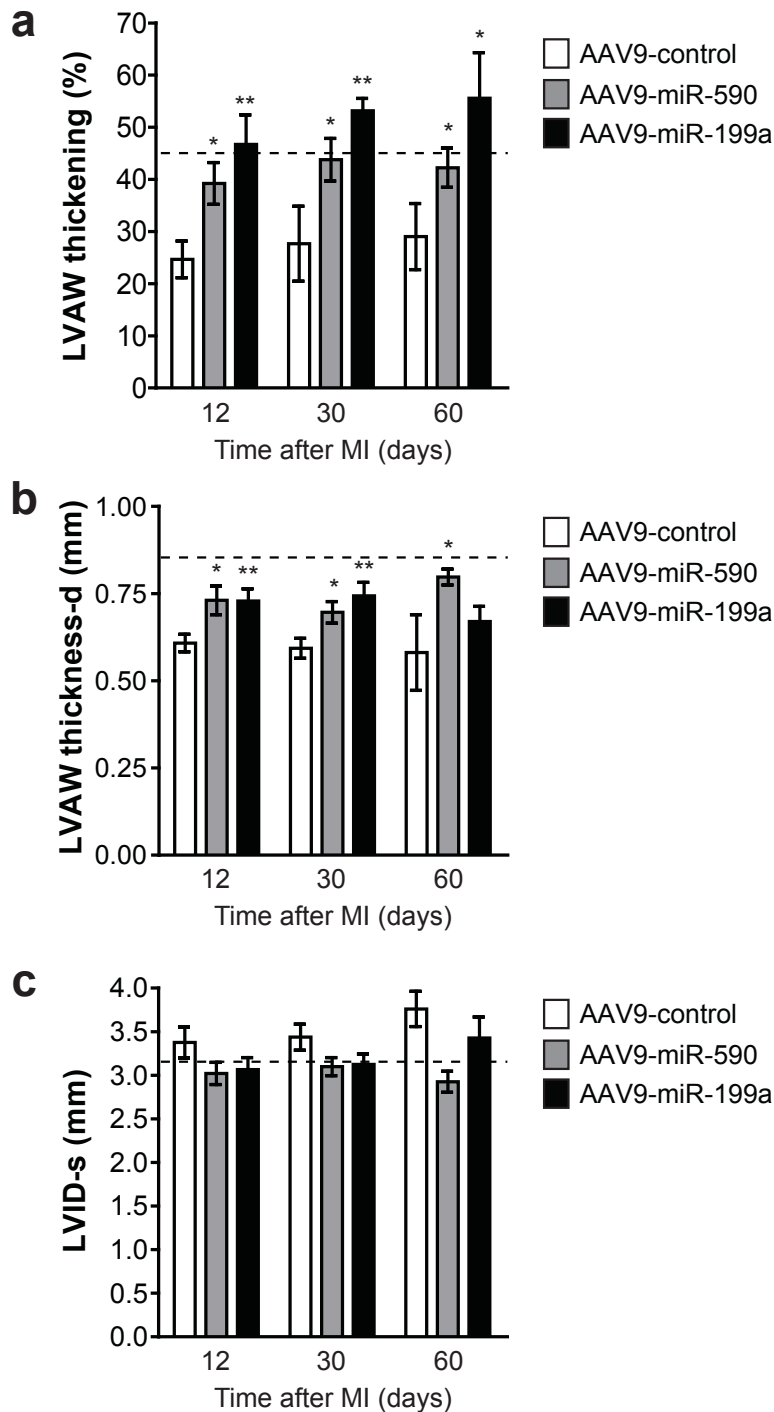
c. Percentage of cells positive for EdU in heart sections of adult mice transduced with AAV9-control, AAV9-miR-590 and AAV9-miR-199a, 12 days after transduction. Values are presented as mean $\pm$ s.e.m.; *** $P < 0.001$ relative to control, $n = 3$ per group.



Supplementary Figure 17. Overexpression of miRNAs in the heart mediated by Adeno-Associated vectors (AAV).

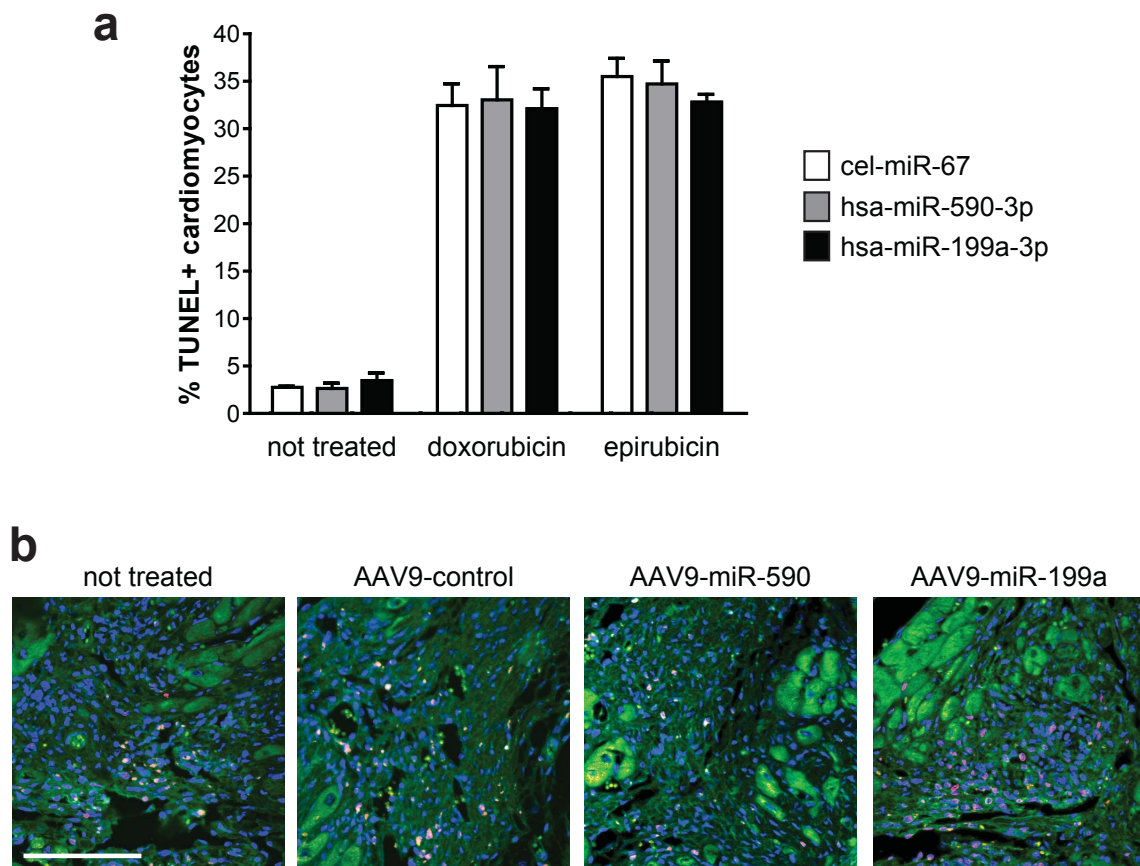
a,b. Quantification of the expression of hsa-miR-590-3p (panel a) and hsa-miR-199a-3p (panel b) in the heart of neonatal mice transduced with AAV9-control, AAV9-miR-590 and AAV9-miR-199a, 12 days after intraperitoneal delivery of AAV vectors. Values are presented as mean $\pm$ s.e.m.; *** $P < 0.001$ relative to control, $n = 3-4$ per group.

c,d. Quantification of the expression of hsa-miR-590-3p (panel c) and hsa-miR-199a-3p (panel d) in the heart of adult mice transduced with AAV9-control, AAV9-miR-590 and AAV9-miR-199a, 12 days after intracardiac delivery of AAV vectors. Values are presented as mean $\pm$ s.e.m.; *** $P < 0.001$ relative to control, $n = 3-4$ per group.



Supplementary Figure 18. miR-590-3p and miR-199a-3p preserve cardiac function after myocardial infarction.

a-c. Left ventricular anterior wall thickening (LVAW thickening, panel a), left ventricular end-diastolic anterior wall thickness (LVAW thickness-d, panel b) and left ventricular end-systolic internal diameter (LVID-s, panel c) of mice transduced with AAV9-control, AAV9-miR-590 or AAV9-miR-199a, analyzed by echocardiography at 12, 30 and 60 days after myocardial infarction. Values are presented as mean $\pm$ s.e.m.; dashed line represents the average value of non-infarcted animals i.c. injected with AAV9-control; * $P < 0.05$, ** $P < 0.01$ relative to control, $n = 16$ at day 12 and $n = 10$ at days 30 and 60.



Supplementary Figure 19. miR-590 and miR-199a do not protect cardiomyocytes from apoptosis.

a. Percentage of TUNEL-positive neonatal rat cardiomyocytes not treated or treated for 20 h with 1 μ M doxorubicin or 1 μ M epirubicin, 48h after transfection with cel-miR-67 (control), hsa-miR-590-3p and hsa-miR-199a-3p. Values are presented as mean $\pm$ s.e.m.; n=3 per group. There was no statistically significant difference between cel-miR-67 and either of the two other miRNAs.

b. Representative confocal microscopy images of TUNEL staining (red) and α -actinin (green) in heart sections of adult mice not treated or transduced with AAV9-control, AAV9-miR-590 and AAV9-miR-199a, 12 days after myocardial infarction and intracardiac delivery of AAV vectors. Scale bar: 100 μ m.

Eulalio et al. - Supplementary Table 1

Summary of the results of the high-content microRNA screening for cardiomyocyte proliferation. 875 microRNA mimics corresponding to 988 microRNAs were tested in rat cardiomyocytes; the highlighted rows correspond to the 204 microRNA mimics showing the best performance in rat cardiomyocytes, which were also tested in mouse cardiomyocytes.

microRNA	miRBase mature sequence accession	Sequence	RAT			MOUSE
			total number cells analyzed	% cardiomyocytes (α -actinin+)	% proliferating cardiomyocytes (α -act+, Ki-67+, EdU+) *	% proliferating cardiomyocytes (α -act+, Ki-67+, EdU+) *
hsa-let-7a	MIMAT0000062	UGAGGUAGUAGGUUGUAUAGUU	3009	84.20	3.24	-
hsa-let-7a*	MIMAT0004481	CUAUACAACUACUGUCUUUC	3400	85.32	26.87	3.36
hsa-let-7a-2*	MIMAT0010195	CUGUACAGCCUCCUAGCUUCC	3129	89.01	2.07	-
hsa-let-7b	MIMAT0000063	UGAGGUAGUAGGUUGUGUGUU	2977	85.62	2.70	-
hsa-let-7b*	MIMAT0004482	CUAUACAACCUACUGCCUCCC	3211	85.89	22.56	-
hsa-let-7c	MIMAT0000064	UGAGGUAGUAGGUUGUAUGUU	3182	82.70	3.72	-
hsa-let-7c*	MIMAT0004483	UAGAGUUACACCCUGGGAGUUA	2760	83.80	4.75	-
hsa-let-7d	MIMAT0000065	AGAGGUAGUAGGUUGCAUAGUU	3072	83.81	6.63	-
hsa-let-7d*	MIMAT0004484	CUAUACGACCGUGCCUUUCU	3134	80.49	7.75	-
hsa-let-7e	MIMAT0000066	UGAGGUAGGAGGUUGUAUAGUU	2824	87.45	2.91	-
hsa-let-7e*	MIMAT0004485	CUAUACGGCCUCCUAGCUUCC	2831	82.55	20.00	-
hsa-let-7f	MIMAT0000067	UGAGGUAGUAGAUUGUAUAGUU	2881	85.14	3.03	-
hsa-let-7f-1*	MIMAT0004486	CUAUACAACUUAUUGCCUCCC	3159	89.33	20.20	-
hsa-let-7f-2*	MIMAT0004487	CUAUACAGUCUACUGUCUUCC	3489	86.74	30.55	1.72
hsa-let-7g	MIMAT0000414	UGAGGUAGUAGUUUGUACAGUU	3100	84.50	2.60	-
hsa-let-7g*	MIMAT0004584	CUGUACAGGCCACUGCCUUGC	3240	87.02	1.35	-
hsa-let-7i	MIMAT0000415	UGAGGUAGUAGUUUGUGCUGUU	2856	86.97	0.95	-
hsa-let-7i*	MIMAT0004585	CUGCGCAAGCUACUGCCUUGCU	3020	89.02	37.46	3.91
hsa-miR-1	MIMAT0000416	UGGAAUGUAAAGAAGUAUGUUAU	2178	83.61	2.15	-
hsa-miR-100	MIMAT0000098	AACCCGUAGAUCCGACCUUGUG	3054	88.51	38.09	4.91
hsa-miR-100*	MIMAT0004512	CAAGCUUGUAUCUAUAGGUUAUG	3095	84.62	6.97	-
hsa-miR-101	MIMAT0000099	UACAGUACUGUGAUAAACUGAA	2349	77.46	9.44	-
hsa-miR-101*	MIMAT0004513	CAGUUAUCACAGUGCUGAUGCU	2655	81.62	7.27	-
hsa-miR-103	MIMAT0000101	AGCAGCAUUGUACAGGGCUAUGA	2895	87.93	2.88	-
hsa-miR-103-2*	MIMAT0009196	AGCUUCUUUACAGUGCCUUG	2398	84.76	12.57	-
hsa-miR-103-as	MIMAT0007402	UCAUAGCCUGUACAAGCUGCU	1572	81.33	0.43	-
hsa-miR-105	MIMAT0000102	UCAAAUGCUCAGACUCCUGUGGU	2505	85.19	1.62	-
hsa-miR-105*	MIMAT0004516	ACGGAUGUUUGAGCAUGUGCUA	3028	82.32	2.87	-
hsa-miR-106a	MIMAT0000103	AAAGUGCUUACAGCAGGUAG	3405	85.04	25.02	5.94
hsa-miR-106a*	MIMAT0004517	CUGCAAUGUAGCAGCUUCCUAC	3360	86.77	25.65	1.71
hsa-miR-106b	MIMAT0000680	UAAAGUGCUGACAGUCAGAU	3201	87.39	27.52	7.16
hsa-miR-106b*	MIMAT0004672	CCGCACUGUGGGUACUUGCUGC	2762	84.49	1.97	-
hsa-miR-107	MIMAT0000104	AGCAGCAUUGUACAGGGCUAUGA	2857	88.08	2.19	-
hsa-miR-10a	MIMAT0000253	UACCCUGUAGAUCCGAAUUGUG	2918	86.51	10.21	-
hsa-miR-10a*	MIMAT0004555	CAAAUUCGUACUAGGGGAAUA	2792	85.39	2.16	-
hsa-miR-10b	MIMAT0000254	UACCCUGUAGAACCGAAUUGUG	2801	85.77	12.77	-
hsa-miR-10b*	MIMAT0004556	ACAGAUUCGAUUCUAGGGGAU	2815	84.09	13.29	-
hsa-miR-1178	MIMAT0005823	UUGCUCACUGUUCUCCUAG	2785	89.64	12.57	-
hsa-miR-1179	MIMAT0005824	AAGCAUUCUUAUUGGUUGG	3013	86.18	15.03	-
hsa-miR-1180	MIMAT0005825	UUUCCGGCUCGCGUGGGUGUGU	2908	86.62	0.60	-
hsa-miR-1181	MIMAT0005826	CCGUCGCGCCACCCGAGCCG	3081	85.77	24.36	-
hsa-miR-1182	MIMAT0005827	GAGGGUCUUGGGAGGGAUGUGAC	3361	85.27	40.25	5.08
hsa-miR-1183	MIMAT0005828	CACUGUAGGUGAUGGAGAGUGGCA	2854	85.27	10.09	-
hsa-miR-1184	MIMAT0005829	CCUGCAGCGACUUGAUGGCUCC	3052	87.25	3.29	-
hsa-miR-1185	MIMAT0005798	AGAGGAUACCCUUGUAUGUU	2385	76.71	1.48	-
hsa-miR-1197	MIMAT0005955	UAGGACACAUGGUCUACUUCU	3052	85.19	11.60	-
hsa-miR-1200	MIMAT0005863	CUCCUGAGCCAUCUGAGCCUC	2812	87.45	1.70	-
hsa-miR-1201	MIMAT0005864	AGCCUGAUUAAACACAUGCUCUGA	3214	88.61	15.13	-
hsa-miR-1202	MIMAT0005865	GUGCCAGCUGCAGUGGGGGAG	2542	92.80	0.77	-
hsa-miR-1203	MIMAT0005866	CCCGGAGCCAGGAUGCAGCUC	3584	79.13	14.31	-
hsa-miR-1204	MIMAT0005868	UCGUGCCUGGUCUCCAUUAU	2831	84.42	10.37	-
hsa-miR-1205	MIMAT0005869	UCUGCAGGUUUGCUUUGAG	2995	88.53	2.84	-
hsa-miR-1206	MIMAT0005870	UGUUCAGUAGAUUUUAAGC	3000	86.48	17.95	-
hsa-miR-1207-3p	MIMAT0005872	UCAGCUGGCCUUAUUUC	2890	72.32	0.89	-
hsa-miR-1207-5p	MIMAT0005871	UGGCAGGGAGGCUUGGAGGGG	2487	90.11	3.77	-
hsa-miR-1208	MIMAT0005873	UCACUGUUCAGACAGCGGA	3348	85.65	26.25	2.44
hsa-miR-122	MIMAT0000421	UGGAGUGUGACAAGUGGUUUUG	3398	83.42	14.83	-
hsa-miR-122*	MIMAT0004590	AACGCCAUUAUCACACUAAUA	3124	87.05	8.69	-

hsa-miR-1224-3p	MIMAT0005459	CCCCACCUCUCUCUCCUCAG	3235	84.73	39.23	6.77
hsa-miR-1224-5p	MIMAT0005458	GUGAGGACUCGGGAGGUGG	2304	78.06	1.15	-
hsa-miR-1225-3p	MIMAT0005573	UGAGCCCUUGUGCCGCCCCAG	3001	81.92	9.99	-
hsa-miR-1225-5p	MIMAT0005572	GUGGGUACGGCCAGUGGGGGG	2484	90.20	0.27	-
hsa-miR-1226	MIMAT0005577	UCACCAGCCUGUGUCCCUAG	3503	79.43	11.22	-
hsa-miR-1226*	MIMAT0005576	GUGAGGGCAUGCAGGCCUGGAUGGGG	2449	88.83	4.09	-
hsa-miR-1227	MIMAT0005580	CGUGCCACCCUUUUCGCCAG	2912	90.87	13.74	-
hsa-miR-1228	MIMAT0005583	UCACACCUGCCUCGCCCCCC	2655	81.15	2.29	-
hsa-miR-1228*	MIMAT0005582	GUGGGCGGGGCGAGUGUGUG	3134	85.69	15.93	-
hsa-miR-1229	MIMAT0005584	CUCUCACCACUGCCCUCCACAG	3168	87.04	35.84	6.42
hsa-miR-1231	MIMAT0005586	GUGUCUGGGCGGACAGCUGC	3021	88.96	6.37	-
hsa-miR-1233	MIMAT0005588	UGAGCCCUUGCCUCCCGCAG	2549	81.91	2.24	-
hsa-miR-1234	MIMAT0005589	UCGGCCUGACCACCCACCCAC	3168	85.20	24.51	-
hsa-miR-1236	MIMAT0005591	CCUCUCCCCUUGUCUCUCCAG	2829	89.64	1.26	-
hsa-miR-1237	MIMAT0005592	UCCUUCUGCUCCGUCCCCAG	3147	84.22	20.09	-
hsa-miR-1238	MIMAT0005593	CUUCCUCGUCUGUCUGCCCC	2907	90.11	24.64	-
hsa-miR-124	MIMAT0000422	UAAGGCACGCGGUGAUGGCC	617	26.66	0.00	-
hsa-miR-124*	MIMAT00004591	CGUGUUCACAGCGGACCUUGAU	2386	88.58	6.17	-
hsa-miR-1243	MIMAT0005894	AACUGGAUCAUAUUAAGGAGUG	2872	87.88	17.36	-
hsa-miR-1244	MIMAT0005896	AAGUAGUUGGUUUGUAUGAGUUGUU	2578	81.54	37.29	18.19
hsa-miR-1245	MIMAT0005897	AAGUGAUCUAAAGCCCUACAU	3505	85.15	12.41	-
hsa-miR-1246	MIMAT0005898	AAUGGAUUUUUGAGGAGG	2990	79.08	3.14	-
hsa-miR-1247	MIMAT0005899	ACCCGUCGCCGUUCGCCCGGA	3063	89.39	36.51	5.96
hsa-miR-1248	MIMAT0005900	ACCUUCUUGUAUAAGCAGUGCUAAA	3868	83.17	32.68	13.23
hsa-miR-1249	MIMAT0005901	ACGCCCUUCCCCCUUCUUA	3025	87.17	37.47	6.01
hsa-miR-1250	MIMAT0005902	ACGGUCUGGAUGUGGCCUUU	2675	86.69	8.62	-
hsa-miR-1251	MIMAT0005903	ACUCUAGCUGCCAAAGGCGCU	3081	86.74	4.41	-
hsa-miR-1252	MIMAT0005944	AGAAGGAAUUGAAUUAUUUA	3178	85.84	19.04	-
hsa-miR-1253	MIMAT0005904	AGAGAAGAAGUACAGCCUGCA	2912	86.40	10.18	-
hsa-miR-1254	MIMAT0005905	AGCCUGGAAGCUGGAGCCUGCAGU	2967	83.75	7.79	-
hsa-miR-1255a	MIMAT0005906	AGGAUGAGCAAAGAAUGAGAUU	2671	62.30	0.31	-
hsa-miR-1255b	MIMAT0005945	CGGAUGAGCAAAGAAUGGUGU	2652	71.68	0.50	-
hsa-miR-1256	MIMAT0005907	AGGCAUUGACUUCUCACUAGCU	2522	86.99	1.58	-
hsa-miR-1257	MIMAT0005908	AGUGAAUGAUGGUUCUGACC	2958	82.23	0.95	-
hsa-miR-1258	MIMAT0005909	AGUAGGAUUAAGGUCUGGAA	3277	85.02	30.06	3.71
hsa-miR-1259	MIMAT0005910	AUAUAUGAUGACUUAAGCUUUU	2836	84.98	3.20	-
hsa-miR-125a-3p	MIMAT0004602	ACAGGUGAGGUUCUUGGAGCC	2654	85.95	2.80	-
hsa-miR-125a-5p	MIMAT0000443	UCCUGAGACCCUUUAACUGUGA	2889	86.64	6.30	-
hsa-miR-125b	MIMAT0000423	UCCUGAGACCCUUAACUGUGA	2972	88.58	3.87	-
hsa-miR-125b-1*	MIMAT0004592	ACGGGUUAGGCUCUUGGGAGCU	3100	83.40	19.87	-
hsa-miR-125b-2*	MIMAT0004603	UCACAAGUCAGGCUCUUGGGAC	2761	89.62	10.44	-
hsa-miR-126	MIMAT0000445	UCGUACCGUGAGUAUAUAGCG	2733	81.91	1.69	-
hsa-miR-126*	MIMAT0000444	CAUUAUUACUUAUGGUACGCG	3521	80.59	12.63	-
hsa-miR-1260	MIMAT0005911	AUCCACCUUGGCCACCA	2975	88.49	37.54	4.21
hsa-miR-1261	MIMAT0005913	AUGGAUAAGGCUUUGGCUU	2863	89.29	7.16	-
hsa-miR-1262	MIMAT0005914	AUGGUGAAUUAUGAAGAGAU	3127	86.47	12.85	-
hsa-miR-1263	MIMAT0005915	AUGGUACCCUGGCAUACUGAGU	2872	85.46	6.00	-
hsa-miR-1264	MIMAT0005791	CAAGUCUUAUUUGAGCACCUGUU	2171	81.85	18.97	-
hsa-miR-1265	MIMAT0005918	CAGGAUGUGGUAAGUUGUUU	2952	86.89	12.18	-
hsa-miR-1266	MIMAT0005920	CCUAGGGCUGUAAGACAGGGCU	2476	84.25	15.15	-
hsa-miR-1267	MIMAT0005921	CCUGUUGAAGUGUAUCCCCA	3103	82.52	22.00	-
hsa-miR-1268	MIMAT0005922	CGGGCGUGGUGGUGGGG	3025	87.65	10.40	-
hsa-miR-1269	MIMAT0005923	CUGGACUGAGCCGUGCUACUGG	2592	78.70	1.13	-
hsa-miR-1270	MIMAT0005924	CUGGAGUAUUGGAAGAGCUGUGU	1716	78.55	0.88	-
hsa-miR-1271	MIMAT0005796	CUUGGCACCUAGCAAGCACUCA	2867	86.26	6.97	-
hsa-miR-1272	MIMAT0005925	GAUGAUGAUGGCAGCAAUUCUGAAA	2896	87.10	3.96	-
hsa-miR-1273	MIMAT0005926	GGGCGACAAAGCAAGACUCUUUCUU	3557	85.62	44.43	3.82
hsa-miR-127-3p	MIMAT0000446	UCGGAUCCGUCUGAGCUUGGCU	2991	88.13	5.94	-
hsa-miR-1274a	MIMAT0005927	GUCCUGUUCAGGCGCCA	3102	87.14	15.40	-
hsa-miR-1274b	MIMAT0005938	UCCUGUUCGGGCGCCA	3036	86.74	25.77	11.95
hsa-miR-1275	MIMAT0005929	GUGGGGAGAGGUGUC	3225	83.19	2.53	-
hsa-miR-127-5p	MIMAT0004604	CUGAAGCUCAGAGGGCUCUGAU	1728	83.22	0.96	-
hsa-miR-1276	MIMAT0005930	UAAAGAGCCUGUGGAGACA	3070	85.29	9.75	-
hsa-miR-1277	MIMAT0005933	UACGUAGUAUAUAUGUAUUUU	3014	82.76	5.13	-
hsa-miR-1278	MIMAT0005936	UAGUACUGUGCAUAUCUAUUAU	1689	80.85	5.10	-
hsa-miR-1279	MIMAT0005937	UCAUAUUGCUUCUUUCU	2711	84.62	27.81	5.99
hsa-miR-128	MIMAT0000424	UCACAGUGAACCGGUCUCUUU	1835	64.39	9.62	-
hsa-miR-1280	MIMAT0005946	UCCACCGCUGCCACCC	3296	84.42	26.30	3.23
hsa-miR-1281	MIMAT0005939	UCGCCUCCUCCUCUCCC	3004	90.56	28.26	11.65
hsa-miR-1282	MIMAT0005940	UCGUUUGCCUUUUUCUGCUU	3347	87.96	34.17	2.92
hsa-miR-1283	MIMAT0005799	UCUACAAAGGAAAGCGCUUUUCU	3213	87.22	26.38	4.16
hsa-miR-1284	MIMAT0005941	UCUAUACAGACCCUGCUUUUC	3312	83.67	20.75	-
hsa-miR-1285	MIMAT0005876	UCUGGGCAACAAGUGAGACCU	2670	91.16	2.37	-
hsa-miR-1286	MIMAT0005877	UGCAGGACCAAGAUAGCCCU	2881	87.56	0.84	-
hsa-miR-1287	MIMAT0005878	UGCUGGAUCAGUGGUUCGAGUC	2131	88.76	0.23	-
hsa-miR-1288	MIMAT0005942	UGGACUGCCUGAUCUGGAGA	2841	72.65	0.87	-

hsa-miR-1289	MIMAT0005879	UGGAGUCCAGGAUUCUGCAUUUU	3668	83.91	20.41	-
hsa-miR-129*	MIMAT0004548	AAGCCCUUACCCCAAAAGUAU	1267	64.17	2.25	-
hsa-miR-1290	MIMAT0005880	UGGAUUUUUGGAUCAGGGA	2995	86.98	8.25	-
hsa-miR-1291	MIMAT0005881	UGGCCUGACUGAAGACCAGCAGU	2757	84.88	1.95	-
hsa-miR-1292	MIMAT0005943	UGGGAACGGGUUCCGGCAGACGCUG	3008	83.83	20.83	-
hsa-miR-1293	MIMAT0005883	UGGGUGGUCUGGAGAUUUGUC	2693	88.15	3.61	-
hsa-miR-129-3p	MIMAT0004605	AAGCCCUUACCCCAAAAGCAU	1048	57.40	2.33	-
hsa-miR-1294	MIMAT0005884	UGUGAGGUUGGCAUUGUUGUCU	2438	89.46	0.55	-
hsa-miR-1295	MIMAT0005885	UUAGGCCGCAUCUGGGUGA	2051	84.59	0.47	-
hsa-miR-129-5p	MIMAT0000242	CUUUUUGCGGUCUGGGCUUGC	2358	93.24	0.83	-
hsa-miR-1296	MIMAT0005794	UUAGGGCCUGGCUCUACUCC	2349	85.95	7.06	-
hsa-miR-1297	MIMAT0005886	UUCAAGUAAUUCAGGUG	3910	77.61	32.24	9.37
hsa-miR-1298	MIMAT0005800	UUCAUUCGGCUGUCCAGAUGUA	2288	82.10	18.65	-
hsa-miR-1299	MIMAT0005887	UUCUGGAAUUCUGUGUGAGGGA	1853	83.41	0.33	-
hsa-miR-1300	MIMAT0005888	UUGAGAAGGAGGCUGCUG	2198	83.03	0.49	-
hsa-miR-1301	MIMAT0005797	UUGCAGCUGCCUGGAGUGACUUC	3008	86.62	10.36	-
hsa-miR-1302	MIMAT0005890	UUGGGACAUCUUAUGCUAAA	3086	79.44	2.71	-
hsa-miR-1303	MIMAT0005891	UUUAGAGACGGGUCUUGCUCU	3093	80.47	14.22	-
hsa-miR-1304	MIMAT0005892	UUUGAGGCUACAGUGAGAUUG	2273	84.49	0.73	-
hsa-miR-1305	MIMAT0005893	UUUUAACUCUAAUUGGAGAGA	3143	85.70	31.35	4.25
hsa-miR-1306	MIMAT0005950	ACGUUGGCUCUGGUGGUG	2485	90.56	1.70	-
hsa-miR-1307	MIMAT0005951	ACUCGGCGUGGCGUCGGUCGUG	3072	85.95	8.65	-
hsa-miR-1308	MIMAT0005947	GCAUGGGUGGUUACAGUGG	2638	90.18	27.57	5.45
hsa-miR-130a	MIMAT0000425	CAGUGCAAUGUUAAAAGGCAU	3788	86.29	33.91	3.13
hsa-miR-130a*	MIMAT0004593	UUCACAUUGUGCUACUGUCUGC	3341	84.26	26.37	4.36
hsa-miR-130b	MIMAT0000691	CAGUGCAAUGAAGAAAGGCAU	3817	87.42	26.93	3.02
hsa-miR-130b*	MIMAT0004680	ACUCUUUCCUGUUGCAGUAC	2911	83.08	3.34	-
hsa-miR-132	MIMAT0000426	UAACAGUCUACAGCCAUGGUGC	3539	84.77	30.73	2.63
hsa-miR-132*	MIMAT0004594	ACCGUGGCUUUCGAUUGUUACU	2702	88.71	1.80	-
hsa-miR-1321	MIMAT0005952	CAGGAGGUGAAUGUGAU	3208	86.24	17.83	-
hsa-miR-1322	MIMAT0005953	GAUGAUGCUGCUGAUGCUG	3032	88.14	38.71	4.77
hsa-miR-1323	MIMAT0005795	UCAAAACUGAGGGCAUUUUUCU	2991	91.79	3.95	-
hsa-miR-1324	MIMAT0005956	CCAGACAGAAUUCUAUGCACUUUC	3327	82.40	21.18	-
hsa-miR-133a	MIMAT0000427	UUUGGUCCCCUUAACACGUG	2770	81.75	1.06	-
hsa-miR-133b	MIMAT0000770	UUUGGUCCCCUUAACACGCUA	2478	88.82	3.40	-
hsa-miR-134	MIMAT0000447	UGUGACUGGUUAGCAGAGGGG	2663	88.96	0.59	-
hsa-miR-135a	MIMAT0000428	UAUGGCUUUUUAUCCUAUGUA	2783	87.91	1.13	-
hsa-miR-135a*	MIMAT0004595	UAUAGGGAUUGGAGCCGUGGCG	2833	89.76	20.44	-
hsa-miR-135b	MIMAT0000758	UAUGGCUUUUUAUCCUAUGUA	2964	86.05	1.30	-
hsa-miR-135b*	MIMAT0004698	AUGUAGGGCUAAAAGCCAUUGG	2673	92.03	5.58	-
hsa-miR-136	MIMAT0000448	ACUCCAUUUGUUUAUGAUGGA	2382	84.49	8.57	-
hsa-miR-136*	MIMAT0004606	CAUCAUCGUCUCAAUAGAGUCU	2430	92.24	1.16	-
hsa-miR-137	MIMAT0000429	UUUUGCUUAAGAAUACGCGUAG	2568	81.64	0.33	-
hsa-miR-138	MIMAT0000430	AGCUGGUGUUGUGAAUACAGGCCG	2733	87.16	1.73	-
hsa-miR-138-1*	MIMAT0004607	GCUACUUCACAAACACAGGCC	3063	83.45	23.20	-
hsa-miR-138-2*	MIMAT0004596	GCUAUUUCACGACACAGGGUU	2761	85.19	10.89	-
hsa-miR-139-3p	MIMAT0004552	GGAGACGCGGCCUGUUGGAGU	2931	88.89	23.49	-
hsa-miR-139-5p	MIMAT0000250	UCUACAGUGCACGUGUCCUCCAG	3384	84.03	21.13	-
hsa-miR-140-3p	MIMAT0004597	UACCACAGGGUAGAACCACGG	3047	86.41	9.42	-
hsa-miR-140-5p	MIMAT0000431	CAGUGGUUUUACCCUAUGGUAG	3491	83.46	24.09	-
hsa-miR-141	MIMAT0000432	UAACACUGUCUGGUAAGAUGG	3092	83.60	26.86	4.17
hsa-miR-141*	MIMAT0004598	CAUCUCCAGUACAGUUGGGA	2675	87.57	0.64	-
hsa-miR-142-3p	MIMAT0000434	UGUAGUGUUUCCUACUUUAUGGA	4192	86.10	17.76	-
hsa-miR-142-5p	MIMAT0000433	CAUAAAGUAGAAAGCAUACU	2938	84.53	27.23	5.78
hsa-miR-143	MIMAT0000435	UGAGAUGAAGCACUUGAGCUC	3355	83.46	19.00	-
hsa-miR-143*	MIMAT0004599	GGUGCAGUGCUGCAUCUCUGGU	3928	87.59	36.71	11.40
hsa-miR-144	MIMAT0000436	UACAGUAUGAUGAUGUACU	2549	84.25	2.89	-
hsa-miR-144*	MIMAT0004600	GGUAUUAUUAUUAUCUGUAAG	4620	87.24	34.90	9.94
hsa-miR-145	MIMAT0000437	GUCCAGUUUCCAGGAUCCCU	2853	81.48	13.78	-
hsa-miR-145*	MIMAT0004601	GGAUUCCUGGAAUACUGUUCU	2605	84.36	2.44	-
hsa-miR-1468	MIMAT0006789	CUCGUGUUGCCUGUUCGUG	2810	87.26	37.54	1.06
hsa-miR-1469	MIMAT0007347	CUCGGCGCGGGCGCGGGCUCC	3420	83.33	9.89	-
hsa-miR-146a	MIMAT0000449	UGAGAUCUGAAUUCGAGGUU	3217	85.89	31.47	7.01
hsa-miR-146a*	MIMAT0004608	CCUCUGAAAUUCAGUUCUUCAG	2787	81.70	7.54	-
hsa-miR-146b-3p	MIMAT0004766	UGCCUGUGGACUCAGUUCUGG	2980	89.45	14.89	-
hsa-miR-146b-5p	MIMAT0002809	UGAGAUCUGAAUUCGAGGCU	3412	88.17	28.98	6.51
hsa-miR-147	MIMAT0000251	GUGUGUGGAAUUGCUUCUGC	2694	89.50	0.55	-
hsa-miR-1470	MIMAT0007348	GCCUCCGCGCCGUGCACC	2994	86.71	30.81	3.93
hsa-miR-1471	MIMAT0007349	GCCCUGGUGGAGCCAGGUGU	2689	86.04	5.83	-
hsa-miR-147b	MIMAT0004928	GUGUGCGAAUUGCUUCGCUA	3432	88.52	37.02	2.55
hsa-miR-148a	MIMAT0000243	UCAGUGCACUACAGAACUUUGU	2957	84.51	6.24	-
hsa-miR-148a*	MIMAT0004549	AAAGUUCUGAGACAUCCGACU	2560	91.60	0.97	-
hsa-miR-148b	MIMAT0000759	UCAGUGCAUCACAGAACUUUGU	4496	85.83	23.27	-
hsa-miR-148b*	MIMAT0004699	AAGUUCUGUUAUACACUACGC	3391	82.78	10.59	-
hsa-miR-149	MIMAT0000450	UCUGGCUCCGUGUCUACUCC	3138	85.28	14.20	-
hsa-miR-149*	MIMAT0004609	AGGGAGGACGGGGCUGUGC	3172	81.78	1.99	-

hsa-miR-150	MIMAT0000451	UCUCCCAACCCUUGUACCAGUG	2876	84.44	9.19	-
hsa-miR-150*	MIMAT0004610	CUGGUACAGGCCUGGGGGACAG	2954	80.28	8.95	-
hsa-miR-151-3p	MIMAT0000757	CUAGACUGAAGCUCCUUGAGG	3001	83.56	6.98	-
hsa-miR-151-5p	MIMAT0004697	UCGAGGAGCUCACAGUCUAGU	3200	84.16	13.90	-
hsa-miR-152	MIMAT0000438	UCAGUGCAUGACAGAACUUGG	4669	84.08	26.77	17.09
hsa-miR-153	MIMAT0000439	UUGCAUAGUCACAAAAGUGAUC	2540	76.44	12.31	-
hsa-miR-1537	MIMAT0007399	AAAACCGUCUAGUUACAGUUGU	2975	88.89	8.46	-
hsa-miR-1538	MIMAT0007400	CGGCCCGGGCUGCUGCUGUCCU	3092	86.00	14.15	-
hsa-miR-1539	MIMAT0007401	UCCUGCGCGUCCCAAGAUCC	2970	87.29	16.94	-
hsa-miR-154	MIMAT0000452	UAGGUUAUCCGUGUGCCUUCG	2852	87.11	10.54	-
hsa-miR-154*	MIMAT0000453	AAUCAUACACGGUUGACCUAUU	2832	88.72	33.31	4.35
hsa-miR-155	MIMAT0000646	UUAAGUCUAAUCGUGAUAGGGU	2526	86.42	6.14	-
hsa-miR-155*	MIMAT0004658	CUCCUACAUUUAGCAUUAACA	2994	79.88	19.91	-
hsa-miR-15a	MIMAT0000068	UAGCAGCAUAUAGGUUUGUG	2506	87.71	0.35	-
hsa-miR-15a*	MIMAT0004488	CAGGCCAUUUGUGCUGCCUCA	2812	79.48	7.85	-
hsa-miR-15b	MIMAT0000417	UAGCAGCAUCAUGGUUUACA	2580	86.47	0.40	-
hsa-miR-15b*	MIMAT0004586	CGAAUCAUUUUUGCUGCUCUA	3159	82.56	8.84	-
hsa-miR-16	MIMAT0000069	UAGCAGCACGUAUUUUGGCG	1847	84.30	0.35	-
hsa-miR-16-1*	MIMAT0004489	CCAGUAAUUAACUGUGCUGCUGA	3287	83.72	18.76	-
hsa-miR-16-2*	MIMAT0004518	CCAAUUAUACUGUGCUGCUUA	3114	85.79	16.91	-
hsa-miR-17	MIMAT0000070	CAAAGUGCUUACAGUGCAGGUAG	3535	87.60	28.04	6.95
hsa-miR-17*	MIMAT0000071	ACUGCAGUGAAGGCACUUGUAG	3045	88.44	32.62	3.83
hsa-miR-181a	MIMAT0000256	AACAUAUCAACGCUUGCGGUGAGU	3304	86.30	32.64	11.18
hsa-miR-181a*	MIMAT0000270	ACCAUCGACCGUUAUUGUACC	3444	85.21	29.68	4.96
hsa-miR-181a-2*	MIMAT0004558	ACCACUGACCGUUGACUGUACC	2823	83.55	32.11	3.64
hsa-miR-181b	MIMAT0000257	AACAUAUUGCUGUGCGUGGGU	2181	79.69	22.53	-
hsa-miR-181c	MIMAT0000258	AACAUAUCAACGCUUGCGGUGAGU	3191	77.64	18.91	-
hsa-miR-181c*	MIMAT0004559	AACCAUCGACCGUUGAGUGGAC	2848	83.78	19.54	-
hsa-miR-181d	MIMAT0002821	AACAUAUUGUUGUGCGUGGGU	2830	80.42	19.48	-
hsa-miR-182	MIMAT0000259	UUUGGCAUUGGUAAGACUACACU	2619	88.05	15.48	-
hsa-miR-182*	MIMAT0000260	UGGUUCUAGACUUGCCAAUA	1049	57.01	0.61	-
hsa-miR-1825	MIMAT0006765	UCCAGUGCCCUCCUCUCC	3756	82.99	45.69	16.11
hsa-miR-1826	MIMAT0006766	AUUGAUAUCGACACUUCGAACGAAU	3582	87.94	21.10	-
hsa-miR-1827	MIMAT0006767	UGAGGCAGUAGAUUGAAU	2685	82.68	1.45	-
hsa-miR-183	MIMAT0000261	UAUGGCACUGGUAGAAUUCACU	1727	81.21	0.21	-
hsa-miR-183*	MIMAT0004560	GUGAAUUAACGGAAGGGCCAUAA	2979	85.50	6.65	-
hsa-miR-184	MIMAT0000454	UGGACGGAGAACUGAUAAAGGU	3387	83.98	3.91	-
hsa-miR-185	MIMAT0000455	UGGAGAGAAAGGCAGUUCUGA	2829	80.36	0.72	-
hsa-miR-185*	MIMAT0004611	AGGGGCUGGCUUCCUCUGGUC	2424	80.22	0.67	-
hsa-miR-186	MIMAT0000456	CAAGAAUUCUCCUUUUGGGU	3045	86.54	24.26	-
hsa-miR-186*	MIMAT0004612	GCCCAAGGUGAAUUUUUGGG	2839	86.25	0.06	-
hsa-miR-187	MIMAT0000262	UCGUGUCUUGUGUUGCAGCCGG	3308	86.14	15.54	-
hsa-miR-187*	MIMAT0004561	GGCUACAACACAGGACCCGGGC	3473	81.99	21.36	-
hsa-miR-188-3p	MIMAT0004613	CUCCCAUUGCAGGGUUUGCA	3060	85.28	12.80	-
hsa-miR-188-5p	MIMAT0000457	CAUCCUUGCAUGGUGGAGGG	2994	89.09	24.69	-
hsa-miR-18a	MIMAT0000072	UAAGGUGCAUCUAGUGCAGAUAG	3221	83.69	4.66	-
hsa-miR-18a*	MIMAT0002891	ACUGCCCUAAGGCUCCUUCUGG	3374	88.03	36.14	14.70
hsa-miR-18b	MIMAT0001412	UAAGGUGCAUCUAGUGCAGUAG	2985	87.89	4.50	-
hsa-miR-18b*	MIMAT0004751	UGCCCUAAUUGCCCUUCUGGC	3309	83.95	26.67	12.12
hsa-miR-19*	MIMAT0000073	UGUGCAAUUCUAGCAAACUGA	4630	86.12	29.53	7.43
hsa-miR-190	MIMAT0000458	UGAUUGUUUGAUAAUUGGU	3018	86.20	30.25	3.46
hsa-miR-1908	MIMAT0007881	CGGCGGGACGGCGAUUGGUC	2975	83.80	6.73	-
hsa-miR-1909	MIMAT0007883	CGCAGGGGCGGGUGCUCACCG	3210	85.50	24.52	-
hsa-miR-1909*	MIMAT0007882	UGAGUGCCGUGCCUGCCUG	3628	85.47	12.78	-
hsa-miR-190b	MIMAT0004929	UGAUUGUUUGAUUUUGGUU	2721	89.29	36.32	4.48
hsa-miR-191	MIMAT0000440	CAACGGAAUCCCAAGCAGCUG	3023	84.60	13.21	-
hsa-miR-191*	MIMAT0001618	GCUGGCUUGGAUUUCGUCC	3076	86.64	30.61	3.66
hsa-miR-1910	MIMAT0007884	CCAGUCCUGUGCCUGCCGCU	3964	81.52	41.05	9.55
hsa-miR-1911	MIMAT0007885	UGAGUACCGCAUGUGUUGGG	3309	84.24	3.50	-
hsa-miR-1911*	MIMAT0007886	CACCAGGCAUUGUGGUCUCC	3167	80.39	7.35	-
hsa-miR-1912	MIMAT0007887	UACCCAGAGCAUGCAGUGUGAA	2644	89.98	0.39	-
hsa-miR-1913	MIMAT0007888	UCUGCCCCUCCGUGCUGCCA	2800	87.86	11.32	-
hsa-miR-1914	MIMAT0007889	CCUGUGCCCGGGCCAUUCUG	3255	86.13	25.33	4.49
hsa-miR-1914*	MIMAT0007890	GGAGGGGUGCCGCACUGGGAGG	3152	81.71	20.62	-
hsa-miR-1915	MIMAT0007892	CCCCAGGGGACGCGGCGGG	3459	81.73	6.92	-
hsa-miR-1915*	MIMAT0007891	ACCUUGCCUUGCUGCCCGGGCC	2683	86.06	0.94	-
hsa-miR-192	MIMAT0000222	CUGACCUAUGAAUUGACAGCC	2916	89.68	26.74	7.91
hsa-miR-192*	MIMAT0004543	CUGCCAAUCCAUAGGUCACAG	2617	89.63	10.73	-
hsa-miR-193a-3p	MIMAT0000459	AACUGGCCUACAAGUCCAGU	2651	87.23	0.39	-
hsa-miR-193a-5p	MIMAT0004614	UGGGUCUUUGCGGGCAGAUAGA	3010	81.93	1.99	-
hsa-miR-193b	MIMAT0002819	AACUGGCCCUAAGUCCCGCU	2681	89.15	0.41	-
hsa-miR-193b*	MIMAT0004767	CGGGGUUUUGAGGGCGAGAUAGA	2645	86.31	2.20	-
hsa-miR-194	MIMAT0000460	UGUAACAGCAACUCCAUUGGGA	2746	91.52	9.33	-
hsa-miR-194*	MIMAT0004671	CCAGUGGGGUGCUGGUUAUCUG	2954	82.97	3.68	-
hsa-miR-195	MIMAT0000461	UAGCAGCACAGAAUUAUUGGC	2563	86.05	0.58	-
hsa-miR-195*	MIMAT0004615	CCAAUUAUUGGCUUGCUGCUCC	3521	86.95	38.58	9.22

hsa-miR-196a	MIMAT0000226	UAGGUAGUUUCAUGUUGUUGG	2878	84.85	2.77	-
hsa-miR-196a*	MIMAT0004562	CGGCAACAAGAACUGCCUGAG	2646	86.32	1.19	-
hsa-miR-196b	MIMAT0001080	UAGGUAGUUUCCUGUUGUUGG	3131	81.51	4.38	-
hsa-miR-196b*	MIMAT0009201	UCGACAGCACGACACUGCCUUC	2932	88.81	4.69	-
hsa-miR-197	MIMAT0000227	UUCACCACCUUCUCCACCCAGC	2934	90.13	26.30	9.44
hsa-miR-1972	MIMAT0009447	UCAGGCCAGGCACAGUGGCUCA	2899	78.41	11.53	-
hsa-miR-1973	MIMAT0009448	ACCGUGCAAAGGUAGCAUA	2940	87.04	26.34	3.92
hsa-miR-1974	MIMAT0009449	UGGUUGUAGUCCGUGCGAGAAUA	4966	83.23	25.85	5.28
hsa-miR-1975	MIMAT0009450	CCCCACAACCGCGCUAGACUAGCU	3169	85.67	22.84	-
hsa-miR-1976	MIMAT0009451	CCUCCUGCCCUCCUUGCUGU	2874	87.42	11.95	-
hsa-miR-1977	MIMAT0009452	GAUUAGGGUGCUUAGCUGUUA	3932	88.35	31.37	5.75
hsa-miR-1978	MIMAT0009453	GGUUUGGUCCUAGCCUUCUA	2804	84.34	9.06	-
hsa-miR-1979	MIMAT0009454	CUCCACUGCUUACUUGACUA	3013	86.04	15.77	-
hsa-miR-198	MIMAT0000228	GGUCCAGAGGGGAGAUAGGUUC	1435	71.01	2.40	-
hsa-miR-199a-3p	MIMAT0000232	ACAGUAGUCUGCACAUGGUUA	4210	84.80	36.49	37.91
hsa-miR-199b-3p	MIMAT0004563					
hsa-miR-199a-5p	MIMAT0000231	CCCAGUGUUCAGACUACCUGUUC	3929	83.88	36.56	8.76
hsa-miR-199b-5p	MIMAT0000263	CCCAGUGUUUAGACUAUCUGUUC	3029	87.24	42.27	6.07
hsa-miR-19a*	MIMAT0004490	AGUUUUGCAUAGUUGCACUACA	3488	92.00	31.32	12.70
hsa-miR-19b	MIMAT0000074	UGUGCAAUCCAUGCAAACUGA	4819	85.47	24.43	-
hsa-miR-19b-1*	MIMAT0004491	AGUUUUGCAGGUUUGCAUCCAGC	3015	91.54	19.81	-
hsa-miR-19b-2*	MIMAT0004492	AGUUUUGCAGGUUUGCAUUAUA	3416	89.81	32.76	16.85
hsa-miR-200a	MIMAT0000682	UAACACUGUCUGGUAACGAUGU	3166	83.16	25.24	5.39
hsa-miR-200a*	MIMAT0001620	CAUCUUACCGGACAGUGCUGGA	3205	86.66	22.65	-
hsa-miR-200b	MIMAT0000318	UAAUACUGCCUGGUAUAUGAUA	2550	86.49	9.76	-
hsa-miR-200b*	MIMAT0004571	CAUCUUACUGGGCAUUAUGGA	3042	87.18	5.91	-
hsa-miR-200c	MIMAT0000617	UAAUACUGCCGGGUAUAUGGA	2517	86.33	7.91	-
hsa-miR-200c*	MIMAT0004657	CGUCUUACCCAGCAGUGUUUGG	2058	77.11	11.68	-
hsa-miR-202	MIMAT0002811	AGAGGUUAUAGGGCAUGGGAA	2756	84.67	0.77	-
hsa-miR-202*	MIMAT0002810	UUCUAUGCAUAUAUUCUUUG	3156	82.51	36.94	7.29
hsa-miR-203	MIMAT0000264	GUGAAUGUUUAGGACCACUAG	2829	84.46	1.60	-
hsa-miR-204	MIMAT0000265	UUCUUUUGUCAUCCUAGCCU	3237	87.67	32.80	7.08
hsa-miR-205	MIMAT0000266	UCCUUAUCCACCGGAGUCUG	2954	88.37	24.91	6.95
hsa-miR-205*	MIMAT0009197	GAUUUACAGUGGAGUGAAGUUC	1836	80.61	7.61	-
hsa-miR-2052	MIMAT0009977	UGUUUUGAUAAACGUAUUGU	3115	87.01	30.31	11.69
hsa-miR-2053	MIMAT0009978	GUGUUAAUUAACCCUUAUUUAC	3444	83.80	40.40	5.19
hsa-miR-2054	MIMAT0009979	CUGUAAUAUAAAUUUAUUUAUU	3358	83.71	18.98	-
hsa-miR-206	MIMAT0000462	UGGAAUGUAAGGAAGUGUGUGG	1814	80.62	1.00	-
hsa-miR-208a	MIMAT0000241	AUAAGACGAGCAAAAGCUUUG	3169	79.68	6.81	-
hsa-miR-208b	MIMAT0000460	AUAAGACGAACAAAGGUUUUG	2927	79.91	3.49	-
hsa-miR-20a	MIMAT0000075	UAAAGUGCUUAUAGUGCAGGUAG	3182	81.27	25.29	5.65
hsa-miR-20a*	MIMAT0004493	ACUGCAUUAUGAGCACUUAAG	3527	83.64	34.08	5.24
hsa-miR-20b	MIMAT0001413	CAAAGUGCUCAUAGUGCAGGUAG	2723	85.09	25.41	3.72
hsa-miR-20b*	MIMAT0004752	ACUGUAGUAUGGGCACUCCAG	3091	89.45	36.43	2.55
hsa-miR-21	MIMAT0000076	UAGCUUAUCAGACUGAUGUUGA	2677	85.39	11.08	-
hsa-miR-21*	MIMAT0004494	CAACACCAAGUCGAGUGGUGU	2691	88.93	2.72	-
hsa-miR-210	MIMAT0000267	CUGUGCGUGAGACCGGCGUGA	3396	88.07	39.65	11.47
hsa-miR-211	MIMAT0000268	UUCUUUUGUCAUCCUUCGCCU	3395	85.15	31.87	7.68
hsa-miR-2110	MIMAT0010133	UUGGGGAAACGGCCGUGAGUG	3264	86.57	7.96	-
hsa-miR-2113	MIMAT0009206	AUUUGUGCUUGGCUUGUCAC	4315	87.33	32.39	2.83
hsa-miR-212	MIMAT0000269	UAACAGUCUCCAGUCACGGCC	2918	86.74	11.74	-
hsa-miR-214	MIMAT0000271	ACAGCAGGCACAGACAGGCAGU	2804	85.66	7.91	-
hsa-miR-214*	MIMAT0004564	UGCCUGUCUACAUUGCUGUGC	3211	88.73	2.67	-
hsa-miR-215	MIMAT0000272	AUGACCUAUGAAUUGACAGAC	3050	91.03	26.00	1.73
hsa-miR-216a	MIMAT0000273	UAAUCUACGUGGCAACUGUGA	3129	85.83	19.44	-
hsa-miR-216b	MIMAT0004959	AAAUUCUGCAGGCAAAUGUGA	2692	89.12	8.66	-
hsa-miR-217	MIMAT0000274	UACUGCAUCAGGAACUGAUUGGA	2684	92.75	6.93	-
hsa-miR-218	MIMAT0000275	UUGUGCUUGAUUAACCAUGU	2950	89.75	26.04	3.34
hsa-miR-218-1*	MIMAT0004565	AUGGUUCCGUCAAGCAACCAUGG	2102	83.30	0.78	-
hsa-miR-218-2*	MIMAT0004566	CAUGGUUCUGUAAGCACCGCG	3053	86.49	1.65	-
hsa-miR-219-1-3p	MIMAT0004567	AGAGUUGAGUCUGGACGUCCCG	2544	82.88	1.90	-
hsa-miR-219-2-3p	MIMAT0004675	AGAAUUGUGGCGACACUGUGU	2424	81.02	3.78	-
hsa-miR-219-5p	MIMAT0000276	UGAUUGUCCAACGCAAUUCU	3785	89.38	33.51	14.02
hsa-miR-22	MIMAT0000077	AAGCUGCCAGUUGAAGAACUGU	2953	87.66	1.49	-
hsa-miR-22*	MIMAT0004495	AGUUCUUCAGUGGCAAGCUUUA	2658	91.44	0.79	-
hsa-miR-220a	MIMAT0000277	CCACACCGUAUCUGACACUUU	2853	83.40	2.08	-
hsa-miR-220b	MIMAT0004908	CCACCACCGUGUCUGACACUU	3046	87.34	33.50	10.47
hsa-miR-220c	MIMAT0004915	ACACAGGGCUGUUGUGAAGACU	3506	83.13	16.26	-
hsa-miR-221	MIMAT0000278	AGCUACAUUGUCUGCUGGGUUUC	4232	87.06	12.38	-
hsa-miR-221*	MIMAT0004568	ACCUGGCAUACAAUGUAGAUUU	2752	87.10	1.22	-
hsa-miR-222	MIMAT0000279	AGCUACAUUGGCUACUGGGU	3825	83.35	13.63	-
hsa-miR-222*	MIMAT0004569	CUCAGUAGCCAGUGUAGAUCCU	2317	89.64	15.69	-
hsa-miR-223	MIMAT0000280	UGUCAGUUUGUCAAUACCCCA	2476	83.72	17.44	-
hsa-miR-223*	MIMAT0004570	CGUGUAAUUGACAAGCUGAGUU	2815	87.30	0.61	-
hsa-miR-224	MIMAT0000281	CAAGUCACUAGUGGUUCCGUU	3036	88.59	19.86	-
hsa-miR-224*	MIMAT0009198	AAAAGUGGUGCCUAGUGACUACA	1967	78.98	3.02	-

hsa-miR-23a	MIMAT0000078	AUCACAUUGCCAGGGAUUUCC	3429	85.26	34.25	5.57
hsa-miR-23a*	MIMAT0004496	GGGUUCCUGGGGAUGGGAUUU	2944	86.99	9.41	-
hsa-miR-23b	MIMAT0000418	AUCACAUUGCCAGGGAUUACC	3584	84.70	35.98	18.04
hsa-miR-23b*	MIMAT0004587	UGGUUCCUGGCAUGCUGAUUU	3160	84.97	30.39	1.22
hsa-miR-24	MIMAT0000080	UGGCUCAGUUCAGCAGGAACAG	3715	82.91	27.32	2.74
hsa-miR-24-1*	MIMAT0000079	UGCCUACUGAGCUGAUUACAGU	3078	82.36	4.35	-
hsa-miR-24-2*	MIMAT0004497	UGCCUACUGAGCUGAAACACAG	2998	88.04	4.16	-
hsa-miR-25	MIMAT0000081	CAUUGCACUUGUCUGGUCUGA	3410	80.54	12.75	-
hsa-miR-25*	MIMAT0004498	AGGCGGAGACUUGGGCAUUUG	2206	84.54	0.16	-
hsa-miR-26a	MIMAT0000082	UUCAAGUAAUCCAGGAUAGGCU	2622	87.32	0.51	-
hsa-miR-26a-1*	MIMAT0004499	CCUAAUUCUUGGUUACUUGCAG	3062	82.35	10.25	-
hsa-miR-26a-2*	MIMAT0004681	CCUAAUUCUUGAUUACUUGUUUC	2853	92.60	1.85	-
hsa-miR-26b	MIMAT0000083	UUCAAGUAAUUCAGGAUAGGU	4069	83.36	30.59	10.47
hsa-miR-26b*	MIMAT0004500	CCUGUUCUCCAUUACUUGGCUC	2845	86.84	2.64	-
hsa-miR-27a	MIMAT0000084	UUCACAGUGGCUAAGUUCGCG	3070	86.21	15.58	-
hsa-miR-27a*	MIMAT0004501	AGGGCUUAGCUGCUUGUGAGCA	2837	87.82	1.64	-
hsa-miR-27b	MIMAT0000419	UUCACAGUGGCUAAGUUCUGC	3156	84.44	20.90	-
hsa-miR-27b*	MIMAT0004588	AGAGCUUAGCUGAUUGGUGAAC	3108	83.70	12.57	-
hsa-miR-28-3p	MIMAT0004502	CACUAGAUUGUGAGGUCCUGGA	2886	80.37	14.11	-
hsa-miR-28-5p	MIMAT0000085	AAGGAGCUCACAGUCUAAUUGAG	2660	90.08	2.67	-
hsa-miR-29b-3p	MIMAT0004679	GAGGGUUGGGUGGAGGCUCC	2758	85.99	1.01	-
hsa-miR-29b-5p	MIMAT0000690	AGGGCCCCCUCAAUCCUGU	3004	83.59	2.46	-
hsa-miR-297	MIMAT0004450	AUGUAUGUGUGCAUGUGCAUG	2064	86.05	0.80	-
hsa-miR-298	MIMAT0004901	AGCAGAAGCAGGGAGGUUCUCCCA	3027	87.25	17.34	-
hsa-miR-299-3p	MIMAT0000687	UAUGUGGGAUGGUAACCGCUU	2727	80.62	0.82	-
hsa-miR-299-5p	MIMAT0002890	UGGUUUACCGUCCCAUACA	3232	85.33	8.08	-
hsa-miR-29a	MIMAT0000086	UAGCACCACUGAAUCCGUAU	2993	83.85	4.91	-
hsa-miR-29a*	MIMAT0004503	ACUGAUUUUUUUGGUGUUCAG	3098	84.60	6.16	-
hsa-miR-29b	MIMAT0000100	UAGCACCACUUGAAUCCAGUUGU	2996	85.25	5.75	-
hsa-miR-29b-1*	MIMAT0004514	GCUGUUUUAUAGUGGUGUUAGA	2568	89.53	0.51	-
hsa-miR-29b-2*	MIMAT0004515	CUGGUUUACAUUGGUGCUUAG	2050	78.63	0.25	-
hsa-miR-29c	MIMAT0000681	UAGCACCACUUGAAUCCGUAU	3041	86.25	4.71	-
hsa-miR-29c*	MIMAT0004673	UGACCGAUUUCUCCUGGUGUUC	2923	90.27	12.76	-
hsa-miR-300	MIMAT0004903	UAUACAAGGCGAGACUCUCUCU	2807	86.34	14.49	-
hsa-miR-301a	MIMAT0000688	CAGUGCAAUAGUAAUUGCAAAGC	4161	85.93	30.02	5.63
hsa-miR-301b	MIMAT0004958	CAGUGCAAUAGUAAUUGCAAAGC	4247	82.03	33.12	4.71
hsa-miR-302a	MIMAT0000684	UAAGUGCUUCCAUGUUUUGGUGA	2971	90.00	28.91	12.89
hsa-miR-302a*	MIMAT0000683	ACUUAACGUGGAUGUACUUGCU	2949	84.28	32.70	4.77
hsa-miR-302b	MIMAT0000715	UAAGUGCUUCCAUGUUUUGGUGA	3803	84.51	27.60	10.64
hsa-miR-302b*	MIMAT0000714	ACUUAACGUGGAUGUACUUGCU	3493	86.66	44.34	8.01
hsa-miR-302c	MIMAT0000717	UAAGUGCUUCCAUGUUUUGGUGG	2983	88.18	26.87	11.04
hsa-miR-302c*	MIMAT0000716	UUUAACAUGGGGUGACUGCUG	3204	85.30	34.51	10.12
hsa-miR-302d	MIMAT0000718	UAAGUGCUUCCAUGUUUUGGUGU	3613	84.32	33.11	14.18
hsa-miR-302d*	MIMAT0004685	ACUUAACGUGGAUGGACCUUGC	3618	83.72	42.30	9.39
hsa-miR-302e	MIMAT0005931	UAAGUGCUUCCAUGCUU	3687	86.99	25.81	5.85
hsa-miR-302f	MIMAT0005932	UAAUUGCUUCCAUGUUU	3406	86.91	19.85	-
hsa-miR-30a	MIMAT0000087	UGUAAACAUCUCCGACUGGAAG	2310	83.49	15.93	-
hsa-miR-30a*	MIMAT0000088	CUUUCAGUCGGAUGUUUAGCAGC	2867	82.44	30.99	12.29
hsa-miR-30b	MIMAT0000420	UGUAAACAUCUACACUCAGCU	2647	86.31	14.66	-
hsa-miR-30b*	MIMAT0004589	CUGGGAGUGGAUGUUUACUUC	2607	86.40	0.30	-
hsa-miR-30c	MIMAT0000244	UGUAAACAUCUACACUCAGC	2719	85.86	15.94	-
hsa-miR-30c-1*	MIMAT0004674	CUGGGAGAGGGUUGUUUACUCC	2669	84.34	1.17	-
hsa-miR-30c-2*	MIMAT0004550	CUGGGAGAAGGCGUUUACUCU	2857	86.07	0.84	-
hsa-miR-30d	MIMAT0000245	UGUAAACAUCUCCGACUGGAAG	2952	86.74	20.36	-
hsa-miR-30d*	MIMAT0004551	CUUUCAGUCAGAUUUUUGCUGC	2433	75.81	23.61	-
hsa-miR-30e	MIMAT0000692	UGUAAACAUCUUGACUGGAAG	2568	85.61	12.25	-
hsa-miR-30e*	MIMAT0000693	CUUUCAGUCGGAUGUUUACAGC	2994	77.81	34.60	15.47
hsa-miR-31	MIMAT0000089	AGGCAAGAUGCUGGCAUAGCU	3577	85.90	33.29	5.61
hsa-miR-31*	MIMAT0004504	UGCUAUGCCAACAUAUUGCCAU	2335	82.70	21.38	-
hsa-miR-32	MIMAT0000090	UAUUGCACAUAUACUAGUUGCA	3550	79.90	21.81	-
hsa-miR-32*	MIMAT0004505	CAAUUUAGUGUGUGAUUUUU	2396	84.39	15.73	-
hsa-miR-320a	MIMAT0000510	AAAAGCUGGGUUGAGAGGGCGA	2982	87.06	4.39	-
hsa-miR-320b	MIMAT0005792	AAAAGCUGGGUUGAGAGGGCAA	2891	90.59	4.21	-
hsa-miR-320c	MIMAT0005793	AAAAGCUGGGUUGAGAGGGGU	2979	88.25	3.89	-
hsa-miR-320d	MIMAT0006764	AAAAGCUGGGUUGAGAGGGA	3296	82.80	15.25	-
hsa-miR-323-3p	MIMAT0000755	CACAUUACACGGUCCAGCUCU	3232	83.29	5.93	-
hsa-miR-323-5p	MIMAT0004696	AGGUGGUCCUGGCGCGUUCGC	2398	88.22	5.62	-
hsa-miR-324-3p	MIMAT0000762	ACUGCCCCAGUGCUGCUGG	3062	85.71	4.41	-
hsa-miR-324-5p	MIMAT0000761	CGCAUCCCCUAGGGCAUUGGUGU	2750	91.73	16.31	-
hsa-miR-325	MIMAT0000771	CCUAGUAGGUGUCCAGUAAUGUGU	2896	84.93	20.63	-
hsa-miR-326	MIMAT0000756	CCUCUGGGCCUUCUCCAG	902	63.64	0.59	-
hsa-miR-328	MIMAT0000752	CUGGCCUCUCUGCCUCCUCCGU	3018	80.85	8.14	-
hsa-miR-329	MIMAT0001629	AACACACCGGUUAACCUUUU	2506	86.15	2.28	-
hsa-miR-330-3p	MIMAT0000751	GCAAAGCACACGGCCUGCAGAGA	2807	89.37	0.84	-
hsa-miR-330-5p	MIMAT0004693	UCUCUGGGCCUGUGUCUAGGC	1614	77.76	0.35	-
hsa-miR-331-3p	MIMAT0000760	GCCCCUGGGCCUACCUAGAA	3165	85.37	33.46	3.46

hsa-miR-331-5p	MIMAT0004700	CUAGGUUAUGGUCCAGGGAUCC	3202	87.46	19.15	-
hsa-miR-335	MIMAT0000765	UCAAGAGCAAUAACGAAAAAUGU	2985	87.39	29.29	3.57
hsa-miR-335*	MIMAT0004703	UUUUUCAAUUUUGCUCCUGACC	4199	86.95	32.53	13.30
hsa-miR-337-3p	MIMAT0000754	CUCCUAUAUGAUGCCUUUCUUC	3117	85.53	22.35	-
hsa-miR-337-5p	MIMAT0004695	GAACGGCUUACUACAGGAGUU	3220	84.91	9.90	-
hsa-miR-338-3p	MIMAT0000763	UCCAGCAUCAGUGAUUUUGUUG	2986	85.00	9.59	-
hsa-miR-338-5p	MIMAT0004701	AACAAUAUCCUGGUGCUGAGUG	2897	89.45	23.12	-
hsa-miR-339-3p	MIMAT0004702	UGAGCGCCUCGACGACAGAGCCG	3002	81.38	8.63	-
hsa-miR-339-5p	MIMAT0000764	UCCUGUCCUCCAGGAGCUCACG	1711	82.03	9.15	-
hsa-miR-33a	MIMAT0000091	GUGCAUUGUAGUUUGCAUUGCA	2679	85.50	7.75	-
hsa-miR-33a*	MIMAT0004506	CAUUGUUUCCACAGUGCAUCAC	2279	84.20	3.05	-
hsa-miR-33b	MIMAT0003301	GUGCAUUGCUGUUGCAUUGC	2448	87.75	0.42	-
hsa-miR-33b*	MIMAT0004811	CAGUGCCUCGGCAGUGCAGCCC	4461	88.74	37.34	26.71
hsa-miR-340	MIMAT0004692	UUUAUAAAGCAAUGAGACUGAUU	790	64.81	1.31	-
hsa-miR-340*	MIMAT0000750	UCCGUCUCAGUUAUUUAUAGC	3035	88.65	38.87	9.49
hsa-miR-342-3p	MIMAT0000753	UCUCACACAGAAUCCGACCCCGU	2811	84.42	10.32	-
hsa-miR-342-5p	MIMAT0004694	AGGGUGGCUAUCUGUGUAUGA	1963	74.55	0.99	-
hsa-miR-345	MIMAT0000772	GCUGACUCCUAGUCCAGGGCUC	2862	89.50	3.86	-
hsa-miR-346	MIMAT0000773	UGUCUGCCCGCAUGCCUGCCUCU	2612	90.51	5.87	-
hsa-miR-34a	MIMAT0000255	UGGCAGUGUCUUAAGCUGGUUGU	2777	87.54	0.37	-
hsa-miR-34a*	MIMAT0004557	CAAUACAGCAAGUAUACUGCCCU	2680	87.57	6.07	-
hsa-miR-34b	MIMAT0004676	CAUUCACUAACUCCACUGCCAU	3149	86.93	7.92	-
hsa-miR-34b*	MIMAT0000685	UAGGCAGUGUCAUAGCUGAUUG	3452	85.18	26.37	0.25
hsa-miR-34c-3p	MIMAT0004677	AAUACACUAACCACGCGCCAGG	2471	87.56	2.82	-
hsa-miR-34c-5p	MIMAT0000686	AGGCAGUGUAGUAGCUGAUUGC	2971	88.44	0.15	-
hsa-miR-361-3p	MIMAT0004682	UCCCCACAGGUGUAUUCUGAUUU	3434	85.03	36.11	9.52
hsa-miR-361-5p	MIMAT0000703	UUUAUCAGAAUCCAGGGGUAC	1201	73.15	1.26	-
hsa-miR-362-3p	MIMAT0004683	AACACACCUAAUUAAGUAUUA	2668	87.87	2.69	-
hsa-miR-362-5p	MIMAT0000705	AAUCCUUGGAACCUAGGUGUGAGU	3370	86.34	27.12	1.57
hsa-miR-363	MIMAT0000707	AAUUGCAGCGUAUCCAUUCUGUA	3337	82.86	18.13	-
hsa-miR-363*	MIMAT0003385	CGGGUGGAUCACAGCAAAUUU	3231	90.31	5.15	-
hsa-miR-365	MIMAT0000710	UAAUGCCCCUAAAAUCCUUUU	1952	81.81	1.21	-
hsa-miR-365*	MIMAT0009199	AGGGACUUUCAGGGGCAGCUGU	1304	55.75	0.14	-
hsa-miR-367	MIMAT0000719	AAUUGCACUUUAGCAAUGGUGA	3792	82.83	30.48	7.75
hsa-miR-367*	MIMAT0004686	ACUGUUGCUAAUAUAGCAACUCU	3270	86.85	20.58	-
hsa-miR-369-3p	MIMAT0000721	AAUAAUACAUGGUUGAUUUUU	3194	86.96	31.43	5.04
hsa-miR-369-5p	MIMAT0001621	AGAUCGACCGUGUUAUUAUCCG	3188	85.49	9.43	-
hsa-miR-370	MIMAT0000722	GCCUGCUGGGUGGAAUCCUGGU	2999	80.48	10.56	-
hsa-miR-371-3p	MIMAT0000723	AAGUGCCGCCAUUUUAGUGUGU	3831	89.79	8.17	-
hsa-miR-371-5p	MIMAT0004687	ACUCAACUGUGGGGGCACU	2772	83.01	4.83	-
hsa-miR-372	MIMAT0000724	AAAGUGCUGCGACAUUUAGCGU	3702	83.60	30.82	16.80
hsa-miR-373	MIMAT0000726	GAAGUGCUUCGAUUUUGGGUGU	3643	88.59	32.95	13.57
hsa-miR-373*	MIMAT0000725	ACUCAAAUUGGGGGCGCUUCC	3010	87.58	15.68	-
hsa-miR-374a	MIMAT0000727	UUUAUUAACAACCGUAUAAGUG	2446	88.23	25.60	2.38
hsa-miR-374a*	MIMAT0004688	CUUAUCAGAUUGUAUUGUAAUU	3012	84.89	15.19	-
hsa-miR-374b	MIMAT0004955	AUAUAAUACAACCGCUAAGUG	1621	78.59	7.24	-
hsa-miR-374b*	MIMAT0004956	CUUAGCAGGUUGUAUUAUCAUU	3062	86.04	27.09	7.10
hsa-miR-375	MIMAT0000728	UUUGUUCGUUCGGCUCGCGUGA	2579	88.35	3.55	-
hsa-miR-376a	MIMAT0000729	AUCAUAGAGGAAAUUCCACGU	2713	82.62	33.83	3.55
hsa-miR-376a*	MIMAT0003386	GUAGAUUCUCCUUCUAGAGUA	1809	77.61	3.52	-
hsa-miR-376b	MIMAT0002172	AUCAUAGAGGAAAUUCCAUUU	2103	83.86	26.01	3.55
hsa-miR-376c	MIMAT0000720	AACAUAGAGGAAAUUCCACGU	2613	86.82	14.37	-
hsa-miR-377	MIMAT0000730	AUCACACAAGGCAACUUUUGU	1900	76.55	17.16	-
hsa-miR-377*	MIMAT0004689	AGAGGUUGCCCUUGGUGAAUUC	2410	89.48	1.32	-
hsa-miR-378	MIMAT0000732	ACUGGACUUGGAGUCAGAAGG	2711	78.90	1.25	-
hsa-miR-378*	MIMAT0000731	CUCCUGACUCCAGGUCCUGUGU	2356	91.51	0.35	-
hsa-miR-379	MIMAT0000733	UGGUAGACUAUGGAACGUAGG	2725	92.77	1.47	-
hsa-miR-379*	MIMAT0004690	UAUGUAAUAGGUCCACUAACU	2923	85.84	7.30	-
hsa-miR-380	MIMAT0000735	UAUGUAAUAGGUCCACUAUCU	3081	88.53	35.30	4.16
hsa-miR-380*	MIMAT0000734	UGGUUGACCAUAGAACUCCGC	2877	85.56	6.13	-
hsa-miR-381	MIMAT0000736	UAUACAAGGGCAAGCUCUCUGU	3289	84.80	10.63	-
hsa-miR-382	MIMAT0000737	GAAGUUGUUCGUGGUGGAUUCG	2987	90.61	3.06	-
hsa-miR-383	MIMAT0000738	AGAUCAGAAGGUAGUUGUGGCU	2764	88.73	1.17	-
hsa-miR-384	MIMAT0001075	AUCCUAGAAAUUGUUAUA	3095	85.53	29.30	3.18
hsa-miR-409-3p	MIMAT0001639	GAAUGUUGCUCGGUGAACCCCU	2695	89.26	6.74	-
hsa-miR-409-5p	MIMAT0001638	AGGUUACCCGAGCAACUUUGCAU	2495	83.39	1.26	-
hsa-miR-410	MIMAT0002171	AAUUAACACAGAUGGCCUGU	3198	86.16	36.08	5.25
hsa-miR-411	MIMAT0003329	UAGUAGACCGUAUAGCGUACG	4454	75.77	31.30	4.34
hsa-miR-411*	MIMAT0004813	UAUGUAAACACGGUCCACUAACC	2980	85.50	21.89	-
hsa-miR-412	MIMAT0002170	ACUUCACCUUGUCCACUAGCCGU	3267	84.68	18.38	-
hsa-miR-421	MIMAT0003339	AUCAACAGACAUAAUUGGGCGC	2530	87.61	0.67	-
hsa-miR-422a	MIMAT0001339	ACUGGACUUAAGGUCAGAAGGC	2056	75.88	0.64	-
hsa-miR-423-3p	MIMAT0001340	AGCUCGGUCUGAGGCCUUCAGU	2911	86.28	2.09	-
hsa-miR-423-5p	MIMAT0004748	UGAGGGGCAGAGAGCGAGACUUU	2614	82.75	2.59	-
hsa-miR-424	MIMAT0001341	CAGCAGCAAUUAUGUUUUGAA	2589	87.81	0.70	-
hsa-miR-424*	MIMAT0004749	CAAAACGUGAGGCGCUGCUAU	2417	87.26	1.09	-

hsa-miR-425	MIMAT0003393	AAUGACACGAUCACUCCCGUUGA	2941	85.18	27.52	8.34
hsa-miR-425*	MIMAT0001343	AUCGGGAAUGUCGUGUCCGCC	2629	84.16	1.83	-
hsa-miR-429	MIMAT0001536	UAAUACUGUCUGGUAACCGU	2539	87.83	9.64	-
hsa-miR-431	MIMAT0001625	UGUCUUGCAGGCCGUAUGCA	2887	89.52	36.51	4.72
hsa-miR-431*	MIMAT0004757	CAGGUCGUCUUGCAGGGCUUCU	2846	88.14	0.26	-
hsa-miR-432	MIMAT0002814	UCUUGGAGUAGGUCUUGGGUGG	2955	91.25	2.18	-
hsa-miR-432*	MIMAT0002815	CUGGAUGGCCUCCUCCUAGUCU	2479	64.62	1.52	-
hsa-miR-433	MIMAT0001627	AUCAUGAUGGGCUCUCGGUGU	2626	87.85	18.55	-
hsa-miR-448	MIMAT0001532	UUGCAUAUGUAGGAUGUCCCAU	2622	86.35	24.86	5.38
hsa-miR-449a	MIMAT0001541	UGGCAGUGUAUUGUAGCUGGU	2474	88.84	0.19	-
hsa-miR-449b	MIMAT0003327	AGGCAGUGUAUUGUAGCUGGC	3124	84.24	14.70	-
hsa-miR-449b*	MIMAT0009203	CAGCCACAACUACCCUCCGACU	2763	82.54	8.20	-
hsa-miR-450a	MIMAT0001545	UUUUGCGAUGUGUCCUAAUUAU	2985	87.99	29.05	6.04
hsa-miR-450b-3p	MIMAT0004910	UUGGGAUCAUUUUGCAUCCAU	2922	87.34	1.52	-
hsa-miR-450b-5p	MIMAT0004909	UUUUGCAUAUUGUCCUGAAUA	3370	85.56	6.68	-
hsa-miR-451	MIMAT0001631	AAACCGUUAACCAUUCAGGUU	2646	80.69	1.45	-
hsa-miR-452	MIMAT0001635	AACUGUUUGCAGAGGAAACUGA	3147	84.13	8.27	-
hsa-miR-452*	MIMAT0001636	CUCAUCUGCAAAGAAUGAUGU	2174	90.20	1.79	-
hsa-miR-453	MIMAT0001630	AGGUUGUCCGUGGUGAGUUCGCA	2728	87.68	6.86	-
hsa-miR-454	MIMAT0003885	UAGUGCAUAUUGCUUAUAGGGU	2767	87.13	30.70	3.45
hsa-miR-454*	MIMAT0003884	ACCCUAUCAUAUUGUCUCUGC	3060	85.85	22.21	-
hsa-miR-455-3p	MIMAT0004784	GCAGUCCAUGGGCAUAUACAC	3144	87.99	39.09	5.73
hsa-miR-455-5p	MIMAT0003150	UAUGUGCCUUUGGCAUACUAGC	3153	86.92	28.74	11.32
hsa-miR-483-3p	MIMAT0002173	UCACUCCUCUCCUCCCGUCUU	3064	83.70	2.57	-
hsa-miR-483-5p	MIMAT0004761	AAGACGGGAGGAAAGAGGGAG	2362	84.23	2.47	-
hsa-miR-484	MIMAT0002174	UCAGGCUCAGUCCUCCUCCGAU	3272	83.07	31.52	4.76
hsa-miR-485-3p	MIMAT0002176	GUCAUACACGGCUCUCCUUCU	2714	83.12	19.93	-
hsa-miR-485-5p	MIMAT0002175	AGAGGCUGGCCGUGAUGAAUUC	559	40.07	6.90	-
hsa-miR-486-3p	MIMAT0004762	CGGGGAGCUCAGUACAGGAU	2811	78.51	0.88	-
hsa-miR-486-5p	MIMAT0002177	UCCUGUACUGAGCUGCCCGAG	2737	91.51	16.93	-
hsa-miR-487a	MIMAT0002178	AAUCAUACAGGGCAUCCAGUU	2281	87.83	20.49	-
hsa-miR-487b	MIMAT0003180	AAUCGUACAGGGUCAUCCACUU	2914	88.04	21.82	-
hsa-miR-488	MIMAT0004763	UUGAAAGGCUAUUUCUUGGUC	2644	90.37	1.58	-
hsa-miR-488*	MIMAT0002804	CCAGAUAAUGGCACUCUCAA	2964	86.54	7.71	-
hsa-miR-489	MIMAT0002805	GUGACAUCAUAUACGGCAGC	2643	86.23	6.58	-
hsa-miR-490-3p	MIMAT0002806	CAACCUUGGAGGACUCCUAGCUG	2619	89.27	4.50	-
hsa-miR-490-5p	MIMAT0004764	CCAUGGAUCCUCCAGUGGGU	3034	87.24	12.13	-
hsa-miR-491-3p	MIMAT0004765	CUUAUGCAAGAUUCCUUCUAC	2046	89.25	4.59	-
hsa-miR-491-5p	MIMAT0002807	AGUGGGGAACCCUCCUAGAGG	2866	83.18	0.98	-
hsa-miR-492	MIMAT0002812	AGGACCUGCGGGACAGAUUCUU	2816	76.53	0.74	-
hsa-miR-493	MIMAT0003161	UGAAGGUCUACUGUGCCAGG	2800	84.52	2.89	-
hsa-miR-493*	MIMAT0002813	UUGUACAUGGUAGGCUUUAUU	3328	84.92	5.38	-
hsa-miR-494	MIMAT0002816	UGAAACAUACACGGGAAACCUC	2443	83.30	1.50	-
hsa-miR-495	MIMAT0002817	AAACAAACAUUGGUCACUUCUU	3263	88.54	43.61	7.31
hsa-miR-496	MIMAT0002818	UGAGUAUUAUACUGGCAUUCUC	2060	82.89	0.52	-
hsa-miR-497	MIMAT0002820	CAGCAGCACACUGUGGUUUUGU	2276	87.08	0.98	-
hsa-miR-497*	MIMAT0004768	CAAACCACACUGUGGUGUAGA	3422	87.19	30.85	7.50
hsa-miR-498	MIMAT0002824	UUUCAAGCCAGGGGGCGUUUUUC	3656	86.28	41.07	2.06
hsa-miR-499-3p	MIMAT0004772	AACAUCACAGCAAGUCUGUCU	2687	88.72	10.95	-
hsa-miR-499-5p	MIMAT0002870	UUAAGACUUGCAGUGAUGUUU	3235	83.45	6.58	-
hsa-miR-500	MIMAT0004773	UAAUCCUUGCUACCUUGGUGAGA	2899	83.51	11.82	-
hsa-miR-500*	MIMAT0002871	AUGCACCUGGGCAAGGAUUCUG	3454	86.13	33.18	2.64
hsa-miR-501-3p	MIMAT0004774	AAUGCACCCGGGCAAGGAUUCU	3417	84.47	22.08	-
hsa-miR-501-5p	MIMAT0002872	AAUCCUUUGUCCUUGGGUGAGA	3099	90.27	31.81	2.66
hsa-miR-502-3p	MIMAT0004775	AAUGCACCUUGGGCAAGGAUUA	3334	83.91	18.39	-
hsa-miR-502-5p	MIMAT0002873	AUCCUUGCUAUCUGGGUCUA	3741	86.81	33.56	5.52
hsa-miR-503	MIMAT0002874	UAGCAGCGGGAACAGUUCUGCAG	2694	86.84	1.32	-
hsa-miR-504	MIMAT0002875	AGACCCUGGUCUGCACUCUAUC	2727	92.52	6.93	-
hsa-miR-505	MIMAT0002876	CGUCAACACUUGCUGGUUUCCU	3591	83.68	26.74	4.95
hsa-miR-505*	MIMAT0004776	GGGAGCCAGGAAGUAUUGAUGU	3284	82.63	14.46	-
hsa-miR-506	MIMAT0002878	UAAGGCACCUUCUGAGUAGA	617	35.74	1.06	-
hsa-miR-507	MIMAT0002879	UUUUGCACCUUUUGGAGUGAA	3665	83.66	28.15	1.95
hsa-miR-508-3p	MIMAT0002880	UGAUUGUAGCCUUUUGAGUAGA	3535	88.46	14.36	-
hsa-miR-508-5p	MIMAT0004778	UACUCCAGAGGGCGUCACUCAUG	2982	83.47	4.26	-
hsa-miR-509-3-5p	MIMAT0004975	UACUGCAGACGUGGCAUUAUG	2648	90.22	3.17	-
hsa-miR-509-3p	MIMAT0002881	UGAUUGGUACGUCUGGGUGAG	2043	85.32	36.15	5.53
hsa-miR-509-5p	MIMAT0004779	UACUGCAGACAGUGGCAUUA	2719	87.15	2.27	-
hsa-miR-510	MIMAT0002882	UACUCAGGAGAGUGGCAUACAC	3022	87.14	3.00	-
hsa-miR-511	MIMAT0002808	GUGUCUUUUGCUCUGCAGUCA	3675	88.44	28.84	14.69
hsa-miR-512-3p	MIMAT0002823	AAGUGCUGUCAUAGCUGAGGUC	2973	87.72	22.89	-
hsa-miR-512-5p	MIMAT0002822	CACUCAGCCUUGAGGGCACUUUC	3164	82.03	3.45	-
hsa-miR-513a-3p	MIMAT0004777	UAAAUUUCACCUUUCUGAGAAGG	2688	81.59	4.43	-
hsa-miR-513a-5p	MIMAT0002877	UUCACAGGGAGGUGUCAU	2996	82.36	6.99	-
hsa-miR-513b	MIMAT0005788	UUCACAAGGAGGUGUCAUUUAU	3168	83.18	7.88	-
hsa-miR-513c	MIMAT0005789	UUCUCAAGGAGGUGUCGUUAU	3092	89.73	40.02	2.33
hsa-miR-514	MIMAT0002883	AUUGACACUUCUGUGAGUAGA	2588	86.84	11.12	-

hsa-miR-515-3p	MIMAT0002827	GAGUGCCUUCUUUGGAGCGUU	3597	85.36	16.86	-
hsa-miR-515-5p	MIMAT0002826	UUCUCCAAAGAAAGCACUUUCUG	2513	85.32	4.35	-
hsa-miR-516a-3p	MIMAT0006778	UGCUUCCUUUCAGAGGGU	3147	82.51	25.48	5.30
hsa-miR-516b*	MIMAT0002860					
hsa-miR-516a-5p	MIMAT0004770	UUCUCGAGGAAGAAGCACUUUC	2738	85.85	6.25	-
hsa-miR-516b	MIMAT0002859	AUCUGGAGGUAAGAAGCACUUU	2055	77.18	0.33	-
hsa-miR-517*	MIMAT0002851	CCUCUAGAUGGAAGCACUGUCU	3298	87.66	20.94	-
hsa-miR-517a	MIMAT0002852	AUCGUGCAUCCUUUAGAGUGU	2750	87.09	4.53	-
hsa-miR-517b	MIMAT0002857	UCGUGCAUCCUUUAGAGUGUU	3986	90.45	23.32	-
hsa-miR-517c	MIMAT0002866	AUCGUGCAUCCUUUAGAGUGU	2824	87.78	4.48	-
hsa-miR-518a-3p	MIMAT0002863	GAAAGCGCUUCCUUUGCUGGA	3663	85.12	45.45	9.36
hsa-miR-518a-5p	MIMAT0005457	CUGCAAAGGGAAGCCCUUUC	3211	90.89	17.56	-
hsa-miR-527	MIMAT0002862					
hsa-miR-518b	MIMAT0002844	CAAAGCGCUCCCUUAGAGGU	3942	87.00	34.33	5.62
hsa-miR-518c	MIMAT0002848	CAAAGCGCUUCUUCUUAGAGUGU	4051	85.74	40.64	8.90
hsa-miR-518c*	MIMAT0002847	UCUCUGGAGGGAAGCACUUUCUG	2613	79.05	0.31	-
hsa-miR-518d-3p	MIMAT0002864	CAAAGCGCUUCCUUUGGAGC	3520	89.28	37.63	7.92
hsa-miR-518d-5p	MIMAT0005456					
hsa-miR-520c-5p	MIMAT0005455	CUCUAGAGGGAAGCACUUUCUG	2632	86.04	3.21	-
hsa-miR-526a	MIMAT0002845					
hsa-miR-518e	MIMAT0002861	AAAGCGCUUCCCUUCAGAGUG	3629	89.50	35.60	7.49
hsa-miR-518e*	MIMAT0005450					
hsa-miR-519a*	MIMAT0005452					
hsa-miR-519b-5p	MIMAT0005454	CUCUAGAGGGAAGCGCUUUCUG	2437	86.87	1.60	-
hsa-miR-519c-5p	MIMAT0002831					
hsa-miR-522*	MIMAT0005451					
hsa-miR-523*	MIMAT0005449					
hsa-miR-518f	MIMAT0002842	GAAAGCGCUUCUUCUUAGAGG	3755	85.74	43.32	7.00
hsa-miR-518f*	MIMAT0002841	CUCUAGAGGGAAGCACUUUCUC	2455	83.73	4.53	-
hsa-miR-519a	MIMAT0002869	AAAGUGCAUCCUUUAGAGUGU	2867	90.23	21.11	-
hsa-miR-519b-3p	MIMAT0002837	AAAGUGCAUCCUUUAGAGGUU	3744	89.01	20.97	-
hsa-miR-519c-3p	MIMAT0002832	AAAGUGCAUCCUUUAGAGGAU	3677	86.59	19.82	-
hsa-miR-519d	MIMAT0002853	CAAAGUGCCUCCUUUAGAGUG	3288	88.46	30.05	9.03
hsa-miR-519e	MIMAT0002829	AAGUGCCUCCUUUAGAGUGUU	4109	89.86	15.37	-
hsa-miR-519e*	MIMAT0002828	UUCUCCAAAGGGAGCACUUUC	2522	88.80	4.19	-
hsa-miR-520a-3p	MIMAT0002834	AAAGUGCUUCCUUUGGACUGU	3466	88.73	31.34	11.95
hsa-miR-520a-5p	MIMAT0002833	CUCCAGAGGGAAGUACUUUCU	3024	81.27	28.52	2.27
hsa-miR-520b	MIMAT0002843	AAAGUGCUUCCUUUAGAGGG	3654	88.30	31.61	12.23
hsa-miR-520c-3p	MIMAT0002846	AAAGUGCUUCCUUUAGAGGGU	3816	87.11	29.42	14.34
hsa-miR-520d-3p	MIMAT0002856	AAAGUGCUUCUUCUUGGUGGGU	3186	87.56	30.72	4.49
hsa-miR-520d-5p	MIMAT0002855	CUACAAAGGGAAGCCCUUUC	1958	75.18	0.64	-
hsa-miR-520e	MIMAT0002825	AAAGUGCUUCCUUUAGAGGG	2701	86.80	19.94	-
hsa-miR-520f	MIMAT0002830	AAGUGCUUCCUUUAGAGGUU	2227	89.94	0.85	-
hsa-miR-520g	MIMAT0002858	ACAAAGUGCUUCCUUUAGAGUGU	2880	85.64	34.09	9.86
hsa-miR-520h	MIMAT0002867	ACAAAGUGCUUCCUUUAGAGU	3016	84.37	11.19	-
hsa-miR-521	MIMAT0002854	AACGCACUCCUUUAGAGUGU	3024	84.11	12.11	-
hsa-miR-522	MIMAT0002868	AAAAGGUUCCCUUAGAGUGU	2094	76.93	1.08	-
hsa-miR-523	MIMAT0002840	GAACGCGCUUCCUUAUAGAGGGU	3013	86.03	21.60	-
hsa-miR-524-3p	MIMAT0002850	GAAGGCGCUUCCUUUGGAGU	2745	79.02	0.42	-
hsa-miR-524-5p	MIMAT0002849	CUACAAAGGGAAGCACUUUCU	2864	82.11	21.89	-
hsa-miR-525-3p	MIMAT0002839	GAAGGCGCUUCCUUUAGAGCG	3473	85.24	11.52	-
hsa-miR-525-5p	MIMAT0002838	CUCCAGAGGGAAGCACUUUCU	2748	88.43	23.86	-
hsa-miR-526b	MIMAT0002835	CUCUAGAGGGAAGCACUUUCUGU	1750	71.03	0.78	-
hsa-miR-526b*	MIMAT0002836	GAAAGUGCUUCCUUUAGAGGC	2868	88.63	31.39	7.91
hsa-miR-532-3p	MIMAT0004780	CCUCCACACCCAAGGCUGUCA	3056	81.99	8.65	-
hsa-miR-532-5p	MIMAT0002888	CAUGCCUUGAGUGUAGGACCGU	2637	81.57	15.94	-
hsa-miR-539	MIMAT0003163	GGAGAAAUUUCUUGGUGUGU	3029	85.00	25.88	7.67
hsa-miR-541	MIMAT0004920	UGGUGGGCACAGAAUCUGGACU	2796	87.21	7.67	-
hsa-miR-541*	MIMAT0004919	AAAGGAUUCUGCUGCGGUCCACU	2960	87.43	8.10	-
hsa-miR-542-3p	MIMAT0003389	UGUGACAGAUUGAUUACUGAAA	2398	82.09	9.34	-
hsa-miR-542-5p	MIMAT0003340	UCGGGGAUCAUUGUCACGAGA	3324	81.86	4.07	-
hsa-miR-543	MIMAT0004954	AAACAUCGCGGUGCACUUUCU	2511	82.88	2.56	-
hsa-miR-544	MIMAT0003164	AUUCUGCAUUUUUAGCAAGUUC	4325	88.91	6.22	-
hsa-miR-545	MIMAT0003165	UCAGCAAACAUAUUGUGUGC	2964	84.28	14.75	-
hsa-miR-545*	MIMAT0004785	UCAGUAAAUGUUUUAUGAUGA	3323	84.16	25.12	3.60
hsa-miR-548a-3p	MIMAT0003251	CAAAACUGGCAAUUACUUUUGC	3106	86.74	19.58	-
hsa-miR-548a-5p	MIMAT0004803	AAAAGUAAUUGCGAGUUUUAAC	3286	83.31	13.51	-
hsa-miR-548b-3p	MIMAT0003254	CAAGAACCUCAGUUGCUUUUGU	2912	81.22	30.31	5.55
hsa-miR-548b-5p	MIMAT0004798	AAAAGUAAUUGUGUUUUGGCC	3247	85.22	11.80	-
hsa-miR-548c-3p	MIMAT0003285	CAAAACUCUCAAUACUUUUGC	3387	86.82	41.00	9.63
hsa-miR-548c-5p	MIMAT0004806	AAAAGUAAUUGCGUUUUGGCC	3262	82.33	17.94	-
hsa-miR-548d-3p	MIMAT0003323	CAAAACCCACAGUUUCUUUUGC	3267	83.81	26.55	4.47
hsa-miR-548d-5p	MIMAT0004812	AAAAGUAAUUGUGUUUUGGCC	2625	86.30	27.70	3.80
hsa-miR-548e	MIMAT0005874	AAAAACUGAGACUACUUUUGCA	3164	89.10	22.56	-
hsa-miR-548f	MIMAT0005895	AAAAACUGAAUUAUACUUU	3187	86.88	30.88	5.08
hsa-miR-548g	MIMAT0005912	AAAACUGAAUUAUUAUUUGUAC	2965	85.68	13.92	-
hsa-miR-548h	MIMAT0005928	AAAAGUAAUCGCGUUUUGUUC	3259	83.94	7.78	-

hsa-miR-548i	MIMAT0005935	AAAAGUAAUUGCGGAUUUUUGCC	3111	86.97	9.31	-
hsa-miR-548j	MIMAT0005875	AAAAGUAAUUGCGGUCUUUGGU	3205	86.58	12.85	-
hsa-miR-548k	MIMAT0005882	AAAAGUACUUGCGGAUUUUUGCU	3052	79.59	4.23	-
hsa-miR-548l	MIMAT0005889	AAAAGUAAUUGCGGGUUUUUGUC	3020	86.18	10.60	-
hsa-miR-548m	MIMAT0005917	CAAAGGUAAUUGUGGUUUUUUG	2686	77.77	0.44	-
hsa-miR-548n	MIMAT0005916	CAAAGUAAUUGUGGAUUUUUGU	2976	82.21	5.80	-
hsa-miR-548o	MIMAT0005919	CCAAAACUGCAGUACUUUUUGC	3111	86.16	29.09	5.55
hsa-miR-548p	MIMAT0005934	UAGCAAAAACUGCAGUACUUU	3262	83.02	31.64	4.64
hsa-miR-549	MIMAT0003333	UGACAACUAUGGAUGAGCUCU	3097	87.79	11.81	-
hsa-miR-550	MIMAT0004800	AGUGCCUGAGGGAGUAAGAGCCC	3137	89.27	3.84	-
hsa-miR-550*	MIMAT0003257	UGUCUUACUCCUCAGGCACAU	2799	88.57	13.66	-
hsa-miR-551a	MIMAT0003214	GCGACCCACUCUUGGUUUCCA	3077	87.31	32.22	6.28
hsa-miR-551b	MIMAT0003233	GCGACCCAUACUUGGUUUUCAG	3306	85.27	31.98	4.24
hsa-miR-551b*	MIMAT0004794	GAAAUCAAGCGUGGUGAGACC	3132	84.43	21.11	-
hsa-miR-552	MIMAT0003215	AACAGGUGACUGGUUAGACAA	2899	87.81	19.42	-
hsa-miR-553	MIMAT0003216	AAAACGGUGAGAUUUUGUUUU	3173	83.14	13.93	-
hsa-miR-554	MIMAT0003217	GUAGUCCUGACUCAGCCAGU	3473	81.13	12.71	-
hsa-miR-555	MIMAT0003219	AGGGUAAGCUGAACCCUCUGAU	2875	87.41	15.86	-
hsa-miR-556-3p	MIMAT0004793	AUAUUACCAUAGCUCUUCUU	2357	89.67	0.30	-
hsa-miR-556-5p	MIMAT0003220	GAUGAGCUCAUUGUAAUUAUGAG	2822	83.38	3.46	-
hsa-miR-557	MIMAT0003221	GUUUGCACGGGUGGGCCUUGUCU	3419	85.41	33.61	2.11
hsa-miR-558	MIMAT0003222	UGAGCUGCUGUACCAAAAU	2891	86.13	5.68	-
hsa-miR-559	MIMAT0003223	UAAAGUAAAUUAGCACCACAAA	2871	86.42	13.00	-
hsa-miR-561	MIMAT0003225	CAAAGUUUAAGAUCCUUGAAGU	2658	86.87	1.34	-
hsa-miR-562	MIMAT0003226	AAAGUAGCUGUACCAUUUUGC	3078	87.61	8.42	-
hsa-miR-563	MIMAT0003227	AGGUUGACAUCGUUUUCC	2982	84.21	3.20	-
hsa-miR-564	MIMAT0003228	AGGCACGGUGUGCAGCAGGC	3420	84.08	18.72	-
hsa-miR-566	MIMAT0003230	GGGCGCCUGUGAUCCCAAC	2889	88.92	6.02	-
hsa-miR-567	MIMAT0003231	AGUAUGUUCUCCAGGACAGAAC	2780	87.48	23.89	-
hsa-miR-568	MIMAT0003232	AUGUAUAAUUGUAUACACAC	3237	87.18	27.73	4.21
hsa-miR-569	MIMAT0003234	AGUUAUAGAAUCCUGGAAAGU	3284	86.46	31.50	2.34
hsa-miR-570	MIMAT0003235	CGAAAACAGCAAUUACCUUUGC	3777	87.95	9.35	-
hsa-miR-571	MIMAT0003236	UGAGUUGGCCAUCUGAGUGAG	2748	86.92	27.82	6.20
hsa-miR-572	MIMAT0003237	GUCCGCUCGGCGGUGGCCCA	3209	84.86	26.52	4.29
hsa-miR-573	MIMAT0003238	CUGAAGUGAUGUGUAACUGAUCAG	2603	90.91	2.39	-
hsa-miR-574-3p	MIMAT0003239	CACGCUCAUGCACACACCCACA	3196	86.06	13.42	-
hsa-miR-574-5p	MIMAT0004795	UGAGUGUGUGUGUGGUGUGUGU	2531	84.31	0.88	-
hsa-miR-575	MIMAT0003240	GAGCCAGUUGGACAGGAGC	2870	81.88	2.03	-
hsa-miR-576-3p	MIMAT0004796	AAGAUGUGGAAAAUUGGAAUC	1524	77.43	11.66	-
hsa-miR-576-5p	MIMAT0003241	AUUCUAAUUCUCCACGCUUUU	3248	87.01	34.80	9.35
hsa-miR-577	MIMAT0003242	UAGAUAAAAUUAUUGGACUUG	3168	84.55	21.46	-
hsa-miR-578	MIMAT0003243	CUUCUUGUGUCUCUAGGAUUGU	2372	81.20	2.71	-
hsa-miR-579	MIMAT0003244	UUCAUUGGUAAUAAACCGGAUU	1751	73.53	5.53	-
hsa-miR-580	MIMAT0003245	UUGAGAAUGAUGAAUUAUAGG	2635	88.29	10.63	-
hsa-miR-581	MIMAT0003246	UCUUGUGUUCUCUAGAUACAGU	2874	84.81	19.18	-
hsa-miR-582-3p	MIMAT0004797	UAACUGGUUGAACACUGAAC	2645	84.67	7.21	-
hsa-miR-582-5p	MIMAT0003247	UUACAGUUGUUAACCAAGUUAU	2982	85.63	3.00	-
hsa-miR-583	MIMAT0003248	CAAAGAGGAAGGUCCUUAUC	3558	83.14	8.38	-
hsa-miR-584	MIMAT0003249	UUAUGGUUUGCCUGGGACUGAG	1904	83.67	0.42	-
hsa-miR-585	MIMAT0003250	UGGGCGUAUCUGUAUGCUA	2633	85.80	0.45	-
hsa-miR-586	MIMAT0003252	UAUGCAUUGUAUUUUUAGGUCC	3072	86.64	34.76	7.81
hsa-miR-587	MIMAT0003253	UUUCCAUAGGUGAGUAGUCAC	3038	86.93	32.29	6.82
hsa-miR-588	MIMAT0003255	UUGGCCACAUGGGUUAAGAAC	2886	82.76	2.99	-
hsa-miR-589	MIMAT0004799	UGAGAACCACGUCUCUCUGAG	3457	87.17	22.85	-
hsa-miR-589*	MIMAT0003256	UCAGAACAAGCCGGUUCGCCAGA	3140	89.44	39.72	9.09
hsa-miR-590-3p	MIMAT0004801	UAAUUUAUGUAUAAAGCUAGU	4145	84.84	48.55	23.10
hsa-miR-590-5p	MIMAT0003258	GAGCUUAUUCAUAAAAGUGCAG	2397	86.34	17.94	-
hsa-miR-591	MIMAT0003259	AGACCAUGGGUUCUCAUUGU	2715	81.29	5.98	-
hsa-miR-592	MIMAT0003260	UUGUGUCAAUUAGCGAUGAUGU	3141	84.86	22.29	-
hsa-miR-593	MIMAT0004802	UGUCUCUGCUGGGGUUUUCU	2881	82.89	4.62	-
hsa-miR-593*	MIMAT0003261	AGGCACCAGCCAGGCAUUGCUCAGC	2969	84.98	2.78	-
hsa-miR-595	MIMAT0003263	GAAGUGUGCCGUGGUGUGUCU	2763	86.63	19.26	-
hsa-miR-596	MIMAT0003264	AAGCCUGCCCGCUCUCCGGG	3073	87.15	12.46	-
hsa-miR-597	MIMAT0003265	UGUGUCACUCGAUGACCACUGU	3237	84.45	5.81	-
hsa-miR-598	MIMAT0003266	UACGUAUCGUUGUCAUCGUCA	2746	90.19	2.86	-
hsa-miR-599	MIMAT0003267	GUUGUGUCAGUUUAUCAAAC	3118	84.96	35.34	7.65
hsa-miR-600	MIMAT0003268	ACUUAACAGACAAGGCCUUGCUC	3086	84.69	26.98	2.70
hsa-miR-601	MIMAT0003269	UGGUCUAGGAUUGUUGGAGGAG	3025	86.36	7.83	-
hsa-miR-602	MIMAT0003270	GACACGGGCGACAGCUGCGGCC	3134	81.32	2.50	-
hsa-miR-603	MIMAT0003271	CACACACUGCAAUUACUUUGC	2448	86.79	8.20	-
hsa-miR-604	MIMAT0003272	AGGUGCGGAAUUCAGGAC	2787	83.80	0.19	-
hsa-miR-605	MIMAT0003273	UAAAUCCCAUGGUCCUUCUCCU	2889	84.67	15.08	-
hsa-miR-606	MIMAT0003274	AAACUACUGAAAAUCAAAGAU	3164	86.96	34.00	5.29
hsa-miR-607	MIMAT0003275	GUUCAAAUCCAGAUCAUAUAC	3741	82.65	19.07	-
hsa-miR-608	MIMAT0003276	AGGGUGUGUGUUGGGACAGCUCGU	3136	83.83	1.35	-
hsa-miR-609	MIMAT0003277	AGGGUGUUUCUCUACUCUCU	3477	83.03	22.88	-

hsa-miR-610	MIMAT0003278	UGAGCUAAAUGUGUGCUGGGA	2911	90.07	5.41	-
hsa-miR-611	MIMAT0003279	GCGAGGACCCUCGCGGUCUGAC	3020	87.30	34.25	16.12
hsa-miR-612	MIMAT0003280	GCUGGGCAGGGCUUCGAGCUCCUU	3278	81.33	13.95	-
hsa-miR-613	MIMAT0003281	AGGAAUGUUCUUCUUUGCC	2605	87.72	0.65	-
hsa-miR-614	MIMAT0003282	GAACGCCUGUUCUUGCCAGGUGG	2898	90.03	25.25	4.48
hsa-miR-615-3p	MIMAT0003283	UCCGAGCCUGGGUCUCCCUUU	3145	83.72	31.30	3.77
hsa-miR-615-5p	MIMAT0004804	GGGGGUCGCCGUGCUCGGAUC	3050	86.49	27.54	4.40
hsa-miR-616	MIMAT0004805	AGUCAUUGGAGGGUUUAGCAG	4065	85.95	24.81	-
hsa-miR-616*	MIMAT0003284	ACUCAAAACCCUUCAGUGACUU	3019	85.11	32.19	4.62
hsa-miR-617	MIMAT0003286	AGACUCCCAUUGAAGGUGGC	2975	85.71	5.03	-
hsa-miR-618	MIMAT0003287	AAACUCUACUUGUCCUUCUGAGU	3231	87.43	17.32	-
hsa-miR-619	MIMAT0003288	GACCUGGACAUGUUUGGCCAGU	2792	85.66	4.12	-
hsa-miR-620	MIMAT0003289	AUGGAGAUAGAUUAGAAAU	2368	82.43	2.78	-
hsa-miR-621	MIMAT0003290	GGCUAGCAACAGCGCUUACCU	3097	80.87	20.09	-
hsa-miR-622	MIMAT0003291	ACAGUCUGCUGAGGUUGGAGC	2761	88.50	26.47	7.81
hsa-miR-623	MIMAT0003292	AUCCCUUGCAGGGGCGUUGGGU	2883	84.22	7.66	-
hsa-miR-624	MIMAT0004807	CACAAGGUUUGGUUUUACCU	1850	72.76	0.47	-
hsa-miR-624*	MIMAT0003293	UAGUACCAGUACCUUGUGUUA	2243	84.06	5.47	-
hsa-miR-625	MIMAT0003294	AGGGGGAAGUUCUUAAGUCC	2714	82.50	3.57	-
hsa-miR-625*	MIMAT0004808	GACUUAUAGAACUUCCCCUCA	3000	83.50	4.58	-
hsa-miR-626	MIMAT0003295	AGCUGUCUGAAAUGUCUU	2990	85.54	6.46	-
hsa-miR-627	MIMAT0003296	GUGAGUCUCUAGAAAAGAGGA	2962	84.57	2.00	-
hsa-miR-628-3p	MIMAT0003297	UCUAGUAAAGAGUGCAGUCGA	3167	82.38	10.09	-
hsa-miR-628-5p	MIMAT0004809	AUGCUGACAUUUUACUAGAGG	2395	87.68	5.12	-
hsa-miR-629	MIMAT0004810	UGGGUUUACGUUGGGAGACU	2503	85.76	8.28	-
hsa-miR-629*	MIMAT0003298	GUUCUCCCAACGUAAAGCCAGC	2997	84.80	18.83	-
hsa-miR-630	MIMAT0003299	AGUAAUUCUGUACCAGGGAAGGU	2936	83.11	11.76	-
hsa-miR-631	MIMAT0003300	AGACCUGGCCAGACCUCAGC	2755	80.64	0.37	-
hsa-miR-632	MIMAT0003302	GUGUCUGCUUCCUGUGGGA	2901	86.94	1.23	-
hsa-miR-633	MIMAT0003303	CUAAUAGUAUCUACCAAAUAAA	3190	85.99	1.51	-
hsa-miR-634	MIMAT0003304	AACCAGCACCCAAACUUUGGAC	2600	82.54	10.77	-
hsa-miR-635	MIMAT0003305	ACUUGGGCACUGAAACAAUGCC	2157	83.26	0.28	-
hsa-miR-636	MIMAT0003306	UGUGCUUGCUCGUCGCCCGCA	3207	90.08	29.75	3.86
hsa-miR-637	MIMAT0003307	ACUGGGGCUUUCGGGCUCUGCGU	2428	78.03	1.19	-
hsa-miR-638	MIMAT0003308	AGGGAUCGCGGGCGGGUGCGCCU	3088	87.55	2.88	-
hsa-miR-639	MIMAT0003309	AUCGCUUGCGGUGCGAGCGUGU	3350	89.88	30.13	4.28
hsa-miR-640	MIMAT0003310	AUGAUCCAGGAACCUUGCCUCU	3046	89.17	16.22	-
hsa-miR-641	MIMAT0003311	AAAGACAUAGGAUAGAGUACCUC	2796	87.91	11.09	-
hsa-miR-642	MIMAT0003312	GUCCCUCCCAAUUGUGUCUUG	2906	87.70	20.15	-
hsa-miR-643	MIMAT0003313	ACUUGUAUGCUAGCUCAGGUAG	2586	81.75	17.78	-
hsa-miR-644	MIMAT0003314	AGUGGGCUUUCUUAAGAGC	2806	90.68	0.14	-
hsa-miR-645	MIMAT0003315	UCUAGGCUGGUACUGCUGA	2465	83.83	8.00	-
hsa-miR-646	MIMAT0003316	AAGCAGCUGCCUCUGAGGC	2023	86.51	0.00	-
hsa-miR-647	MIMAT0003317	GUGGCUGCACUCACUCCUUC	2890	85.92	0.58	-
hsa-miR-648	MIMAT0003318	AAGUGUGCAGGGCACUGGU	2962	84.76	14.75	-
hsa-miR-649	MIMAT0003319	AAACCUUGUUGUUAAGAGUC	3009	88.04	26.38	5.11
hsa-miR-650	MIMAT0003320	AGGAGGCAGCGCUCUCAGGAC	2905	85.08	4.61	-
hsa-miR-651	MIMAT0003321	UUUAGGAUAAGCUUGACUUUG	3251	86.90	15.34	-
hsa-miR-652	MIMAT0003322	AAUGGCGCCACUAGGGUUGUG	2669	84.90	1.15	-
hsa-miR-653	MIMAT0003328	GUGUUGAAACAACUCUACUG	1546	80.08	1.82	-
hsa-miR-654-3p	MIMAT0004814	UAUGUCUGCUGACCAUCACCUU	3007	88.89	18.93	-
hsa-miR-654-5p	MIMAT0003330	UGGUGGGCCGACAGAAUGUGC	3358	84.69	12.60	-
hsa-miR-655	MIMAT0003331	AUAUAACAUGGUUAAACCUUUU	1787	82.93	15.70	-
hsa-miR-656	MIMAT0003332	AAUAUUAUACAGUCAACCUUCU	2796	88.93	16.86	-
hsa-miR-657	MIMAT0003335	GGCAGGUUCUACCCUCUCUAGG	3103	81.41	1.23	-
hsa-miR-658	MIMAT0003336	GGCGGAGGGAAGUAGUCCGUUGU	2735	83.97	1.51	-
hsa-miR-659	MIMAT0003337	CUUGGUUCAGGGAGGUCCCA	2391	81.85	1.08	-
hsa-miR-660	MIMAT0003338	UACCAUUGCAUUCGGAGUUG	3287	85.66	28.73	4.18
hsa-miR-661	MIMAT0003324	UGCCUGGGUCUCUGGCCUGCGCU	3034	84.33	3.20	-
hsa-miR-662	MIMAT0003325	UCCACGUUGUGGCCAGCAG	3389	86.16	34.36	4.56
hsa-miR-663	MIMAT0003326	AGGCGGGGCGCGCGGGACCGC	2959	86.58	19.11	-
hsa-miR-663b	MIMAT0005867	GGUGCCCGCGCGGCGGAGG	3295	80.97	9.50	-
hsa-miR-664	MIMAT0005949	UAUUCAUUUAUCCCGACCUACA	3381	85.00	25.96	9.32
hsa-miR-664*	MIMAT0005948	ACUGGCUAGGGAAAUGAUUGAU	3110	84.21	4.64	-
hsa-miR-665	MIMAT0004952	ACCAGGAGGCUAGGCCCCU	2781	85.02	0.81	-
hsa-miR-668	MIMAT0003881	UGUCACUCGGCUCGGCCACUAC	3023	87.86	26.36	16.73
hsa-miR-671-3p	MIMAT0004819	UCCGUUUCUACGGGCUCCACC	1651	81.13	0.31	-
hsa-miR-671-5p	MIMAT0003880	AGGAAGCCUGGAGGGGUGGAG	3257	80.73	4.14	-
hsa-miR-675	MIMAT0004284	UGGUGCGGAGAGGGCCACAGUG	2495	86.59	4.63	-
hsa-miR-675*	MIMAT0006790	CUGUAUGCCUCACGCUCA	2786	84.13	2.03	-
hsa-miR-7	MIMAT0000252	UGGAAGACUAGUAAUUUGUUGU	3043	83.49	2.00	-
hsa-miR-708	MIMAT0004926	AAGGAGCUUACAUCUAGCUGGG	2892	90.53	0.62	-
hsa-miR-708*	MIMAT0004927	CAACUAGACUGAGGCUUUAUAG	3384	85.18	17.98	-
hsa-miR-7-1*	MIMAT0004553	CAACAAUACACAGUCGCCAUA	3069	84.47	26.19	2.01
hsa-miR-7-2*	MIMAT0004554	CAACAAUCCAGUCUACCUAA	3247	87.30	29.87	2.70
hsa-miR-720	MIMAT0005954	UCUCGUGGGGCCUCCA	3048	87.42	9.26	-

hsa-miR-744	MIMAT0004945	UGCGGGGCUAGGGCUAACAGCA	2738	84.13	0.24	-
hsa-miR-744*	MIMAT0004946	CUGUUGCCACUAAACCUCAACCU	2659	88.30	0.34	-
hsa-miR-758	MIMAT0003879	UUUGUGACCUGGUCCACUAACC	3167	87.50	2.26	-
hsa-miR-760	MIMAT0004957	CGGCUCUGGGUCUGUGGGGA	2661	86.79	20.96	-
hsa-miR-765	MIMAT0003945	UGGAGGAGAAGGAAGGUGAUG	2482	82.25	0.77	-
hsa-miR-766	MIMAT0003888	ACUCCAGCCCCACAGCCUCAGC	3151	85.59	23.22	-
hsa-miR-767-3p	MIMAT0003883	UCUGCUCAUACCCCAUGGUUUUCU	3166	86.07	22.95	-
hsa-miR-767-5p	MIMAT0003882	UGCACCAUGGUUGUCUGAGCAUG	3101	85.52	11.76	-
hsa-miR-769-3p	MIMAT0003887	CUGGGAUCUCCGGGUCUUGGUU	3187	79.81	7.23	-
hsa-miR-769-5p	MIMAT0003886	UGAGACCUCUGGGUUCUGAGCU	3057	85.61	4.84	-
hsa-miR-770-5p	MIMAT0003948	UCCAGUACCACGUGUGAGGCCA	2723	83.71	14.06	-
hsa-miR-802	MIMAT0004185	CAGUAACAAAGAUUCAUCCUUGU	2489	86.30	0.37	-
hsa-miR-873	MIMAT0004953	GCAGGAACUUGUGAGUCUCCU	2853	88.38	0.67	-
hsa-miR-874	MIMAT0004911	CUGCCCUGGCCCGAGGGACCGA	3106	78.48	18.12	-
hsa-miR-875-3p	MIMAT0004923	CCUGGAAACACUGAGGUUGUG	3188	84.33	19.19	-
hsa-miR-875-5p	MIMAT0004922	UAUACCUCAGUUUAUACAGGUG	2887	88.19	35.64	10.35
hsa-miR-876-3p	MIMAT0004925	UGGUGGUUUACAAGUAUUUCA	2689	86.87	13.96	-
hsa-miR-876-5p	MIMAT0004924	UGGAUUUCUUUGUGAAUCACCA	3158	87.84	5.31	-
hsa-miR-877	MIMAT0004949	GUAGGGAGAUUGGCGCAGGG	3046	81.63	20.78	-
hsa-miR-877*	MIMAT0004950	UCCUCUUCUCCCUCCUCCAG	2474	88.95	4.78	-
hsa-miR-885-3p	MIMAT0004948	AGGCAGCGGGUGUAGUGGUAU	2677	87.08	0.13	-
hsa-miR-885-5p	MIMAT0004947	UCCAUAUACAUACCCUGCCUUCU	3161	84.78	42.65	16.44
hsa-miR-886-3p	MIMAT0004906	CGCGGGUGCUUACUGACCCUUCU	2901	83.08	0.29	-
hsa-miR-886-5p	MIMAT0004905	CGGGUCGGAGUUAGCUAAGCGG	2846	87.49	8.27	-
hsa-miR-887	MIMAT0004951	GUGAACGGGCGCAUCCCGAGG	3136	86.05	5.00	-
hsa-miR-888	MIMAT0004916	UACUCAAAAAGCUGACGUCA	3237	87.38	15.64	-
hsa-miR-888*	MIMAT0004917	GACUGACACCUCUUUGGGUGAA	2707	90.45	0.56	-
hsa-miR-889	MIMAT0004921	UUAUAUACGGACACCAUUGU	2899	90.08	9.34	-
hsa-miR-890	MIMAT0004912	UACUUGGAAAGGCAUCAGUUG	2786	86.25	16.27	-
hsa-miR-891a	MIMAT0004902	UGCAACGAACCUAGCCACUGA	3227	87.88	30.31	5.00
hsa-miR-891b	MIMAT0004913	UGCAACUUAACUGAGUCAUUGA	2549	87.80	9.61	-
hsa-miR-892a	MIMAT0004907	CACUGUGUCCUUCUGCGUAG	1904	85.79	2.33	-
hsa-miR-892b	MIMAT0004918	CACUGGCUCCUUCUGGUAGA	2512	81.43	0.56	-
hsa-miR-9	MIMAT0000441	UCUUUGGUUAUCUAGCUGAUGA	2906	85.68	12.67	-
hsa-miR-9*	MIMAT0000442	AUAAAGCUAGAUACCGAAAGU	1910	85.71	2.80	-
hsa-miR-920	MIMAT0004970	GGGGAGCUGUGGAAGCAGUA	2913	81.86	26.76	4.93
hsa-miR-921	MIMAT0004971	CUAGUGAGGGACAGAACCGAUUC	2585	85.84	0.45	-
hsa-miR-922	MIMAT0004972	GCAGCAGAGAAUAGGACUACGUC	2868	84.68	17.56	-
hsa-miR-924	MIMAT0004974	AGAGUCUUGUGAUGUCUUGC	2960	89.07	2.78	-
hsa-miR-92a	MIMAT0000092	UAUUGCACUUGUCCCGGCCUGU	3201	88.10	20.85	-
hsa-miR-92a-1*	MIMAT0004507	AGGUUGGGAUCGGUUGCAUUGCU	2991	93.75	0.30	-
hsa-miR-92a-2*	MIMAT0004508	GGGUGGGGAUUUGUUGCAUUAU	2980	86.54	16.00	-
hsa-miR-92b	MIMAT0003218	UAUUGCACUUGUCCCGGCCUCC	3773	82.31	19.88	-
hsa-miR-92b*	MIMAT0004792	AGGGACGGGACGCGGUGCAGUG	2987	82.83	3.73	-
hsa-miR-93	MIMAT0000093	CAAAGUGCUUUCGUGCAGGUAG	3261	84.91	28.60	6.21
hsa-miR-93*	MIMAT0004509	ACUGCUGAGCUAGCACUUCGCC	3015	87.03	5.76	-
hsa-miR-933	MIMAT0004976	UGUGCGCAGGGAGACCUCUCCC	2577	83.33	4.91	-
hsa-miR-934	MIMAT0004977	UGUCUACUACUGGACACUGG	4621	89.83	29.03	3.67
hsa-miR-935	MIMAT0004978	CCAGUUACCGCUUCCCGUACCGC	2937	82.06	8.50	-
hsa-miR-936	MIMAT0004979	ACAGUAGAGGGAGGAAUCGCAG	3770	86.29	39.97	6.61
hsa-miR-937	MIMAT0004980	AUCCGCGCUCUGACUCUGGCC	3147	84.59	18.79	-
hsa-miR-938	MIMAT0004981	UGCCCUUAAAGGUGAACCAGU	2860	86.26	17.30	-
hsa-miR-939	MIMAT0004982	UGGGGAGCUGAGGCUCUGGGGUG	3000	79.13	5.02	-
hsa-miR-940	MIMAT0004983	AAGGCAGGGCCCCCGCUCCCC	2500	86.58	1.37	-
hsa-miR-941	MIMAT0004984	CACCGGCGUGUGGCAUUGUGC	3055	80.98	4.21	-
hsa-miR-942	MIMAT0004985	UCUUCUCUGUUUUGGCCAUGUG	3375	81.73	12.64	-
hsa-miR-943	MIMAT0004986	CUGACUGUUGCCGUCCUCCAG	2994	82.25	22.88	-
hsa-miR-944	MIMAT0004987	AAAUUAUUGUACAUCGGAUGAG	3086	82.37	10.07	-
hsa-miR-95	MIMAT0000094	UUCACGGGUUUUAUUGAGCA	2490	87.13	10.83	-
hsa-miR-96	MIMAT0000095	UUUGGCACUAGCACAUUUUUGCU	2995	85.03	7.34	-
hsa-miR-96*	MIMAT0004510	AAUCAUGUGCAGUGCCAAUUG	3095	88.06	7.68	-
hsa-miR-98	MIMAT0000096	UGAGGUAGUAAGUUGUAUUGUU	3054	83.42	3.38	-
hsa-miR-99a	MIMAT0000097	AACCGUAGAUCCGAUCUUGUG	3367	85.71	43.39	3.82
hsa-miR-99a*	MIMAT0004511	CAAGCUCGCUUCUAGGGUCUG	2816	88.53	10.95	-
hsa-miR-99b	MIMAT0000689	CACCGUAGAACCGACCUUGCG	3024	86.71	30.84	3.09
hsa-miR-99b*	MIMAT0004678	CAAGCUCGUGUCUGUGGGUCCG	3089	82.94	12.79	-

* % proliferating cardiomyocytes is reported to the total number of cardiomyocytes

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Summary of the results of the targeted siRNA screening for cardiomyocyte proliferation. siRNA pools targeting 601 genes downregulated by hsa-miR-590-3p or hsa-miR-199a-3p were tested in mouse cardiomyocytes; the highlighted rows correspond to the 45 genes that, once downregulated, increase cardiomyocyte proliferation by more than 2-fold.

Gene ID	Gene Symbol	total number cells analyzed	% cardiomyocytes (α -actinin+)	% proliferating cardiomyocytes (α -act+, Ki-67+, EdU+) *
11303	Abca1	1763	51.48	7.97
11306	Abcb7	2068	59.38	4.19
11352	Abi2	2165	54.29	7.88
11480	Acvr2a	1656	53.98	5.90
11487	Adam10	2525	61.59	8.17
11652	Akt2	1863	62.69	6.43
11717	Ampd3	2049	49.28	5.94
11758	Prdx6	1882	46.56	6.02
11787	Apbb2	1975	60.28	7.28
11789	Apc	2332	67.17	12.35
11797	Birc2	2244	51.14	10.27
11826	Aqp1	2322	47.67	14.10 #
11910	Atf3	2379	58.12	9.25
11932	Atp1b2	2129	52.91	4.26
11975	Atp6v0a1	2847	54.32	10.88
12053	Bcl6	1813	51.73	10.67
12151	Bmi1	2108	54.12	6.03
12168	Bmpr2	2290	59.24	8.08
12293	Cacna2d1	2144	53.79	4.72
12296	Cacnb2	1913	58.83	5.08
12305	Ddr1	2894	57.62	8.00
12321	Calu	1827	39.66	15.41
12339	Capn7	1656	50.21	7.43
12389	Cav1	1995	53.63	5.73
12419	Cbx5	2093	49.23	8.64
12421	Rb1cc1	2174	60.89	6.01
12450	Ccng1	1960	47.39	5.68
12455	Ccnt1	1888	52.68	5.63
12476	Cd151	1850	63.96	3.02
12488	Cd2ap	1868	53.25	3.01
12491	Cd36	2061	50.36	5.88
12505	Cd44	2435	49.59	5.51
12540	Cdc42	1814	48.06	4.60
12632	Cfl2	1841	61.31	20.38
12662	Chm	1681	59.00	3.86
12722	Clca1	1869	44.39	6.61
12725	Clcn3	1676	54.91	9.48
12747	Clk1	2065	62.16	6.88
12753	Clock	2590	51.61	8.77
12759	Clu	1952	58.73	6.62
12859	Cox5b	2536	59.28	4.95
12874	Cpd	2033	47.04	10.07
13003	Vcan	2663	61.04	10.40
13009	Csrp3	2151	46.50	9.24
13052	Cxadr	1688	59.30	6.70
13179	Dcn	1962	43.75	5.93
13209	Ddx6	2140	61.42	8.22
13350	Dgat1	1534	39.93	4.30
13405	Dmd	2285	49.56	6.96
13589	Mapre1	1887	58.43	6.16
13667	Eif2b4	2342	63.42	2.52
13800	Enah	1554	45.45	4.77
13850	Ephx2	1670	54.05	10.05
14007	Cellf2	2084	45.28	5.96
14020	Evi5	2939	57.24	6.89
14105	Srsf10	1928	52.79	4.74
14190	Fgl2	2290	55.92	7.56
14199	Fhl1	1281	55.65	2.24
14266	Aff2	1866	63.50	5.92
14319	Fth1	1954	56.52	5.94
14359	Fxr1	1890	54.87	7.96
14368	Fzd6	1840	55.06	5.42
14390	Gabpa	2126	59.55	5.35
14555	Gpd1	2094	57.02	7.66
14584	Gfpt2	1749	52.86	7.79
14600	Ghr	2075	51.02	4.42
14609	Gja1	2011	58.57	3.76

14611	Gja3	2212	51.21	7.76
14651	Hagh	2513	57.48	13.08
14673	Gna12	2165	48.36	7.59
14755	Pigq	2050	56.82	5.57
14778	Gpx3	2012	51.20	7.16
14792	Lpcat3	2290	63.19	6.24
14815	Nr3c1	2359	56.40	6.15
14911	Thumpd3	2036	60.17	5.91
15159	Hccs	1575	51.71	4.12
15165	Hcn1	2128	61.15	8.86
15258	Hipk2	2177	52.90	9.47
15267	Hist2h2aa1	2348	50.74	6.16
15278	Tfb2m	2058	60.68	8.48
15461	Hras1	1801	52.24	3.18
15500	Hsf2	2009	58.15	8.37
15953	Ifi47	1485	49.12	11.96
15958	Ifit2	1706	50.73	4.20
16164	Il13ra1	2048	52.14	7.27
16177	Il1r1	2246	49.21	2.94
16396	Itch	2258	49.70	8.25
16400	Itga3	1950	54.22	7.56
16403	Itga6	2199	49.55	7.41
16410	Itgav	2027	54.66	12.12
16500	Kcnb1	1780	54.89	3.35
16573	Kif5b	2056	52.40	7.29
16709	Ktn1	1898	56.30	5.31
16782	Lamc2	1969	54.90	10.52
16854	LGALS3	2426	70.26	7.41
16948	LOX	1922	70.55	1.38
16978	Lrrfp1	1515	56.91	2.71
16997	LTBP2	2347	66.04	7.91
17096	Lyn	2141	55.91	10.40
17174	Masp1	2187	59.04	5.91
17281	Fyco1	2030	52.15	8.60
17349	Mlf1	2568	54.05	7.98
17470	Cd200	1728	53.11	3.87
17684	Cited2	2611	64.90	9.20
17698	Msn	2506	54.73	9.68
17868	Mybpc3	2124	55.91	7.75
17896	Myl4	2138	53.30	7.01
17912	Myo1b	1938	54.07	5.81
17930	Myom2	1952	61.37	4.93
17977	Ncoa1	2114	70.77	10.28
18015	Nf1	1521	55.95	1.20
18049	Ngf	1622	49.50	5.52
18158	Nppb	1847	49.39	10.41
18193	Nsd1	2304	43.65	9.29
18218	Dusp8	2167	60.05	4.77
18519	Kat2b	1987	52.67	8.60
18578	Pde4b	2026	54.66	5.86
18634	Pex7	2219	57.36	5.77
18704	Pik3c2a	1981	59.62	5.42
18821	Pln	1782	60.69	16.42
18983	Cnot7	1989	49.06	8.53
19014	Med1	2583	58.69	11.76 #
19027	Sypl	2139	57.53	5.85
19141	LGMN	2364	69.25	11.30
19230	Twf1	1889	56.72	5.76
19241	Tmsb4x	1930	51.78	6.96
19243	Ptp4a1	2342	55.08	5.81
19263	Ptpnb	1984	57.19	8.82
19268	Ptpnf	2377	50.61	8.92
19286	Pts	2204	46.00	6.59
19302	Pxmp3	2241	58.58	7.74
19317	Qk	2315	49.30	4.57
19356	Rad17	1863	52.34	4.07
19376	Rab34	2051	59.18	3.32
19654	Rbm6	1793	55.14	7.65
19736	Rgs4	1930	53.25	7.79
19775	Xpr1	2226	58.12	4.17
19878	Rock2	2017	63.26	9.86
19921	Rpl19	1551	60.31	0.00
20191	Ryr2	1953	59.58	2.90
20280	Scp2	2610	60.37	9.01
20306	Ccl7	2029	53.10	6.88
20392	Sgce	2097	52.61	4.75
20403	Itsn2	2076	50.30	5.40
20482	Skil	2189	56.23	7.14
20536	Slc4a3	2253	58.60	6.46
20541	Slc8a1	2001	62.25	11.18
20619	Snap23	1848	49.27	8.96
20621	Snn	1836	50.95	8.70
20649	Sntb1	2017	49.66	5.59
20663	SOS2	2432	68.74	9.07
20708	Serpinb6b	1807	51.62	6.58

20720	Serpine2	2201	54.99	6.71
20843	Stag2	2009	56.09	7.03
20916	Suc1a2	2241	66.71	14.80
20971	Sdc4	1718	57.17	4.62
20973	Syngr2	1871	56.71	6.68
21393	Tcap	2434	52.48	7.26
21428	Mlx	1864	53.09	7.44
21452	Tcn2	2506	61.33	4.80
21788	Tfpi	2357	56.60	8.82
21807	Tsc22d1	2211	64.53	4.16
21812	Tgfb1	1974	62.21	8.75
21825	Thbs1	1960	61.63	9.48
21898	Tlr4	2075	50.73	5.56
21956	Tnnt2	2400	54.22	6.79
22003	Tpm1	2413	64.48	25.75 #
22138	Ttn	2150	58.91	12.03
22152	Tubb3	2336	53.66	5.42
22200	Uba3	2366	62.98	12.46 #
22201	Uba1	2072	57.73	6.32
22284	Usp9x	2381	55.40	8.34
22289	Kdm6a	2034	56.88	5.06
22319	Vamp3	2134	50.56	5.76
22329	Vcam1	2188	53.33	9.83
22343	Lin7c	2063	51.64	10.25
22377	Wbp1	1666	49.60	3.19
22589	Atrx	2464	56.43	6.54
22627	Ywhae	2468	55.18	5.81
22680	Zfp207	1468	55.28	3.29
22720	Zfp62	1790	51.15	5.31
22764	Zfx	2265	59.04	12.08
22782	Slc30a1	2155	68.09	16.04
23831	Car14	2224	60.02	10.02
23881	G3bp2	2025	62.17	5.44
23945	Mgll	2473	53.88	10.16
23947	Mid2	1980	48.92	5.26
23986	Eci2	2666	55.29	25.31 #
24018	Rngit	1665	62.13	1.56
26362	Axl	2069	50.90	8.84
26395	Map2k1	2192	57.35	6.35
26409	Map3k7	2252	59.93	17.39 #
26419	Mapk8	1751	54.48	7.48
26450	Rbbp9	2109	59.68	6.36
26556	Homer1	2175	45.90	16.05
26908	Eif2s3y	2127	54.35	10.05
26932	Ppp2r5e	2301	60.32	6.47
26965	Cul1	1936	61.36	8.45
27392	Pign	1927	52.62	8.00
27428	Shroom3	1830	56.33	6.26
28015	Grin1a	1935	54.30	7.13
28109	D10Wsu102e	1810	51.59	6.06
29808	Mga	1750	46.63	7.16
29809	Rabgap1l	2244	53.67	8.83
29818	Hspb7	2026	64.21	5.04
30056	Timm9	1789	50.97	5.73
30839	Fbxw5	1435	53.25	3.47
30940	Usp25	2157	53.54	6.20
30953	Schip1	1678	59.00	4.23
50706	Postn	2256	49.70	6.91
50708	Hist1h1c	1939	60.70	5.52
50766	CRIM1	2489	65.04	27.90
50784	Ppap2c	2599	50.85	10.26
50786	Hs6st2	1707	42.72	5.66
50790	Acsi4	2228	62.06	4.95
50799	Slc25a13	2238	50.16	8.25
50884	Nckap1	2226	59.25	6.65
50935	St6galnac6	2075	58.76	19.05 #
52064	Coq5	2093	61.65	8.76
52575	Rg9mtd1	1726	54.79	3.77
52700	Txndc17	1942	54.77	5.59
52858	Cdipt	1506	47.71	4.32
53375	Mtx2	2131	53.45	6.54
53380	Psmd10	2005	48.33	5.33
53416	Stk39	1716	44.32	5.11
54189	Rabep1	2082	53.59	5.52
54214	Golga4	2147	56.75	7.58
54338	Slc23a2	1977	60.10	6.65
54446	Nfat5	2027	57.97	18.72
54473	Tollip	2372	52.48	5.31
54607	Socs6	2003	58.23	6.29
54673	Sh3glb1	1887	52.20	5.55
54720	Rcan1	2310	54.48	7.30
55946	Ap3m1	1930	54.26	10.75
56041	Uso1	1800	45.71	6.22
56217	Mpp5	2129	53.83	10.56
56282	Mrpl12	2186	47.62	3.69

56291	Styx	2299	54.92	5.22
56338	Txnip	2467	52.59	10.65
56376	Pdlim5	2296	49.64	13.46 #
56392	Shoc2	2206	51.26	5.36
56490	Zbtb20	1953	57.42	4.00
56637	Gsk3b	2197	53.37	9.87
56736	Rnf14	2048	55.58	4.34
56758	Mbnl1	1330	51.13	5.89
56873	LMBR1	1941	71.58	2.76
57246	Tbx20	1585	58.25	2.92
57748	Jmy	1613	56.46	3.76
57764	Ntn4	2246	54.26	4.94
58799	Crbn	2030	58.68	6.50
58800	Trpm7	2456	44.62	10.04
59026	Huwe1	2026	65.92	4.40
59040	Rhot1	2198	54.20	8.64
59057	Zfp191	2024	61.07	10.53
64058	Perp	2205	64.39	6.78
64213	St7	1963	45.75	8.20
64602	IREB2	2328	69.63	5.26
64657	Mrps10	2238	51.51	5.01
64945	Cldn12	2018	59.58	5.50
65086	Lpar3	2055	54.67	7.30
65246	Xpo7	1611	55.34	3.86
65964	B230120H23Rik	2080	56.63	8.87
66048	Tmem93	2457	60.58	5.08
66102	Cxcl16	1599	58.07	1.03
66244	Nemf	2104	55.86	5.52
66270	Fam134b	1939	56.02	6.81
66271	Tmem126a	1935	55.06	4.75
66282	1810029B16Rik	1863	58.40	3.44
66291	1810030N24Rik	1875	58.93	11.28
66395	Ahnak	1624	51.74	5.62
66402	Slc	2068	57.05	4.26
66427	Cyb5b	2217	49.26	8.03
66461	Ptpmt1	2764	52.27	12.64
66528	2210020M01Rik	2346	56.27	10.56
66548	Adamtsl5	1962	54.22	7.33
66789	Alg14	1958	59.66	3.73
66799	Ube2w	2332	61.47	4.36
66822	Fbxo25	1930	57.62	5.86
66830	Nacc1	2059	53.85	7.51
66853	Pnpla2	2416	60.20	5.51
66890	Lman2	2190	52.80	7.02
66916	Ndufb7	2017	51.15	4.51
66922	Rras2	2098	51.63	4.47
66939	Aagab	2141	70.58	1.86
66943	Pqcl1	2084	53.83	9.55
66945	Sdha	2317	54.50	7.31
66967	Edem3	2585	53.42	7.34
67035	Dnajb4	2064	54.41	7.54
67049	Pus3	2573	60.11	4.85
67075	Magt1	2525	56.74	8.02
67150	Rnf141	1512	62.90	7.44
67306	Fam164a	1922	56.51	5.40
67420	Far1	2062	58.14	6.17
67426	Adck3	1965	59.15	7.34
67466	Pdcl	2546	54.81	7.05
67473	Slc47a1	2337	48.25	3.51
67487	Dhx40	2038	62.80	6.95
67515	Ttc33	2886	49.37	15.00
67579	Cpeb4	2629	61.40	8.02
67605	Akt1s1	1697	56.67	6.23
67636	Lym5	2338	60.27	7.79
67665	Dctn4	2075	54.26	4.77
67731	Fbxo32	2257	60.69	10.14
67760	Slc38a2	2183	55.82	6.12
67845	Rnf115	1726	46.08	5.33
67921	Ube2f	2515	60.18	10.97
67949	Mki67ip	1640	58.80	1.16
67979	Atad1	2651	58.05	7.44
68024	Hist1h2bc	2084	53.64	6.85
68473	Mobk1a	2129	74.08	6.94
68493	Ndufaf4	2165	48.27	4.06
68497	1110018G07Rik	1954	56.18	5.40
68564	Nufip2	2517	64.36	16.31
68585	Rtn4	2032	49.50	7.94
68810	Nexn	2139	56.37	4.54
68832	1110057K04Rik	2139	56.92	6.07
68842	Tulp4	1976	53.32	7.11
68939	Rasl11b	2184	75.47	5.00
69131	Cdk12	2430	52.88	7.53
69163	MRPL44	2230	70.43	8.40
69219	Ddah1	2000	52.11	7.20
69237	Gtpbp4	1386	52.10	0.57

69256	Zfp397	1288	42.59	2.52
69632	Arhgef12	2039	56.79	4.67
69634	Clybl	2050	56.52	6.54
69642	2310046A06RIK	2087	69.94	3.16
69802	Cox11	2119	46.34	10.81
69823	Fytd1	2786	61.72	4.61
69882	2010321M09RIK	2494	55.55	17.42 #
69930	Zfp715	2399	57.65	5.97
69956	Ptcd3	1899	49.26	9.57
69981	Tmem30a	1817	56.79	3.83
70231	Gorasp2	1683	47.69	5.07
70237	Bhlhb9	2075	59.11	4.71
70266	Ccbl1	1782	46.40	8.70
70380	Mospd1	1922	52.77	6.29
70508	Bbx	2457	64.38	4.67
70567	5730455O13RIK	1913	49.01	11.95
70584	Pak4	1769	54.24	3.43
70598	Filip1	2247	69.79	6.63
70599	Ssfa2	1858	52.02	5.43
70612	5730494N06RIK	1934	54.40	5.64
70652	Tmem144	2259	66.85	5.40
70686	Dusp16	2142	53.48	8.08
70767	Prpf3	1862	56.78	2.83
70930	Nol8	2223	67.38	1.16
71041	Pcgf6	1918	54.36	5.31
71198	Otd1	2253	72.68	5.28
71678	Brox	2157	69.69	4.61
71865	FBXO30	2321	69.65	6.93
71927	Itfg1	1832	51.69	4.11
71978	PPP2R2A	2139	64.56	9.17
72055	Slc38a10	2370	58.08	6.31
72201	Otd6b	2062	52.22	13.13
72238	Tbc1d5	2402	52.39	6.13
72477	Tmem87b	2288	65.12	4.19
72607	Usp13	1950	53.86	9.93
72674	Adipor1	2404	54.36	5.91
72736	Tmx1	2422	50.30	9.25
72754	Arhgef10l	1981	55.53	9.89
72795	Ttc19	1874	48.17	7.77
72999	Inslg2	2424	55.58	7.73
73024	2900064A13RIK	1320	51.53	5.74
74006	Dnm1l	2345	49.59	16.58
74155	Errfi1	2167	50.48	7.12
74182	Gpcpd1	2077	52.69	8.30
74185	Gbe1	2313	54.52	7.59
74318	Hopx	1450	58.54	12.89
74682	Wdr35	2322	57.41	4.69
74769	Pik3cb	1645	51.99	8.81
75089	Uhrf1bp1l	2179	54.44	10.12
75302	Asxl2	1796	59.57	3.35
75320	Etnk1	1987	53.29	4.73
75580	Zbtb4	2332	68.74	3.23
75581	Yipf7	2436	47.89	7.03
75619	Fastkd2	2102	52.81	5.22
75692	Nr2c2ap	2200	72.11	5.75
75717	Cul5	2520	59.17	10.51
75785	Kihl24	2253	55.86	2.78
75991	Slain2	2369	62.86	7.51
76073	Pcgf5	1776	41.96	6.54
76687	Spcs3	2187	67.68	16.49
76959	Chmp5	1951	54.55	5.04
77040	Atg16l1	1637	50.28	8.59
77110	Gpbp1l1	1944	56.13	4.99
77300	Raph1	2189	66.94	4.33
77781	Epm2aip1	1908	63.01	13.62
77929	Yipf6	2109	46.23	5.76
78321	Ankrd23	1877	60.00	3.34
78521	B230219D22RIK	1579	50.98	3.15
78655	Eif3j	2139	50.06	8.40
78757	Rictor	2070	61.84	13.75
78785	Clip4	2905	53.25	16.43
79201	Tnfrsf23	2077	47.39	8.84
79555	BC005537	2184	57.22	6.42
80290	Gpr146	2091	63.29	4.66
81702	Ankrd17	2160	52.15	4.39
83485	Ngn	1952	56.31	3.66
84585	RNF123	2268	65.51	6.59
93677	LMOD2	2206	71.59	3.31
93736	Aff4	2373	55.34	8.07
93836	Rnf111	2578	47.41	9.54
94061	Mrpl1	1953	57.33	5.08
94246	Arid4b	1923	59.03	6.15
98404	Al597479	2628	61.00	4.72
98488	Gtf3c3	2228	70.91	12.86
99470	Magi3	2201	55.39	7.11

99512	Wdr47	2210	53.32	7.94
99526	Usp53	2413	55.86	6.17
99650	4933434E20Rik	1683	43.65	4.52
99730	Taf13	2196	58.30	7.73
99982	Kdm1a	2379	58.68	5.04
100072	Camta1	2463	70.75	9.14
100273	Osbp19	2155	45.98	6.60
100317	AU040320	1401	50.07	5.21
100737	Dcun1d4	2759	65.74	6.08
100763	Ube3c	1810	51.57	8.09
100986	Akap9	2430	58.23	6.68
101351	Eogt	2061	53.06	5.83
102334	Ankrd10	2338	45.42	8.21
103537	Mbtd1	1830	52.93	6.13
103583	Fbxw11	2332	50.04	10.49
104082	Wdr7	2007	52.35	5.97
104263	Kdm3a	2354	68.81	19.42
104625	Cnot6	1664	51.37	6.04
105203	BC016423	2223	51.43	5.70
105298	Epdr1	2285	49.91	6.31
105352	Dusp22	2169	57.59	11.04
105501	Abhd4	1876	55.52	2.66
105559	Mbnl2	1676	56.11	4.78
106064	AW549877	1927	51.43	4.43
107182	Btaf1	2180	54.85	5.93
107765	Ankrd1	2520	56.48	6.56
108012	Ap1s2	1849	59.57	9.45
108058	Camk2d	2106	53.64	6.90
108151	Sema3d	2011	51.39	5.48
108155	Ogt	2122	58.49	6.07
108767	Pnrc1	2071	55.10	7.27
108829	Jmjd1c	2235	69.70	10.17
108946	Zzz3	2082	43.70	6.51
109054	Pfdn4	2240	52.60	6.60
109263	Rlf	1870	53.28	5.72
109264	Me3	1871	50.83	11.36
109620	Dsp	2055	51.46	6.17
109676	Ank2	1824	42.26	5.18
110279	Bcr	2171	60.55	6.57
110911	Cds2	1791	46.55	10.47
116848	Baz2a	1455	41.97	5.07
116871	Mta3	2248	55.32	6.28
116940	Tgs1	1809	56.96	5.98
117198	lvns1abp	2030	51.83	6.13
170791	Rbm39	1700	52.60	2.66
192195	Ash1l	1791	56.65	6.38
192196	Luc7l2	2148	50.25	7.20
192216	Tmem47	1850	49.98	3.78
192287	Slc25a36	2435	58.58	8.75
192289	Tmihe	1901	51.96	5.08
195040	Tmem199	1737	63.00	2.29
208606	Rsrc2	2391	70.68	5.64
208898	UNC13C	2156	66.80	6.17
209225	Zfp710	1869	52.05	2.47
210126	LPP	2233	70.81	8.75
212163	8030462N17Rik	1976	50.66	9.00
213417	Klhdc8a	2254	59.67	6.63
214063	Dnajc16	1952	48.07	8.07
214133	Tet2	1724	55.88	7.01
214505	Gnptg	1751	48.26	6.55
214899	Kdm5a	2062	53.31	3.93
215008	Vezt	1577	49.16	6.66
215951	Lace1	1888	69.83	13.91
216198	Tcp1l12	1837	53.06	17.84
216345	Zfc3h1	2013	67.48	3.40
216505	Pik3ip1	1993	45.94	7.74
216742	Fnip1	2230	71.34	7.79
216965	Taok1	2921	63.25	9.49
217325	Ligl2	2059	50.37	4.07
217463	SNX13	2206	67.79	6.88
217715	Eif2b2	1864	63.82	3.22
218397	Rasa1	1877	57.91	7.18
218543	Srek1	2483	59.99	4.88
218914	Wapal	2339	67.78	10.02
219105	Zmym5	2030	57.89	5.82
219249	Tdrd3	2181	54.16	6.74
223455	March6	2224	55.21	7.11
223513	Abra	1889	58.11	4.40
223665	C030006K11Rik	1953	56.04	21.63
223978	Cpped1	2646	56.86	8.60
224139	Golgb1	1973	42.50	10.15
224170	Dzip3	2330	71.50	7.77
224796	Clic5	2292	57.95	11.41
224938	Pia2	2201	43.00	11.72
225010	Lycat	2292	67.46	8.66

225131	Wac	1677	53.01	3.74
225164	Mib1	2108	53.38	10.54
225651	Mppe1	1803	51.82	6.48
225995	D030056L22Rik	2136	52.62	8.52
226470	Zbtb41	1859	49.95	7.79
226747	Ahctf1	1980	58.35	8.14
227059	Slc39a10	2530	56.03	8.96
227210	Ccnyl1	2081	72.74	3.43
227331	Gigyf2	2163	52.25	8.21
227399	Ppip5k2	2151	57.76	11.81
227696	Phyhd1	1995	71.65	0.91
227800	Rabgap1	1877	47.30	4.15
228012	Tlk1	2402	53.30	7.69
229227	4932438A13Rik	1823	45.18	7.05
229279	Hnrnpa3	2088	50.52	7.60
229663	Csde1	1542	51.02	2.21
230673	Ipo13	2554	55.66	12.85
230899	Nppa	2119	71.91	3.08
231279	Guf1	1999	52.76	6.56
231510	Agpat9	1975	52.29	6.79
231713	Naa25	1307	51.11	1.71
231872	Aimp2	2057	51.11	6.64
232533	Stk38l	1995	55.82	5.01
233789	Smg1	2092	77.60	3.65
234214	Sorbs2	2433	68.56	6.79
234267	Gpm6a	2049	48.97	7.91
234309	Cbr4	2324	55.31	5.84
234362	Zfp868	1676	51.32	7.73
235439	Herc1	2169	54.43	4.84
235542	Ppp2r3a	1739	49.96	6.58
235682	Zfp445	1374	48.34	3.87
236792	Mmg1	1857	48.06	5.65
237459	Cdk17	2062	60.31	6.45
237500	Tmtc3	2280	69.47	5.96
237542	Osbpl8	2120	51.71	5.42
237560	Lrrc10	1738	53.49	14.58
237615	Ankrd52	1898	46.74	14.02
237898	USP32	2382	72.17	5.61
238799	Tnpo1	1625	56.36	5.10
239510	Phf20l1	2125	48.03	8.48
240028	LNPEP	2305	67.21	8.55
240283	Dmx1	2307	67.85	7.23
240753	Plekha6	2128	51.90	7.62
242362	Manea	1753	47.70	6.72
242409	Tmem8b	2128	70.92	2.65
242960	Fbxl5	1997	50.61	6.20
243764	Chrm2	2151	55.23	7.46
244202	Nlrp10	2178	54.99	8.52
244373	Erlin2	2075	53.09	11.88
244713	Zfp317	2079	59.81	16.60
245007	Zbtb38	1983	52.22	7.27
245446	Slitrk4	1871	52.93	6.94
245867	Pcmdt2	1774	51.27	7.37
245944	Vps54	2019	48.84	6.00
246179	Fktn	2381	60.59	10.97
252875	Mios	1914	55.47	9.11
269198	Nbeal1	1935	52.93	7.06
269254	Setx	2314	66.35	10.34
269959	Adamtsl3	2176	54.37	7.55
270163	Myo9a	1634	50.30	9.63
319263	Pcmdt1	1601	42.89	6.27
319277	A230046K03RIK	2245	69.06	6.92
319475	Zfp672	2330	48.93	5.59
319480	Itga11	1803	52.59	5.49
319859	E030011O05Rik	1775	51.37	7.69
319885	Zcchc7	1728	55.78	4.67
319934	Sbf2	1643	45.72	10.68
320150	Zdhhc17	2332	54.28	8.44
320184	Lrrc58	1517	50.16	6.15
320191	Hook3	1954	46.94	11.36
320472	Ppm1e	2332	72.47	7.22
320506	Lmbrd2	1410	50.06	4.28
320528	Vps13c	1617	43.95	6.49
320615	Dopey1	2399	66.53	8.31
320878	Mical2	1833	58.99	2.82
320974	Lrrn4	1848	43.52	7.63
327987	Med13	2117	73.57	6.54
328186	Gm10336	2275	51.10	7.23
329165	Abi2	2037	51.94	6.77
329763	Gm5105	1550	45.45	4.93
330260	Pon2	2042	52.60	7.93
331401	Thoc2	2064	73.08	4.14
353187	Nr1d2	2450	50.98	10.42
378431	Txinb	2169	47.46	10.35
380755	Gm889	2200	67.75	8.10

381305	Rc3h1	2087	71.54	6.62
381510	Dpy19l4	2312	72.14	6.11
382867	Zfp488	2247	69.77	7.04
384281	Gatc	2110	73.77	2.72
387609	Zhx2	1968	64.73	3.40
432486	Gnptab	2376	69.36	10.12
432779	Al595366	2246	69.38	7.31
432940	Fam105b	2193	71.05	5.85
433667	Ankrd13c	2369	67.73	7.79
433956	Heatr2	2237	72.78	5.12
434246	Trim72	2267	67.44	6.49
435766	Tnni3k	2072	65.62	3.41
544971	Bdp1	2059	74.58	1.20
545428	Ccdc141	2240	63.55	5.89
628308	Gm14420	2273	74.27	5.47
639593	LOC639593	1790	69.01	0.46
665775	Bod1l	2134	75.00	4.98
667035	EG667035	1505	75.73	0.47
667214	RP23-269N23.3	2078	68.15	4.82
668158	EG668158	2170	69.25	6.23
100036521	Gm16039	2134	73.57	3.47
100039133	Gm2058	2394	67.76	11.81
100042464	2610203C20Rik	2214	72.96	2.71
100047997	LOC100047997	2404	73.06	17.65

* % proliferating cardiomyocytes is reported to the total number of cardiomyocytes

excluded due to ambiguous result in deep-seq dataset; not all splicing variants downregulated