Variation in Placental microRNA Expression Associates with Familial Cardiovascular Disease

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Abstract

In the United States, cardiovascular disease is the leading cause of death, and the rate of maternal mortality remains among the highest of any industrialized nation. Maternal cardiometabolic health throughout gestation and postpartum is representative of placental health and physiology. Both proper placental functionality and placental microRNA expression are essential to successful pregnancy outcomes, and both are highly sensitive to genetic and environmental sources of variation. While placental pathologies, such as preeclampsia, are associated with maternal cardiovascular health and may contribute to the developmental programming of cardiovascular disease, the role of more subtle alterations to placental function and microRNA expression in this relationship remains poorly understood. To develop a more comprehensive understanding of how cardiometabolic health influences placental microRNA expression, and how this shapes placental functionality, we performed small RNA sequencing to investigate microRNA in the placenta from the Rhode Island Child Health Study (n=230). We modeled microRNA counts on maternal family history of cardiovascular disease using negative binomial generalized linear models, and identified microRNAs that were differential expressed (DEmiRs) at a false discovery rate (FDR) less than 0.10. Utilizing parallel mRNA sequencing data and bioinformatic target prediction software, we identified potential mRNA targets of these DEmiRs. We identified 9 DEmiRs, with predicted targets of those miRNA enriched overwhelmingly in the TGFβ signaling pathway but also in pathways involving cellular metabolism and immunomodulation. Overall, we identified a robust association existing between familial cardiovascular disease and placental microRNA expression which may be implicated in both placental insufficiencies and the developmental programming of cardiovascular disease.

Introduction

As the leading cause of death in the United States, cardiovascular disease (CVD) is expected to affect 44.1% of the population by 2035 ^[1]. CVD has an extremely complex, multifactorial etiology, where neither genetic nor environmental influences act alone to contribute to disease onset ^[2, 3]. There is growing body of literature linking maternal cardiometabolic health during pregnancy to adverse cardiovascular health outcomes in offspring later in life ^[4, 5]. These developmental origins of long-term cardiovascular health outcomes are thought to be the consequence of changes to placental physiology.

The state of a mother's cardiometabolic health during gestation and postpartum is related to the health and functionality of the placenta. As a central vascular organ overseeing fetal growth, development and the intrauterine environment, proper functionality of the placenta remains central to successful gestational outcomes. Resting at the interface of the maternal and fetal environment, the placenta participates in a variety of molecular processes, such as nutrient transport, immunomodulation, and endocrine signaling, all of which are made possible through the development of a villi-based vasculature system, allowing for communication between mother and offspring ^[6]. Maternal cardiovascular and metabolic conditions during pregnancy, such as type II diabetes, hypertension and hypercholesterolemia have been implicated in dysfunction of placental micro and macro-vasculature. In addition, pathophysiologic characteristics of placental insufficiency, such as those occurring in preeclampsia, manifests in cardiovascular effects including hypertension and kidney malfunction ^[7, 8]. Additionally, such placental insufficiencies are associated with adverse gestational outcomes, such as fetal growth restriction, which itself serves as a significant risk indicator for the development of cardiovascular disease (CVD) later in life ^[9-11]. Considering placental development occurs concurrently with fetal heart development, and each organ utilizes common humoral growth signals, such as transforming growth factor-beta (TGFβ) and vascular endothelial growth factor (VEGF), deficiencies in the organogenesis of either organ may alter the formation of the other, initiating physiological changes with potential lifelong cardiovascular consequences ^[12-14]. While the associations between maternal cardiometabolic risk factors, placental insufficiency and offspring lifelong health outcomes are well defined ^[7, 8, 15], the molecular mechanisms by which this developmental programming is established have yet to be robustly delineated.

Additionally, these overt placental pathologies are relatively rare, and cannot account for the prevalence of cardiovascular disease and deficiencies in maternal health, post-partum.

MicroRNAs (miRNA) are small noncoding RNA molecules (~22 nucleotides) capable of post-transcriptional regulation of gene expression. These molecules utilize base-pairing to bind to the 3'-untranslated region of target mRNAs resulting in either translational repression or mRNA degradation, by which the exact mechanism largely depends on the degree of sequence complementarity between the miRNA and target mRNA. Dysregulation of placental miRNA have previously been implicated in both preeclampsia and fetal growth restriction, suggesting their potential role as modifiers of newborn and maternal health outcomes in response to various genetic and/or environmental conditions ^[16-21]. However, many of these studies were conducted with on small sample sizes ($n < 100$), and largely focused on newborn outcomes as they associate with placental miRNA expression as opposed to the relationship between maternal characteristics and expression of placental miRNA ^[16-19, 21].

To explore the influence of familial cardiovascular disease on the placental miRNA landscape, we utilized placental miRNA sequencing data from the Rhode Island Child Health Study (RICHS; $n=230$) and examined the relationship between maternal family history of CVD and placental miRNA expression. Through this clinical history variable, we capture both genetic risk of CVD, as well as shared familial behaviors that may associate with CVD, such as diet and exercise ^[3, 22]. Bioinformatic target prediction was used to identify potential mRNA targets of miRNAs significantly associated with maternal CVD risk, followed by overrepresentation analyses to characterize the biochemical pathways in which these mRNAs participate.

Results

This study analyzed miRNA sequencing data from 230 placentae from the Rhode Island Child Health Study (RICHS). The demographics of the participants are displayed in Table 1. In general, placentae collected in this study were from full term pregnancies (≥ 37 weeks), all from relatively healthy mothers who did not experience serious pregnancy complications. Forty-nine percent ($n=113$ of 230) of maternal participants reported a family history of cardiovascular disease, and forty-nine percent ($n=112$ of 230) were either overweight or obese, $n=57$ of those also reporting a family history of CVD.

To analyze the association between family history of CVD and placental miRNA expression, we performed differential expression analysis using negative binomial generalized linear models constructed in *DESeq2* on placental small RNA sequencing data. We identified 9 Differentially Expressed miRNAs (DEmiRs) associated with familial CVD history ($FDR < 0.1$), 4 of which (miR-1246, miR-324-5p, miR-1307-3p, and miR-520a-3p) met a strict Bonferroni threshold (p -value $< 6.23e-05$) (Fig. 1). Sensitivity analyses were performed to adjust for various biological and technical covariates (RNA integrity, flow cell lane, pregnancy smoking, maternal race, infant sex and infant birth weight percentile) in order to characterize the robustness of DEmiR effect sizes, and the DEmiR $\log_2$ fold changes were striking consistent even with these additional adjustments to the original model (Fig. S1 & Fig. S2).

Bioinformatic targets of all 9 DEmiRs were predicted using the miRNA Data Integration Portal (miRDIP)^[23]. miRDIP predicted 4,516 targets across all 9 DEmiRs. However, given that miRNA do not require perfect complementarity with a target mRNA and can only target mRNAs expressed in the examined tissue, bioinformatic target prediction is prone to generating false positives. To enhance our dataset with true miRNA:mRNA relationships we utilized parallel total RNA sequencing data in RICHS ^[24]. Only miRNA:mRNA pairs where the transcript abundance of a DEmiR and its miRDIP predicted target were negatively correlated (Pearson's correlation, p -value < 0.05) were considered in downstream pathway analyses. This correlation-based filtering revealed 7 DEmiRs and 66 predicted mRNA targets (Table S1) ^[24].

The 66 predicted DEmiR targets were tested for pathway overrepresentation within ConsensusPathDB (CPDB)^[24-26]. Pathways related to TGF β signaling, cellular metabolism, and immunomodulation were overrepresented among DEmiR targets (q -value < 0.05). These enrichment results are largely driven by targets of miR-574-5p, miR-324-5p, miR-326 and miR-520a-3p (Table S1).

Discussion

Maternal mortality rates in the United States are higher than any other industrialized country and continue to rise. More than half of these deaths are deemed preventable, and over 15% of these deaths are caused by CVD ^[27]. While our study does not investigate placentae from mothers diagnosed with CVD, the chronic nature of the disease provides a unique opportunity to study how minor insults and risk factors, such as family history, influence placental functionality and their contributions to adverse newborn health outcomes.

Our small RNA-seq analysis identified fetoplacental miRNAs whose expression associate with maternal family history of CVD (Fig. 1). The functional relevance of miRNAs is largely dictated by the mRNAs available for them to interact with. These interactions are heavily influenced by the tissue of origin of both miRNAs and their target mRNAs. While many of the DEmiRs we identified (miR 324-5p, miR-520a-3p, miR-574-5p, miR-326) are implicated in cardiometabolic conditions

during pregnancy, including preeclampsia and diabetes [28-31], their functional role remains largely understudied in the context of placental physiology.

Pathway overrepresentation analyses of DE miR predicted targets overwhelmingly suggested TGF β signaling to be influenced by dysregulation of placental miRNAs whose expression associates with family history of CVD (Table 2). TGF β signaling encompasses a large family of genes that participate in a myriad of cellular processes, but these genes are particularly important to vascular tissues for neovascularization as well as remodeling and repair of existing tissue [32]. Among our predicted DE miR targets, specifically those of miR-574-5p, are SMAD2 and SMAD4, two activators of the TGF β pathway whose dysregulation are implicated in preeclampsia pathogenesis in human umbilical vein cells (HUVEC) *in vitro* [33-35]. SMAD2/4 also appear frequently throughout the various biological pathways reported as overrepresented, many of which contribute toward TGF β signaling (including activin and nodal signaling pathways), highlighting their importance to a diverse set of endothelial cellular processes and placental physiology as a whole (Table 2) [36]. In addition, while miR-1246 targets did not pass our strict filtering criteria to be included in the pathway analysis, upregulation of miR-1246 has been shown to increase angiogenesis through activation of TGF β signaling in HUVEC [37].

TGF β signaling in the placenta is known to play critical roles in preimplantation and initial decidualization, and is also active throughout gestation in endometrial remodeling [33, 34]. While neovascularization is required for successful fetal development, aberrant regulation of the signaling pathways overseeing this process may lead to improper vessel network development in the form of hypervascularization or vasculature malformation [38, 39]. Additionally, these structural abnormalities are associated with placental insufficiencies, which could result in lifelong adverse cardiometabolic health outcomes in both mothers and offspring [12, 13, 40]. While the data presented here are incapable of concluding the direct impact of placental miRNA dysregulation there is a growing body of literature, as well as the associations outlined here, that suggest dysregulation of placental miRNAs may be contributing to the developmental programming and propagation of CVD. However, these findings should be interpreted within the context of this study's limitations.

This study only includes term placentae from live births, where premature births and other birth defects were excluded. The cross-sectional design of this study limits the interpretation of miRNA associations temporally, and may not be representative of miRNA associations throughout gestational development. Additionally, this study relies on self-reported family history of CVD, and which may ultimately lead to variation in results attributable to recall bias.

Conclusion

MiRNAs serve as an important form of post-transcriptional gene regulation during early development, and are sensitive to both genetic and environmental conditions. Here we have shown that the expression of 9 placental miRNAs are associated with maternal family history of CVD, and that the mRNA targets of these miRNAs largely play a role in TGF β signaling, indicating their involvement in endothelial cell functionality and placental physiology as a whole. Dysregulation of miRNA expression in the placenta may contribute to adverse newborn and maternal health outcomes, ultimately playing a role in the developmental programming of CVD.

Methods

Cohort

The Rhode Island Child Health Study (RICHS) is a cohort of mother-infant pairs from the Women & Infants Hospital in Providence, Rhode Island, enrolled between September 2010 and February 2013. All mothers were at least 18 years of age, had no life-threatening conditions, and delivered singletons free of congenital/chromosomal abnormalities at or after 37 weeks of gestation. All participants provided written informed consent and all protocols were approved by the IRBs at the Women & Infants Hospital of Rhode Island and Emory University, respectively. Data provided by this study include placental microRNA transcript abundance (n=230). Interviewer-administered questionnaires were utilized to collect sociodemographic and lifestyle data. Structured medical record review was used to collect anthropometric and medical history data. Maternal family history of CVD was reported and coded as a binary variable (yes/no). Follow-up questions regarding which primary relative had been afflicted, coded as “mother”, “father”, “brother”, and “sister”. Instances where the mother reported a family history of CVD but did not identify a specific primary relative were not included in the study in order to prevent improper classification of familial CVD incidence.

Tissue Collection

Fetal placental samples from all subjects were collected as previously described^[41]. Briefly, placental samples were collected within two hours of birth; fragments were obtained two centimeters (cm) from the umbilical cord and free of maternal

decidua. Collected tissue was immediately placed in RNA later solution (Life Technologies, Grand Island, NY, USA) and stored at 4 °C for at least 72 hours. Subsequently, tissue segments were blotted dry, snap frozen in liquid nitrogen, homogenized by pulverization using a stainless-steel cup and piston unit (Cellcrusher, Cork, Ireland) and stored at -80 °C.

miRNA isolation and sequencing

Total RNA was extracted from placenta using the Qiagen miRNeasy Mini Kit and a TissueLyser LT (Qiagen, Germantown, MD, USA) following manufacturer's protocol. Briefly, 25-35 mg of frozen, powdered placental tissue was placed in a 2 ml round bottom tube with 700 µl of Qiazol Lysing Reagent and one 5 mm stainless steel bead. The tissue was homogenized in a pre-chilled tube holder on the TissueLyser LT for two, 5-minute cycles at 30 Hz. The resulting homogenate was processed with the Qiagen miRNeasy Mini Kit with on-column DNase digestion and eluted in 50 µl RNase-free water. The RNA was quantitated on a NanoDrop (Thermo Fisher, Waltham, MA, USA) and quality checked on Agilent Bioanalyzer using the Agilent RNA 6000 Nano kit (Agilent, Santa Clara, CA, USA). Single end, 1 x 50 bp next generation sequencing of placental miRNA was performed by Omega Bioservices (Norcross, Georgia) as previously described [24].

miRNA Seq Processing and QC

Raw FASTQ reads obtained from a total of 230 RICHs samples were subject to adaptor trimming with cutadapt v1.1634. The 3' adaptor sequence were trimmed (TGGAATTCTCGGGTGCCAAGG) and then four bases were trimmed from each end of the read following vendor's recommendation (BIOO scientific, Austin TX). We then used trimmed reads and miRDeep2 to quantify microRNA [42]. miRDeep2 was used to first perform alignment using bowtie1 with human genome hg38 [43]. The 'Quantifier' module in miRDeep2 was used to obtain raw counts of microRNAs with miRBase version 22 [44].

Transcript Filtering and Normalization

Raw miRNA counts were imported into *DESeq2* for normalization and differential expression analysis. Only miRNA transcripts with more than one count per million in at least 10 percent of samples were included, leaving 802 miRNA transcripts to be analyzed of the initial 2656 sequenced transcripts. Dispersion estimates were then calculated, followed by generation of median ratio size factor estimates to normalize counts for analysis with in *DESeq2* [45]. Normalized counts were then exported from *DESeq2* for Surrogate Variable Analysis (SVA). The Variance Stabilization Transformation (VST) was applied to count matrices to yield approximately normalized and log₂-transformed abundances, which were utilized in correlation analyses [24].

Statistical Analyses

SVA

In an effort to adjust for unknown confounders, such as cell-type heterogeneity and unmeasured sources of technical variation, surrogate variables were estimated for normalized miRNA transcript reads using the *sva* package [46, 47]. The full model used in the *svaseq* includes variation attributable to family history of CVD while the null model included only an intercept term. One surrogate variable was utilized as a covariate in our differential expression analysis.

DESeq2 Differential Expression Analysis

miRNA transcript counts were modeled using a negative binomial generalized linear model to identify differentially expressed transcripts in *DESeq2* [47]. For each of the 802 individual miRNA transcripts which passed strict filtering and quality criteria, the variance stabilized transformed transcript abundance was regressed on the history of familial CVD (No = 0, Yes = 1), while adjusting for the first surrogate variable to control for unknown confounders [46, 47]. We considered miRNAs with a false discovery rate (FDR) less than 10% to be considered a differentially expressed miRNA (DEmiR) with respect to family history of CVD. Extensive sensitivity analyses were performed by including various parameters as covariates to the original model to assess the robustness DEmiR effect sizes (Fig. S1).

Target Prediction and Filtering

Potential DEmiR targets were identified using miRDIP, an online database of miRNA target predictions [23]. Only targets within the top 1% of confidence scores were returned. We then calculated Pearson correlation coefficients for each miRNA:mRNA pair utilizing normalized miRNA and mRNA sequencing counts from RICHs [24]. Only miRNA:mRNA target pairs with negative correlation coefficients (q-value < 0.05) were returned to be used in network and pathway analyses. Correlation coefficients ranged between -0.41 and -0.21.

Pathway Analysis

Predicted DEmiR targets were tested for pathway overrepresentation within ConsensusPathDB (CPDB) ^[25, 26], against all genes that passed general QC filtering in RICHs whole transcriptome RNA-seq analysis ^[24-26]. CPDB utilizes 12 separate biological pathway databases, and calculates an enrichment p-value from the hypergeometric distribution of genes in the list of miRNA targets and the pathway gene set. Only mRNAs that were expressed >1cpm in at least 10% of the RICHs samples were included as the background for the pathway analysis ^[24]. False discovery rates were calculated from the enrichment p-values, and a q-value less than 0.05 was considered a significant enrichment of miRNA targets in the tested pathway.

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Figures and Tables

Table 1. Demographic characteristics of participants included in the miRNA sequencing analysis (n=230)

MATERNAL CHARACTERISTICS	
Age (yrs) – mean (range)	30.9 (18 - 40)
Family History of CVD (Yes) – % (n)	49% (112)
Race (White) – % (n)	77% (178)
Pregnancy Smoking – % (n)	9% (20)
Pre-Pregnancy Body Mass Index (BMI) (kg/m²) – mean (range)	26.5 (16 - 46.7)
Pre-Pregnancy BMI Group	
Normal and Underweight – % (n)	51.3% (118)
Overweight – % (n)	27.0% (62)
Obese – % (n)	21.7% (50)
INFANT CHARACTERISTICS	
Gestational Age (wks) – mean (range)	39.4 (37 - 41.4)
Sex (Female) – % (n)	49% (113)
Birthweight (g) – mean (range)	3563.7 (2030 - 5465)
Birthweight Group	
Small for Gestational Age (SGA) – % (n)	14.3% (33)
Average for Gestational Age (AGA) – % (n)	54.3% (125)
Large for Gestational Age (LGA) – % (n)	31.3% (72)

Figure 1: Placental miRNA associates with maternal family history of CVD.

(A) Volcano plot representing the results of the differential expression analysis. The y-axis shows the $-\log_{10}(\text{p-values})$ in the association of each miRNA with family history of CVD. The x-axis displays the effect estimates in units of $\log_2$ fold change in each miRNA's transcript abundance in individuals with familial incidence of CVD. 9 miRNAs are significantly ($\text{FDR} < 0.1$) associated with familial CVD history and 4 of those (square shaped) reach are significant after Bonferroni correction ($\text{p-value} < 6.23\text{e-}05$). **(B)** Estimates of $\log_2$ fold change of miRNA transcript abundance of miRNAs significantly associated with familial CVD history. Boxes represent the effect size estimate, while error bars represent standard error of the effect size estimate.

Table 2. DEmiR Target Pathway Enrichment Analysis Results

Pathway	Enriched Pathway Components	p-Value	q-Value	Source
Signaling by Activin	SMAD4; ACVR2B; SMAD2	2.5E-05	0.00196	Reactome
Signaling by NODAL	SMAD4; ACVR2B; SMAD2	2.5E-05	0.00196	Reactome
Activation of BAD and translocation to mitochondria	AKT3; YWHAQ; BCL2	6.8E-05	0.00278	Reactome
Intrinsic Pathway for Apoptosis	AKT3; BCL2L1; YWHAQ; BCL2	7.7E-05	0.00278	Reactome
The NLRP1 inflammasome	BCL2L1; BCL2	8.8E-05	0.00278	Reactome
Role of Calcineurin-dependent NFAT signaling in lymphocytes	RAN; BCL2L1; YWHAQ; BCL2	1.7E-04	0.00435	PID
Downregulation of SMAD2/3:SMAD4 transcriptional activity	SMAD4; NEDD4L; SMAD2	1.9E-04	0.00435	Reactome
Platelet degranulation	APP; APLP2; PHACTR2; TAGLN2; CALU	3.4E-04	0.00665	Reactome
Response to elevated platelet cytosolic Ca²⁺	APP; APLP2; PHACTR2; TAGLN2; CALU	4.0E-04	0.00697	Reactome
Activation of BH3-only proteins	AKT3; YWHAQ; BCL2	5.1E-04	0.00812	Reactome
TGF-beta receptor signaling activates SMADs	SMAD4; NEDD4L; SMAD2	6.9E-04	0.00990	Reactome
BH3-only proteins associate with and inactivate anti-apoptotic BCL-2 members	BCL2L1; BCL2	8.1E-04	0.01064	Reactome
Class I PI3K signaling events mediated by Akt	AKT3; BCL2L1; YWHAQ	9.0E-04	0.01093	PID
TGF-Core	SMAD4; ACVR2B; SMAD2	9.8E-04	0.01103	Signalink

Supplemental Figures and Tables

Fig S1: Effect size estimates of DEmiRs are highly robust to various suspected technical and biological covariates. Bar plot showing effect size estimates for all DEmiRs after correction for suspected technical and biological covariates not included in the original (base) model. RIN = RNA integrity, Lane = Flow cell lane, Smoke = maternal smoking status, BWG = birth weight group, Race = maternal race, Sex = offspring sex, YOB = year of birth, BWP = birth weight percentile.

Fig S2: Effect size estimates of placental miRNAs are highly robust on a transcriptome-wide scale to various suspected technical and biological covariates. Scatter plots displaying the coefficient of determination (R^2) to emphasize the relationship between the estimates produced by the original (base) model and estimates of various models which correct for additional, suspected technical and biological covariates across all miRNAs analyzed. (A) RIN = RNA integrity, (B) Lane = Flow cell lane, (C) Smoke = maternal smoking status, (D) Race = maternal race, (E) BWG = birth weight group, (F) Sex = offspring sex, (G) YOB = year of birth, (H) BWP = birth weight percentile.

Table S1. Filtered miRDIP Output: Predicted DE miR mRNA Targets

MicroRNA	Gene Symbol	Uniprot ID	Integrated Score
hsa-miR-324-5p	VDAC1	P21796	0.81
hsa-miR-324-5p	APP	P05067	0.73
hsa-miR-324-5p	RAN	P62826	0.73
hsa-miR-324-5p	KLF3	P57682	0.72
hsa-miR-324-5p	KCTD20	Q7Z5Y7	0.63
hsa-miR-324-5p	RACGAP1	Q9H0H5	0.54
hsa-miR-324-5p	DRAM1	Q8N682	0.54
hsa-miR-324-5p	SLC16A1	P53985	0.53
hsa-miR-324-5p	YWHAQ	P27348	0.49
hsa-miR-324-5p	ST8SIA4	Q92187	0.46
hsa-miR-324-5p	H2AFV	Q71UI9	0.45
hsa-miR-324-5p	TRIP13	Q15645	0.42
hsa-miR-324-5p	CCT5	P48643	0.39
hsa-miR-324-5p	APLP2	Q06481	0.39
hsa-miR-326	BSDC1	Q9NW68	0.68
hsa-miR-326	PPP4R1	Q8TF05	0.63
hsa-miR-326	BCL2L1	Q07817	0.52
hsa-miR-326	MAD2L1BP	Q15013	0.51
hsa-miR-326	TES	Q9UGI8	0.50
hsa-miR-326	NSUN2	Q08J23	0.47
hsa-miR-326	JOSD1	Q15040	0.45
hsa-miR-326	APMAP	Q9HDC9	0.43
hsa-miR-326	RHOC	P08134	0.41
hsa-miR-326	EIF4A1	P60842	0.40
hsa-miR-326	TAGLN2	P37802	0.39
hsa-miR-520a-3p	FEM1C	Q96JP0	0.77
hsa-miR-520a-3p	PKD2	Q13563	0.75
hsa-miR-520a-3p	TRPV6	Q9H1D0	0.73
hsa-miR-520a-3p	SLC25A27	Q95847	0.70
hsa-miR-520a-3p	ZNF697	Q5TEC3	0.63
hsa-miR-520a-3p	GLUL	P15104	0.56
hsa-miR-520a-3p	NEDD4L	Q96PU5	0.52
hsa-miR-520a-3p	SH3TC2	Q8TF17	0.44
hsa-miR-520a-3p	RNASEL	Q05823	0.42
hsa-miR-548a-3p	CLASP2	Q75122	0.40
hsa-miR-574-5p	MKRN1	Q9UHC7	0.61
hsa-miR-574-5p	G3BP2	Q9UN86	0.59
hsa-miR-574-5p	BDNF	P23560	0.59
hsa-miR-574-5p	PAPPA	Q13219	0.55
hsa-miR-574-5p	SEL1L	Q9UBV2	0.52
hsa-miR-574-5p	AKT3	Q9Y243	0.50
hsa-miR-574-5p	KLHL18	Q94889	0.50
hsa-miR-574-5p	PAK3	Q75914	0.49
hsa-miR-574-5p	RAB3B	P20337	0.46
hsa-miR-574-5p	CEP350	Q5VT06	0.46
hsa-miR-574-5p	SMAD4	Q13485	0.45
hsa-miR-574-5p	SMAD2	Q15796	0.45
hsa-miR-574-5p	GPR107	Q5VW38	0.44
hsa-miR-574-5p	OSBPL2	Q9H1P3	0.43
hsa-miR-574-5p	CALU	Q43852	0.42
hsa-miR-574-5p	ZCCHC2	Q9C0B9	0.41
hsa-miR-574-5p	MAN1C1	Q9NR34	0.41

hsa-miR-574-5p	ACVR2B	Q13705	0.41
hsa-miR-574-5p	PCM1	Q15154	0.41
hsa-miR-574-5p	PHACTR2	O75167	0.40
hsa-miR-574-5p	BCL2	P10415	0.40
hsa-miR-574-5p	KCMF1	Q9P0J7	0.39
hsa-miR-574-5p	HS3ST3B1	Q9Y662	0.39
hsa-miR-574-5p	IL1RAP	Q9NPH3	0.39
hsa-miR-574-5p	CANX	P27824	0.39
hsa-miR-574-5p	ARFGEF2	Q9Y6D5	0.39
hsa-miR-574-5p	NAB2	Q15742	0.39
hsa-miR-574-5p	ASNA1	O43681	0.38
hsa-miR-671-5p	VPS26A	O75436	0.43
hsa-miR-877-5p	REV3L	O60673	0.56

Table S2: Differential Expression Analysis Results: DESeq2 Output

miRNA	baseMean	log2FoldChange	lfcSE	stat	pvalue	padj
hsa-miR-1246	11.18281	0.669411	0.15776	4.243231	2.20E-05	0.011501
hsa-miR-324-5p	442.2114	0.207299	0.049897	4.15453	3.26E-05	0.011501
hsa-miR-1307-3p	231.2808	0.145454	0.035795	4.063543	4.83E-05	0.011501
hsa-miR-520a-3p	4467.423	-0.18419	0.04578	-4.02341	5.74E-05	0.011501
hsa-miR-574-5p	141.4321	0.177356	0.046682	3.799211	0.000145	0.023283
hsa-miR-877-5p	19.95303	0.257032	0.074393	3.455069	0.00055	0.065886
hsa-miR-548ar-3p	5.748148	-0.61569	0.178819	-3.44311	0.000575	0.065886
hsa-miR-671-5p	26.25664	0.174944	0.052067	3.359969	0.00078	0.077472
hsa-miR-326	109.7311	0.158264	0.047531	3.329704	0.000869	0.077472
hsa-miR-504-5p	119.4893	0.172725	0.05612	3.077767	0.002086	0.167264
hsa-miR-3664-3p	30.96286	-0.16231	0.053802	-3.01681	0.002555	0.186247
hsa-miR-1291	8.222744	-0.29872	0.100535	-2.97126	0.002966	0.198218
hsa-miR-516a-5p	119490.8	-0.12584	0.042818	-2.93905	0.003292	0.203106
hsa-miR-30b-3p	81.81935	-0.12672	0.043993	-2.88041	0.003972	0.21399
hsa-miR-576-5p	117.5721	-0.12504	0.043446	-2.87798	0.004002	0.21399
hsa-miR-132-3p	136.682	0.156339	0.054734	2.856362	0.004285	0.214799
hsa-miR-30e-5p	19778.59	-0.11626	0.041276	-2.81656	0.004854	0.220843
hsa-miR-4785	2.567669	0.412346	0.146751	2.809842	0.004957	0.220843
hsa-miR-197-3p	734.8855	0.118019	0.042607	2.769933	0.005607	0.236665
hsa-miR-153-3p	4.754388	0.379993	0.138491	2.743813	0.006073	0.243528
hsa-miR-520a-5p	6614.068	-0.11041	0.041151	-2.68292	0.007298	0.25459
hsa-miR-548i	21.0024	-0.329	0.123225	-2.66996	0.007586	0.25459
hsa-miR-487b-5p	6.278803	0.256875	0.096719	2.655879	0.00791	0.25459
hsa-miR-12135	19.17241	-0.34416	0.130867	-2.62984	0.008542	0.25459
hsa-miR-345-5p	89.55427	0.134167	0.051259	2.617426	0.00886	0.25459
hsa-miR-744-5p	212.2488	0.100134	0.0383	2.614475	0.008936	0.25459
hsa-miR-212-3p	5.122445	0.386526	0.14865	2.600236	0.009316	0.25459
hsa-miR-99b-3p	262.9153	0.079865	0.030774	2.595219	0.009453	0.25459
hsa-miR-29b-2-5p	56.22335	0.134321	0.051842	2.590992	0.00957	0.25459
hsa-miR-548q	7.921538	-0.22108	0.086017	-2.57021	0.010164	0.25459
hsa-miR-1295a	4.041318	-0.34807	0.135646	-2.56601	0.010288	0.25459
hsa-miR-1323	62830.92	-0.09829	0.038582	-2.54765	0.010845	0.25459
hsa-miR-584-3p	21.44651	0.195818	0.077138	2.538546	0.011131	0.25459
hsa-miR-940	7.855971	0.223841	0.088269	2.53589	0.011216	0.25459
hsa-miR-517a-3p	188074.8	-0.08711	0.03444	-2.52934	0.011428	0.25459
hsa-miR-517b-3p	188074.4	-0.08711	0.03444	-2.52933	0.011428	0.25459
hsa-miR-100-5p	64698.68	-0.14198	0.056527	-2.51165	0.012017	0.260473
hsa-miR-30d-5p	160252	-0.08989	0.036178	-2.48477	0.012964	0.268128
hsa-miR-708-5p	6.015316	0.353711	0.142733	2.478131	0.013207	0.268128
hsa-miR-2276-3p	2.617005	0.361816	0.148334	2.439192	0.01472	0.268128
hsa-miR-93-3p	65.79296	0.114685	0.047066	2.436716	0.014821	0.268128
hsa-miR-4659a-3p	2.548178	0.36275	0.148888	2.436389	0.014835	0.268128
hsa-miR-151b	521.1014	-0.11722	0.048134	-2.43535	0.014877	0.268128
hsa-miR-4286	116.1808	0.131962	0.054301	2.43021	0.01509	0.268128

hsa-miR-342-5p	19.33372	0.14948	0.061653	2.424522	0.015329	0.268128
hsa-miR-342-3p	578.3995	0.108184	0.044988	2.404758	0.016183	0.268128
hsa-miR-212-5p	2.936817	0.338374	0.140991	2.399969	0.016396	0.268128
hsa-miR-26a-5p	175655.8	-0.05015	0.020905	-2.39908	0.016436	0.268128
hsa-miR-874-5p	24.61257	0.169748	0.070916	2.39365	0.016682	0.268128
hsa-miR-151a-5p	8265.31	-0.09017	0.037681	-2.39289	0.016716	0.268128
hsa-miR-551b-3p	184.6023	0.140646	0.059121	2.378932	0.017363	0.27304
hsa-miR-100-3p	65.01547	-0.1493	0.063127	-2.36512	0.018024	0.277986
hsa-miR-625-3p	471.6468	-0.12673	0.054291	-2.33426	0.019582	0.289892
hsa-miR-299-5p	273.4642	0.10964	0.046993	2.333085	0.019644	0.289892
hsa-miR-28-5p	1776.309	-0.08561	0.036815	-2.32548	0.020046	0.289892
hsa-miR-31-5p	630.4791	-0.15496	0.066741	-2.32183	0.020242	0.289892
hsa-miR-331-3p	296.1336	0.099895	0.043296	2.30725	0.021041	0.291721
hsa-miR-484	1211.486	0.076919	0.03342	2.301602	0.021358	0.291721
hsa-miR-27a-5p	237.8061	-0.16798	0.073068	-2.29893	0.021509	0.291721
hsa-miR-196b-5p	925.8636	0.110412	0.048143	2.293409	0.021824	0.291721
hsa-miR-3679-5p	5.866886	0.273426	0.122479	2.232432	0.025586	0.336399
hsa-miR-548j-5p	6.729765	-0.21339	0.09682	-2.20403	0.027522	0.355822
hsa-miR-146b-3p	10.62672	0.244019	0.111436	2.189763	0.028541	0.355822
hsa-miR-365a-5p	11.82298	-0.2376	0.109033	-2.17911	0.029323	0.355822
hsa-miR-3065-3p	41.35725	0.163721	0.075554	2.16693	0.03024	0.355822
hsa-miR-675-5p	122.3978	0.118575	0.054725	2.166752	0.030254	0.355822
hsa-miR-450a-1-3p	105.5286	-0.13672	0.063185	-2.16388	0.030473	0.355822
hsa-miR-126-3p	65744.93	-0.08285	0.038309	-2.16277	0.030559	0.355822
hsa-miR-518f-5p	1897.502	-0.09257	0.042815	-2.16207	0.030613	0.355822
hsa-miR-766-3p	45.66933	0.120845	0.057084	2.116967	0.034263	0.389834
hsa-miR-92b-3p	314.2983	0.106161	0.050519	2.101404	0.035605	0.389834
hsa-miR-520c-5p	1696.043	-0.09646	0.046089	-2.09289	0.036359	0.389834
hsa-miR-526a-5p	1693.761	-0.09634	0.046043	-2.09239	0.036404	0.389834
hsa-miR-10a-5p	2151.504	-0.08748	0.041825	-2.09165	0.03647	0.389834
hsa-miR-518d-5p	1693.475	-0.09618	0.046059	-2.08813	0.036786	0.389834
hsa-miR-548ad-5p	34.77367	-0.11523	0.055449	-2.07818	0.037693	0.389834
hsa-miR-433-5p	39.88965	-0.14967	0.07215	-2.07439	0.038043	0.389834
hsa-miR-590-3p	525.5373	-0.10118	0.048804	-2.07312	0.038161	0.389834
hsa-miR-665	24.51933	0.120536	0.058214	2.070558	0.0384	0.389834
hsa-miR-23b-3p	23471.31	0.049937	0.02427	2.05754	0.039634	0.397334
hsa-miR-516b-5p	58084.14	-0.08992	0.043905	-2.04799	0.040561	0.401604
hsa-miR-125b-2-3p	58.12959	0.112008	0.055031	2.035346	0.041816	0.406646
hsa-miR-487a-5p	30.84936	0.143763	0.070726	2.032686	0.042084	0.406646
hsa-miR-517c-3p	22090.85	-0.07796	0.038944	-2.00188	0.045298	0.421175
hsa-miR-539-3p	393.8376	-0.13479	0.067599	-1.99394	0.046158	0.421175
hsa-miR-937-3p	2.890136	0.270057	0.135575	1.991936	0.046378	0.421175
hsa-miR-770-5p	6.010246	0.192534	0.096671	1.991632	0.046411	0.421175
hsa-miR-5100	14.25386	0.179762	0.090451	1.987397	0.046878	0.421175
hsa-miR-605-3p	2.623259	-0.27299	0.137599	-1.98397	0.04726	0.421175
hsa-miR-629-5p	747.3811	-0.08178	0.041261	-1.98211	0.047467	0.421175

hsa-miR-125b-5p	23719.41	-0.12252	0.062124	-1.97212	0.048595	0.421175
hsa-miR-154-5p	147.1742	0.101636	0.051736	1.964518	0.04947	0.421175
hsa-miR-517-5p	1721.687	-0.07689	0.03919	-1.96194	0.04977	0.421175
hsa-miR-574-3p	879.3298	0.086887	0.044287	1.961931	0.049771	0.421175
hsa-miR-519c-3p	4409.078	-0.09257	0.047209	-1.96091	0.04989	0.421175
hsa-miR-141-3p	6277.285	-0.10905	0.055862	-1.95215	0.050921	0.4235
hsa-miR-376a-2-5p	62.07091	-0.13521	0.069488	-1.94587	0.051671	0.4235
hsa-miR-125a-5p	40675.95	-0.09278	0.047698	-1.94521	0.051749	0.4235
hsa-miR-95-3p	87.95185	0.261975	0.135782	1.929383	0.053683	0.434889
hsa-miR-6511b-3p	6.506528	0.177488	0.092746	1.913692	0.05566	0.44257
hsa-miR-25-5p	3.94456	0.227138	0.118728	1.913101	0.055735	0.44257
hsa-miR-145-5p	14421.97	0.090067	0.04721	1.907782	0.056419	0.443611
hsa-miR-3065-5p	108.2134	0.131357	0.069519	1.889505	0.058824	0.450757
hsa-miR-146b-5p	2170.802	0.138053	0.073181	1.886458	0.059233	0.450757
hsa-miR-183-3p	4.959596	-0.2159	0.11475	-1.88151	0.059903	0.450757
hsa-miR-26a-2-3p	44.49686	-0.10418	0.055443	-1.87906	0.060236	0.450757
hsa-miR-381-5p	11.47675	0.145865	0.077669	1.878037	0.060376	0.450757
hsa-miR-3194-3p	2.087859	0.296228	0.158136	1.873247	0.061034	0.450757
hsa-miR-548k	46.41036	-0.08595	0.045924	-1.8716	0.061263	0.450757
hsa-miR-148b-5p	139.7155	-0.10044	0.05431	-1.84933	0.06441	0.459305
hsa-let-7b-5p	1419.712	0.134286	0.072658	1.848204	0.064573	0.459305
hsa-miR-1299	26.25591	-0.47735	0.258674	-1.84535	0.064986	0.459305
hsa-miR-944	55.75	-0.1032	0.055997	-1.84302	0.065326	0.459305
hsa-miR-1197	20.57825	0.147709	0.080434	1.836412	0.066297	0.459305
hsa-miR-181a-3p	309.1777	0.090139	0.04909	1.836201	0.066328	0.459305
hsa-miR-1277-5p	10.98409	-0.15144	0.082534	-1.83488	0.066523	0.459305
hsa-miR-30a-5p	122806.2	-0.05466	0.02984	-1.83163	0.067006	0.459305
hsa-miR-1910-5p	3.259852	0.258916	0.141804	1.825865	0.067871	0.46129
hsa-miR-376c-3p	6679.876	-0.07185	0.039512	-1.81855	0.068979	0.464886
hsa-miR-378f	7.233125	0.156835	0.086921	1.804345	0.071177	0.47132
hsa-miR-520e-3p	114.2718	0.104716	0.058139	1.801146	0.07168	0.47132
hsa-miR-374b-3p	42.36721	-0.09312	0.051783	-1.79827	0.072134	0.47132
hsa-miR-23b-5p	22.20359	0.110133	0.061384	1.794171	0.072786	0.47132
hsa-miR-548n	3.246763	-0.22288	0.124353	-1.79229	0.073086	0.47132
hsa-miR-127-3p	2654.222	0.083193	0.046478	1.789962	0.07346	0.47132
hsa-miR-143-5p	440.4343	0.101584	0.05774	1.759334	0.078521	0.496391
hsa-miR-5695	10.38601	0.241433	0.137269	1.758835	0.078606	0.496391
hsa-miR-4802-5p	2.757462	-0.22643	0.129169	-1.75298	0.079605	0.498774
hsa-miR-887-3p	33.35348	0.129971	0.07453	1.743873	0.081181	0.504636
hsa-miR-589-3p	2.08075	-0.27141	0.155951	-1.74034	0.081799	0.504636
hsa-miR-412-5p	123.3578	-0.30266	0.174742	-1.73203	0.083268	0.508824
hsa-miR-103a-1-5p	2.034224	0.274377	0.158659	1.72935	0.083747	0.508824
hsa-miR-526b-5p	18684.29	-0.07257	0.042381	-1.71242	0.08682	0.52353
hsa-miR-496	71.44714	0.095188	0.056818	1.675308	0.093874	0.55734
hsa-miR-5001-3p	3.498017	0.212169	0.126939	1.671425	0.094638	0.55734
hsa-miR-576-3p	71.7039	-0.07477	0.044821	-1.66815	0.095286	0.55734

hsa-miR-1301-3p	110.9892	0.088911	0.053463	1.663025	0.096307	0.55734
hsa-miR-1268b	7.745973	0.183707	0.110531	1.662046	0.096504	0.55734
hsa-let-7e-5p	2497.44	0.07277	0.043808	1.661123	0.096689	0.55734
hsa-miR-141-5p	62.06828	-0.07916	0.047917	-1.65195	0.098544	0.55734
hsa-miR-561-5p	30.82158	-0.1165	0.070546	-1.65145	0.098646	0.55734
hsa-miR-34a-5p	999.7528	0.075545	0.045749	1.651281	0.098681	0.55734
hsa-miR-155-5p	207.0753	0.21225	0.129374	1.640595	0.100882	0.564863
hsa-miR-511-3p	11.99811	0.121643	0.074263	1.638	0.101422	0.564863
hsa-miR-140-3p	6781.386	0.074214	0.045413	1.634198	0.102217	0.565367
hsa-miR-34a-3p	20.40905	0.121272	0.07467	1.624099	0.104355	0.572565
hsa-miR-519e-3p	244.4315	-0.08121	0.050089	-1.62133	0.104946	0.572565
hsa-miR-32-5p	389.3305	-0.06702	0.041467	-1.61625	0.10604	0.574621
hsa-miR-548e-3p	22.51805	-0.09152	0.056859	-1.60956	0.107495	0.576742
hsa-miR-10527-5p	6.145522	0.144498	0.090204	1.601896	0.109179	0.576742
hsa-miR-1304-3p	6.026916	-0.16446	0.102669	-1.60188	0.109182	0.576742
hsa-miR-767-3p	3.061714	0.227791	0.142336	1.600377	0.109515	0.576742
hsa-miR-652-5p	12.86715	0.130439	0.081733	1.595915	0.110508	0.576742
hsa-miR-6516-5p	2.854915	0.201588	0.12674	1.590558	0.111709	0.576742
hsa-miR-431-5p	2580.78	0.082167	0.051725	1.588528	0.112167	0.576742
hsa-miR-874-3p	132.1112	0.102599	0.06459	1.588452	0.112184	0.576742
hsa-miR-590-5p	11.30379	-0.12514	0.07975	-1.56919	0.116604	0.589446
hsa-let-7c-5p	690.0529	0.091869	0.058579	1.568291	0.116813	0.589446
hsa-let-7d-5p	485.1571	0.14121	0.090052	1.568089	0.11686	0.589446
hsa-miR-195-5p	829.4301	0.098257	0.062788	1.564893	0.117608	0.58951
hsa-miR-16-2-3p	327.738	-0.09068	0.058286	-1.55582	0.119751	0.596523
hsa-miR-24-3p	149236.2	-0.075	0.04861	-1.54295	0.122844	0.604953
hsa-miR-513a-5p	3.712624	-0.20399	0.132249	-1.54248	0.122958	0.604953
hsa-miR-181d-5p	86.79148	0.062613	0.040674	1.539402	0.123706	0.604953
hsa-miR-550a-3p	13.19146	0.126412	0.08249	1.532449	0.125412	0.609577
hsa-miR-6511a-3p	5.556796	0.155184	0.101611	1.527241	0.126701	0.612134
hsa-miR-376a-3p	1441.902	-0.06174	0.040591	-1.52094	0.128275	0.614738
hsa-miR-181b-2-3p	9.034826	-0.15444	0.101673	-1.51896	0.128773	0.614738
hsa-miR-346	4.46071	0.208831	0.137966	1.513643	0.130116	0.617475
hsa-miR-29c-5p	98.957	0.066446	0.044016	1.509582	0.13115	0.617563
hsa-let-7d-3p	67.95453	0.124029	0.08255	1.502467	0.132977	0.617563
hsa-miR-548az-5p	2.835366	0.251351	0.167836	1.497597	0.134238	0.617563
hsa-miR-1294	11.52251	-0.13755	0.091889	-1.49691	0.134417	0.617563
hsa-miR-1180-3p	31.66718	0.091172	0.060929	1.496362	0.134559	0.617563
hsa-miR-450a-5p	3605.993	-0.07422	0.049632	-1.49548	0.134789	0.617563
hsa-miR-33b-3p	4.299625	-0.20695	0.138644	-1.49266	0.135525	0.617563
hsa-miR-224-5p	6706.332	0.073757	0.049635	1.485988	0.137282	0.622036
hsa-miR-501-5p	60.49733	0.071462	0.04833	1.478626	0.13924	0.624142
hsa-miR-582-5p	64.20136	0.078793	0.053297	1.478389	0.139304	0.624142
hsa-miR-135a-2-3p	1.58627	0.358024	0.24319	1.472197	0.140968	0.62809
hsa-miR-144-3p	1119.605	-0.18278	0.124738	-1.46532	0.142834	0.632889
hsa-miR-4454	29.88724	0.130158	0.089583	1.452936	0.146241	0.644427

hsa-miR-450a-2-3p	91.61546	-0.07596	0.052575	-1.44485	0.148499	0.649917
hsa-miR-455-3p	1997.052	0.078714	0.05459	1.441911	0.149328	0.649917
hsa-miR-4728-3p	7.465812	0.139078	0.096594	1.43982	0.149918	0.649917
hsa-miR-29a-3p	24624.01	-0.06962	0.0488	-1.42673	0.153658	0.653377
hsa-miR-12136	19.75338	0.15371	0.107806	1.425797	0.153927	0.653377
hsa-miR-548aw	4.979965	-0.13934	0.0978	-1.42477	0.154222	0.653377
hsa-miR-214-3p	850.4148	0.072362	0.05084	1.423324	0.154642	0.653377
hsa-miR-135a-5p	184.4521	0.243693	0.171275	1.422814	0.15479	0.653377
hsa-miR-509-3p	12.36067	0.119972	0.084823	1.414386	0.157249	0.657761
hsa-miR-526a-3p	250.4865	-0.08991	0.063599	-1.41364	0.157469	0.657761
hsa-miR-22-3p	36221.46	-0.07244	0.051572	-1.40457	0.16015	0.66539
hsa-miR-125b-1-3p	41.43016	-0.08895	0.063454	-1.40187	0.160955	0.66539
hsa-miR-27b-3p	63161.66	-0.02977	0.021366	-1.3935	0.16347	0.671425
hsa-miR-497-5p	218.97	0.082029	0.059002	1.390272	0.164446	0.671425
hsa-miR-191-5p	11780.71	-0.0464	0.033411	-1.38869	0.164926	0.671425
hsa-miR-144-5p	3469.092	-0.15328	0.110783	-1.38358	0.166487	0.674055
hsa-miR-23a-5p	15.1704	0.108137	0.078299	1.381084	0.167253	0.674055
hsa-miR-1268a	6.521436	0.157076	0.11413	1.376285	0.168733	0.676621
hsa-miR-3074-5p	2.143928	0.210113	0.153446	1.369301	0.170905	0.68192
hsa-miR-2116-5p	2.913196	-0.18304	0.134187	-1.36405	0.172551	0.685078
hsa-miR-101-3p	15995.86	-0.05773	0.04253	-1.35731	0.174681	0.69012
hsa-miR-5010-3p	22.70424	0.092676	0.068455	1.353832	0.17579	0.691096
hsa-miR-548ay-5p	31.20122	-0.07514	0.055619	-1.35098	0.176702	0.691293
hsa-miR-584-5p	1607.762	0.071465	0.053152	1.344527	0.178778	0.692348
hsa-miR-203a-3p	1795.69	0.093698	0.069754	1.343267	0.179185	0.692348
hsa-miR-424-5p	32160.03	-0.06525	0.048615	-1.34211	0.179561	0.692348
hsa-miR-548x-3p	5.197426	0.619142	0.463256	1.336501	0.181385	0.696034
hsa-miR-424-3p	2169.718	-0.0404	0.030365	-1.33038	0.183393	0.699035
hsa-miR-29c-3p	1861.651	-0.04638	0.034977	-1.32608	0.184814	0.699035
hsa-miR-106a-3p	6.914653	-0.13338	0.10065	-1.32523	0.185095	0.699035
hsa-miR-27a-3p	87834.29	-0.04486	0.034014	-1.31874	0.187255	0.699035
hsa-miR-641	44.42342	-0.08689	0.066162	-1.31324	0.189101	0.699035
hsa-miR-515-3p	2474.861	-0.06963	0.053056	-1.31232	0.189412	0.699035
hsa-miR-132-5p	40.24161	0.08052	0.061364	1.312166	0.189464	0.699035
hsa-miR-339-3p	223.2327	-0.05612	0.042808	-1.31096	0.189872	0.699035
hsa-miR-548ba	3.513794	0.304956	0.232707	1.310473	0.190036	0.699035
hsa-miR-499a-5p	52.7919	-0.06815	0.052105	-1.30797	0.190884	0.699035
hsa-miR-548aa	11.22324	-0.0989	0.076182	-1.29827	0.194195	0.705431
hsa-miR-148b-3p	6137.35	0.053407	0.041156	1.297672	0.1944	0.705431
hsa-miR-338-3p	35.31868	-0.07779	0.060062	-1.29515	0.195269	0.705431
hsa-miR-548aq-3p	9.036935	-0.13267	0.103007	-1.28793	0.19777	0.709652
hsa-miR-378a-5p	55.96156	0.076644	0.0596	1.285984	0.198449	0.709652
hsa-miR-218-5p	2525.023	-0.07048	0.054887	-1.28414	0.199092	0.709652
hsa-miR-3179	3.194064	-0.16904	0.132121	-1.27944	0.200743	0.711131
hsa-miR-483-5p	269.9523	0.068329	0.053534	1.276378	0.201822	0.711131
hsa-miR-675-3p	114.4366	0.075402	0.059441	1.268519	0.204613	0.711131

hsa-miR-188-5p	27.7009	0.073502	0.057979	1.267731	0.204894	0.711131
hsa-miR-520h	6037.008	-0.04861	0.038391	-1.2662	0.20544	0.711131
hsa-miR-556-5p	2.555593	-0.17355	0.1377	-1.26035	0.207545	0.711131
hsa-miR-505-5p	3.877824	0.150231	0.119278	1.259508	0.207847	0.711131
hsa-miR-3613-3p	9.28168	0.117239	0.093351	1.255885	0.209158	0.711131
hsa-miR-548w	49.95598	-0.05953	0.047431	-1.25513	0.209431	0.711131
hsa-miR-6514-5p	5.839103	0.129143	0.103186	1.251556	0.210732	0.711131
hsa-miR-423-3p	5606.847	-0.03997	0.031964	-1.25037	0.211163	0.711131
hsa-miR-656-3p	292.9495	-0.06979	0.056234	-1.241	0.214606	0.711131
hsa-miR-671-3p	15.95991	0.092157	0.074426	1.238227	0.215632	0.711131
hsa-miR-548s	5.616616	-0.13648	0.110245	-1.23796	0.215731	0.711131
hsa-miR-21-3p	268.3763	0.084114	0.06808	1.235519	0.216638	0.711131
hsa-miR-33a-3p	12.55593	0.092574	0.074987	1.234529	0.217006	0.711131
hsa-miR-194-3p	3.001316	-0.15505	0.125665	-1.23386	0.217254	0.711131
hsa-miR-4521	6.772415	-0.12636	0.102428	-1.23367	0.217324	0.711131
hsa-miR-425-3p	216.1828	0.040803	0.033094	1.23295	0.217594	0.711131
hsa-miR-519a-5p	10195.13	-0.05497	0.044698	-1.22973	0.2188	0.711131
hsa-miR-524-5p	6674.25	-0.04853	0.039468	-1.22955	0.218864	0.711131
hsa-miR-518d-3p	78.53112	0.100625	0.082032	1.226657	0.219951	0.711131
hsa-miR-498-5p	8621.035	-0.05747	0.047091	-1.22031	0.222349	0.711131
hsa-miR-548ak	19.7913	-0.09626	0.079076	-1.21726	0.223505	0.711131
hsa-miR-382-5p	928.2283	0.051446	0.042294	1.216401	0.223832	0.711131
hsa-miR-1226-3p	4.399239	0.1264	0.10418	1.213282	0.225022	0.711131
hsa-miR-3144-3p	3.606181	-0.17416	0.143792	-1.2112	0.225819	0.711131
hsa-miR-381-3p	2230.771	-0.05961	0.049219	-1.21117	0.225832	0.711131
hsa-miR-485-5p	52.04291	0.058114	0.048376	1.201315	0.229629	0.711131
hsa-miR-370-3p	389.8698	-0.07562	0.063191	-1.1967	0.231424	0.711131
hsa-miR-548ae-5p	28.63501	-0.07071	0.059101	-1.19636	0.231555	0.711131
hsa-miR-6881-3p	3.797742	0.156521	0.130905	1.195682	0.231821	0.711131
hsa-miR-9985	128.6586	-0.09426	0.078873	-1.19504	0.23207	0.711131
hsa-miR-3154	1.900782	0.210961	0.17718	1.190656	0.233789	0.711131
hsa-let-7g-3p	2.409193	0.198583	0.167669	1.184378	0.236263	0.711131
hsa-miR-3925-5p	2.035139	-0.20562	0.173873	-1.18262	0.236961	0.711131
hsa-miR-561-3p	8.936126	-0.10896	0.092375	-1.17952	0.23819	0.711131
hsa-miR-378a-3p	1720.607	0.04979	0.042303	1.176978	0.239204	0.711131
hsa-miR-222-3p	5157.736	0.042723	0.036309	1.176653	0.239334	0.711131
hsa-miR-519a-3p	8803.427	-0.04728	0.040237	-1.17514	0.239937	0.711131
hsa-miR-525-5p	9535.921	-0.04825	0.041157	-1.17241	0.241032	0.711131
hsa-miR-519b-5p	9148.885	-0.05074	0.043301	-1.1718	0.241279	0.711131
hsa-miR-519c-5p	9148.885	-0.05074	0.043301	-1.1718	0.241279	0.711131
hsa-miR-522-5p	9148.885	-0.05074	0.043301	-1.1718	0.241279	0.711131
hsa-miR-523-5p	9148.885	-0.05074	0.043301	-1.1718	0.241279	0.711131
hsa-miR-518e-5p	9147.242	-0.05073	0.043302	-1.17156	0.241373	0.711131
hsa-miR-889-3p	1099.658	-0.07044	0.060249	-1.16912	0.242356	0.711131
hsa-miR-873-5p	8.570059	-0.12792	0.109652	-1.16662	0.243364	0.711131
hsa-miR-548ay-3p	3.464828	0.14431	0.123774	1.165921	0.243646	0.711131

hsa-miR-320e	5.659453	0.107069	0.092188	1.161425	0.245469	0.711131
hsa-miR-520g-3p	10699.43	-0.04103	0.0354	-1.15901	0.246451	0.711131
hsa-miR-548ag	2.529821	-0.16265	0.1405	-1.15767	0.246999	0.711131
hsa-miR-769-3p	2.155412	0.165707	0.143275	1.156564	0.24745	0.711131
hsa-miR-181a-2-3p	515.514	-0.07995	0.06924	-1.15468	0.248222	0.711131
hsa-miR-24-1-5p	223.7596	-0.0452	0.039149	-1.15455	0.248275	0.711131
hsa-miR-147b-5p	11.0665	0.107992	0.094282	1.145419	0.252036	0.718702
hsa-miR-204-5p	113.5955	-0.16305	0.142557	-1.14379	0.252711	0.718702
hsa-miR-1247-5p	629.1851	-0.06775	0.059564	-1.13743	0.255359	0.718721
hsa-miR-320d	25.6019	0.075191	0.066345	1.133333	0.257075	0.718721
hsa-miR-503-5p	2953.61	0.043407	0.038451	1.128891	0.258944	0.718721
hsa-miR-941	73.40598	0.06848	0.060686	1.128417	0.259144	0.718721
hsa-miR-7-5p	1211.332	-0.0601	0.053281	-1.12801	0.259314	0.718721
hsa-miR-203b-3p	4.659101	0.156907	0.139203	1.127177	0.259668	0.718721
hsa-miR-337-3p	884.4253	0.045861	0.040772	1.124815	0.260667	0.718721
hsa-miR-519d-5p	648.5131	-0.04638	0.041307	-1.12281	0.26152	0.718721
hsa-miR-518c-5p	968.8271	-0.0394	0.03515	-1.12078	0.262383	0.718721
hsa-miR-589-5p	18.92115	0.083282	0.074508	1.117762	0.263669	0.718721
hsa-miR-26b-5p	81923.04	-0.03084	0.027628	-1.11628	0.264302	0.718721
hsa-miR-335-5p	23432.35	-0.05776	0.051816	-1.1148	0.264937	0.718721
hsa-miR-1-3p	2964.805	-0.09818	0.088296	-1.11199	0.266141	0.718721
hsa-miR-548d-5p	31.55195	-0.0627	0.056541	-1.10894	0.267457	0.718721
hsa-miR-4662a-5p	27.92396	-0.08822	0.0796	-1.10832	0.267724	0.718721
hsa-miR-20b-5p	96.43842	0.094623	0.085692	1.104223	0.269496	0.718721
hsa-miR-1306-5p	23.16465	0.07937	0.0719	1.1039	0.269636	0.718721
hsa-miR-3912-3p	14.51611	-0.06938	0.062871	-1.1035	0.269812	0.718721
hsa-miR-616-5p	10.39886	-0.08599	0.078027	-1.10204	0.270443	0.718721
hsa-miR-27b-5p	156.7136	0.041357	0.037543	1.101588	0.270641	0.718721
hsa-miR-152-3p	2260.296	0.051928	0.047293	1.09799	0.272209	0.71901
hsa-miR-505-3p	189.6647	0.043813	0.039931	1.097227	0.272542	0.71901
hsa-miR-542-3p	5221.043	-0.06263	0.057257	-1.09388	0.274008	0.720506
hsa-miR-320a-3p	6262.907	0.046378	0.042599	1.0887	0.276286	0.724123
hsa-miR-103a-2-5p	14.3177	0.078992	0.073565	1.073785	0.282919	0.733924
hsa-miR-518f-3p	5584.004	-0.04929	0.045968	-1.07237	0.283555	0.733924
hsa-miR-4677-3p	4.907392	-0.10396	0.09697	-1.07211	0.283671	0.733924
hsa-miR-328-3p	103.546	0.055476	0.051794	1.071099	0.284125	0.733924
hsa-miR-181b-3p	10.26832	-0.0955	0.089251	-1.07004	0.284601	0.733924
hsa-miR-548y	6.930007	-0.10797	0.101257	-1.06629	0.286291	0.735916
hsa-miR-1271-5p	24.19023	0.070613	0.066459	1.062514	0.288002	0.737949
hsa-miR-149-5p	1940.763	0.045838	0.043251	1.059823	0.289225	0.738721
hsa-miR-3613-5p	630.0446	-0.07055	0.067194	-1.04988	0.293772	0.747953
hsa-miR-1287-5p	16.73717	0.06396	0.061651	1.037461	0.299521	0.757808
hsa-miR-369-3p	7020.642	-0.04573	0.044123	-1.03649	0.299972	0.757808
hsa-miR-519b-3p	3055.6	-0.05046	0.048879	-1.03236	0.301902	0.757808
hsa-miR-223-3p	3163.603	-0.07375	0.071472	-1.03182	0.302157	0.757808
hsa-miR-1261	4.400924	-0.15132	0.146718	-1.03137	0.302367	0.757808

hsa-miR-519d-3p	13713.64	-0.04284	0.041982	-1.02057	0.30746	0.768172
hsa-miR-503-3p	15.08544	0.070684	0.069886	1.01142	0.311816	0.776225
hsa-let-7b-3p	26.519	0.08546	0.084636	1.009741	0.312619	0.776225
hsa-miR-377-5p	96.76133	0.044562	0.044477	1.001918	0.316383	0.783146
hsa-miR-181c-5p	668.2507	-0.04441	0.044461	-0.99882	0.317881	0.784434
hsa-miR-147b-3p	6.83	-0.1113	0.112007	-0.99365	0.320395	0.78676
hsa-miR-3909	53.30611	0.051251	0.051642	0.992418	0.320994	0.78676
hsa-miR-181a-5p	46015.06	-0.0422	0.042591	-0.99083	0.321767	0.78676
hsa-miR-17-3p	50.1809	-0.05561	0.056242	-0.98875	0.322785	0.786849
hsa-miR-126-5p	4568.605	-0.03908	0.039667	-0.98518	0.324537	0.788723
hsa-miR-548t-3p	10.52147	-0.07717	0.078673	-0.98086	0.326662	0.791489
hsa-miR-30e-3p	1676.489	-0.0438	0.044797	-0.9777	0.328221	0.79287
hsa-miR-5585-3p	8.043954	-0.09985	0.103269	-0.96686	0.333614	0.803478
hsa-miR-1305	4.271224	0.106475	0.11138	0.955966	0.339089	0.814221
hsa-miR-412-3p	1.873688	-0.25412	0.26674	-0.9527	0.340741	0.815744
hsa-miR-98-3p	3.69085	0.116264	0.124431	0.934368	0.350114	0.832061
hsa-miR-23c	49.80695	-0.06006	0.064341	-0.93344	0.350592	0.832061
hsa-miR-4433b-5p	2.809551	-0.1703	0.182475	-0.93329	0.350669	0.832061
hsa-miR-10399-3p	7.154323	0.093133	0.100052	0.93085	0.351931	0.832593
hsa-miR-30d-3p	87.42215	0.0361	0.039039	0.924735	0.355104	0.835525
hsa-let-7f-2-3p	4.410862	0.111257	0.12035	0.924445	0.355255	0.835525
hsa-miR-548o-3p	34.6671	-0.04648	0.050622	-0.91828	0.358475	0.838594
hsa-miR-369-5p	452.4378	-0.0445	0.04848	-0.91794	0.35865	0.838594
hsa-miR-4661-5p	10.49341	0.086414	0.095218	0.907544	0.364119	0.848905
hsa-miR-513b-5p	3.605507	-0.12364	0.137396	-0.89989	0.36818	0.855885
hsa-miR-495-3p	5036.683	-0.03601	0.040171	-0.89634	0.370072	0.857797
hsa-miR-769-5p	318.228	0.02866	0.032062	0.893898	0.371377	0.85834
hsa-miR-651-5p	49.47252	-0.04677	0.052664	-0.88807	0.374502	0.863076
hsa-miR-96-5p	166.4856	-0.06346	0.071718	-0.88486	0.37623	0.863336
hsa-miR-29b-3p	1697.544	-0.04029	0.045694	-0.88179	0.377893	0.863336
hsa-miR-10a-3p	22.36735	-0.05015	0.056984	-0.88013	0.378791	0.863336
hsa-miR-374a-3p	422.4033	-0.05334	0.060696	-0.87873	0.379547	0.863336
hsa-miR-6803-3p	3.150189	0.106452	0.121476	0.876322	0.380855	0.863336
hsa-miR-320b	121.5008	0.039609	0.04522	0.87592	0.381074	0.863336
hsa-miR-432-5p	460.2769	0.042577	0.048786	0.872717	0.382817	0.864843
hsa-miR-186-5p	4271.478	-0.02931	0.03374	-0.86859	0.385074	0.86679
hsa-miR-518e-3p	10645.74	0.038946	0.044956	0.866307	0.386322	0.86679
hsa-miR-193b-5p	49.9313	-0.08239	0.095399	-0.86369	0.38776	0.86679
hsa-miR-543	1229.676	-0.05009	0.058377	-0.85806	0.390857	0.86679
hsa-miR-124-3p	4.651666	0.352177	0.411086	0.856698	0.391612	0.86679
hsa-miR-136-3p	4512.951	-0.03837	0.044891	-0.85479	0.392669	0.86679
hsa-miR-185-3p	6.951429	0.085581	0.100136	0.854642	0.392749	0.86679
hsa-miR-545-5p	5.460488	0.093726	0.109799	0.853609	0.393322	0.86679
hsa-miR-548bc	7.638009	-0.08308	0.097349	-0.85346	0.393406	0.86679
hsa-let-7e-3p	42.80134	0.048788	0.057906	0.842543	0.399484	0.875432
hsa-miR-324-3p	56.18687	0.036073	0.042843	0.841976	0.399802	0.875432

hsa-miR-5701	2.689237	-0.14602	0.173872	-0.83981	0.401016	0.875432
hsa-miR-539-5p	67.94015	-0.04354	0.051919	-0.8386	0.401695	0.875432
hsa-miR-23a-3p	91973.53	0.03139	0.03759	0.835071	0.403678	0.876408
hsa-miR-582-3p	24.69962	0.065344	0.078486	0.83256	0.405093	0.876408
hsa-miR-2116-3p	11.14537	-0.07935	0.095375	-0.83198	0.40542	0.876408
hsa-miR-380-5p	4.174425	0.100061	0.121459	0.823826	0.410038	0.876801
hsa-miR-4636	3.154912	-0.11296	0.137505	-0.8215	0.411362	0.876801
hsa-miR-3614-5p	23.86942	0.06081	0.074029	0.821442	0.411394	0.876801
hsa-miR-3145-3p	11.27016	0.065484	0.079744	0.821181	0.411543	0.876801
hsa-miR-105-5p	37.60623	0.066129	0.08076	0.81883	0.412884	0.876801
hsa-miR-4326	8.67425	0.107227	0.131446	0.815751	0.414643	0.876801
hsa-miR-106b-3p	505.821	-0.03658	0.045034	-0.81229	0.416623	0.876801
hsa-miR-18a-5p	317.5932	-0.05876	0.072352	-0.81221	0.41667	0.876801
hsa-miR-518c-3p	17480.12	-0.03381	0.041655	-0.81175	0.416937	0.876801
hsa-miR-130b-3p	272.1553	-0.06452	0.079731	-0.80928	0.418355	0.876801
hsa-miR-3927-3p	31.09862	-0.22394	0.276941	-0.8086	0.418743	0.876801
hsa-miR-3615	39.42479	0.04547	0.056358	0.806799	0.419782	0.876801
hsa-miR-493-3p	1105.886	0.030977	0.038398	0.806743	0.419815	0.876801
hsa-miR-652-3p	1405.869	0.030612	0.038377	0.797663	0.425066	0.883426
hsa-miR-643	2.225216	0.117226	0.147272	0.795982	0.426043	0.883426
hsa-miR-511-5p	52.78124	0.046161	0.058024	0.795554	0.426292	0.883426
hsa-miR-3913-5p	8.98797	0.068784	0.087497	0.786121	0.431796	0.886077
hsa-miR-142-3p	502.9578	-0.05856	0.074835	-0.78249	0.433925	0.886077
hsa-miR-99b-5p	17787.9	-0.02289	0.02935	-0.77986	0.435475	0.886077
hsa-miR-522-3p	16658.49	-0.02815	0.036138	-0.77898	0.435994	0.886077
hsa-miR-375-3p	95.23434	0.128834	0.165437	0.77875	0.436127	0.886077
hsa-miR-450b-5p	2284.633	-0.03311	0.042543	-0.77837	0.436352	0.886077
hsa-miR-377-3p	449.9788	-0.03879	0.049838	-0.77827	0.436407	0.886077
hsa-miR-548a-5p	1.992904	-0.1254	0.161128	-0.77827	0.436409	0.886077
hsa-miR-194-5p	1250.485	0.030948	0.039966	0.774349	0.438724	0.886523
hsa-miR-1269a	77.16744	-0.13073	0.168866	-0.77415	0.43884	0.886523
hsa-miR-107	900.2024	0.041038	0.053345	0.769302	0.441714	0.887335
hsa-miR-373-5p	12.12754	0.113003	0.147466	0.766302	0.443497	0.887335
hsa-miR-7706	15.01262	0.052225	0.068361	0.763962	0.44489	0.887335
hsa-miR-1284	2.561572	-0.10797	0.141804	-0.76139	0.446425	0.887335
hsa-miR-92a-3p	10802.19	-0.03719	0.048926	-0.76018	0.447144	0.887335
hsa-miR-532-3p	104.3968	0.043971	0.057964	0.758593	0.448096	0.887335
hsa-miR-628-5p	16.16349	0.051955	0.068739	0.755839	0.449746	0.887335
hsa-miR-520d-5p	1480.471	-0.03462	0.045838	-0.75521	0.450125	0.887335
hsa-miR-548p	3.627089	-0.0941	0.124624	-0.75507	0.450205	0.887335
hsa-miR-373-3p	189.657	0.103457	0.137046	0.754905	0.450306	0.887335
hsa-miR-18a-3p	12.88655	0.066616	0.088727	0.750801	0.452773	0.890009
hsa-miR-191-3p	8.445833	-0.06009	0.080585	-0.74569	0.455854	0.893876
hsa-miR-340-3p	130.8317	-0.03357	0.045583	-0.73646	0.461454	0.900833
hsa-miR-365b-3p	2539.576	-0.05362	0.073025	-0.73432	0.462754	0.900833
hsa-miR-365a-3p	2539.479	-0.05362	0.073022	-0.73429	0.462772	0.900833

hsa-miR-512-3p	14601.54	-0.02652	0.036333	-0.72992	0.465439	0.902406
hsa-miR-139-3p	11.7335	0.055561	0.076186	0.72928	0.46583	0.902406
hsa-miR-758-3p	70.68768	0.037349	0.051416	0.726404	0.467591	0.903634
hsa-miR-760	2.919758	0.09113	0.126467	0.720582	0.471167	0.90808
hsa-let-7a-3p	212.4329	0.026418	0.036792	0.71803	0.472738	0.90808
hsa-miR-21-5p	304822.9	0.031787	0.044325	0.717139	0.473289	0.90808
hsa-miR-7977	24.35761	0.046021	0.064355	0.715101	0.474547	0.908321
hsa-miR-130b-5p	151.8796	-0.06898	0.097249	-0.70932	0.478124	0.909781
hsa-miR-500a-3p	428.6766	-0.02232	0.031509	-0.70826	0.478787	0.909781
hsa-miR-654-5p	66.6071	0.035993	0.050884	0.707358	0.479344	0.909781
hsa-miR-4443	8.403032	0.076928	0.109164	0.704699	0.480997	0.909781
hsa-miR-1262	6.409422	0.067876	0.097068	0.699265	0.484387	0.909781
hsa-miR-520b-3p	351.0479	-0.03716	0.05324	-0.69802	0.485163	0.909781
hsa-miR-579-3p	8.642051	-0.05747	0.082495	-0.69669	0.485994	0.909781
hsa-miR-4775	10.49307	0.066868	0.096448	0.693308	0.488116	0.909781
hsa-miR-1296-5p	161.6141	0.03893	0.056179	0.692969	0.488329	0.909781
hsa-miR-299-3p	117.6919	-0.03018	0.043711	-0.69033	0.489986	0.909781
hsa-miR-6852-5p	2.147129	-0.09859	0.142821	-0.69029	0.490015	0.909781
hsa-miR-3940-3p	10.14313	-0.0732	0.106646	-0.68637	0.492478	0.909781
hsa-miR-99a-5p	2001.111	0.036258	0.052874	0.685743	0.492875	0.909781
hsa-miR-2277-3p	3.909043	0.081116	0.118322	0.685548	0.492998	0.909781
hsa-miR-411-5p	4506.494	-0.03503	0.051502	-0.68012	0.496432	0.909781
hsa-miR-9-5p	755.0444	-0.0547	0.080537	-0.6792	0.49701	0.909781
hsa-miR-5683	2.402533	0.171045	0.252269	0.678026	0.497755	0.909781
hsa-miR-1185-1-3p	105.0692	0.04255	0.062887	0.676607	0.498655	0.909781
hsa-miR-379-5p	4872.909	-0.03999	0.059107	-0.67657	0.49868	0.909781
hsa-miR-19b-1-5p	3.373349	0.083436	0.123713	0.674431	0.500038	0.909781
hsa-miR-1260a	1061.283	0.046124	0.068398	0.674343	0.500093	0.909781
hsa-miR-1260b	1087.855	0.046437	0.068903	0.673944	0.500347	0.909781
hsa-miR-487a-3p	502.4875	0.03099	0.046111	0.672082	0.501531	0.909781
hsa-miR-29b-1-5p	13.01962	-0.06428	0.095869	-0.67051	0.502535	0.909781
hsa-miR-1247-3p	9.535393	0.066515	0.099916	0.665711	0.505596	0.912727
hsa-miR-340-5p	1170.985	0.026386	0.039715	0.664394	0.506438	0.912727
hsa-miR-518a-5p	833.1183	-0.02796	0.042386	-0.65961	0.509505	0.914171
hsa-miR-526b-3p	630.1067	-0.03477	0.052842	-0.65801	0.510533	0.914171
hsa-miR-423-5p	762.936	-0.03465	0.052671	-0.65781	0.510659	0.914171
hsa-miR-570-3p	5.447506	0.076046	0.115991	0.655619	0.512069	0.914654
hsa-miR-133b	7.176833	0.072664	0.11156	0.65134	0.514827	0.915563
hsa-miR-146a-5p	1194.052	-0.05471	0.084006	-0.65129	0.514862	0.915563
hsa-miR-190b-5p	17.43429	0.049865	0.077411	0.644158	0.519473	0.918285
hsa-miR-6501-3p	4.827733	0.07621	0.118327	0.644066	0.519533	0.918285
hsa-miR-524-3p	812.6589	-0.02853	0.044326	-0.64361	0.519827	0.918285
hsa-miR-4791	3.169551	-0.07765	0.121044	-0.64149	0.521206	0.918698
hsa-miR-494-3p	669.5241	-0.02843	0.044541	-0.63833	0.523256	0.920289
hsa-miR-624-5p	24.83856	0.035469	0.056006	0.633315	0.526528	0.922287
hsa-miR-338-5p	15.29842	-0.04608	0.073099	-0.63033	0.528479	0.922287

hsa-miR-143-3p	673274.9	-0.03616	0.057525	-0.62852	0.529663	0.922287
hsa-miR-339-5p	523.7193	0.022726	0.036252	0.626899	0.530725	0.922287
hsa-miR-320c	49.07258	0.034416	0.05493	0.626547	0.530956	0.922287
hsa-miR-3925-3p	3.25361	-0.0787	0.125711	-0.62603	0.531293	0.922287
hsa-let-7g-5p	8489.287	-0.03768	0.060675	-0.62104	0.534576	0.925983
hsa-miR-549a-3p	2.075047	0.112221	0.183157	0.612707	0.54007	0.93096
hsa-miR-378c	110.8351	0.029253	0.047947	0.610104	0.541793	0.93096
hsa-miR-498-3p	274.606	0.023636	0.038765	0.609737	0.542036	0.93096
hsa-miR-17-5p	1516.911	0.025592	0.04207	0.608318	0.542976	0.93096
hsa-miR-1228-3p	3.836187	0.080777	0.132879	0.6079	0.543254	0.93096
hsa-miR-454-3p	499.0709	0.019134	0.031636	0.604807	0.545307	0.932487
hsa-miR-200b-3p	243.5119	-0.0315	0.052552	-0.59941	0.548898	0.934699
hsa-miR-653-5p	88.98335	0.047226	0.07898	0.597957	0.549869	0.934699
hsa-miR-30a-3p	4410.179	-0.02445	0.040973	-0.59674	0.550683	0.934699
hsa-miR-7-1-3p	26.374	0.033579	0.056841	0.590757	0.554683	0.934699
hsa-miR-30b-5p	46668.01	0.02385	0.040387	0.590541	0.554828	0.934699
hsa-miR-134-3p	3.945814	0.070132	0.119183	0.588435	0.556241	0.934699
hsa-miR-337-5p	217.1913	0.038417	0.065435	0.587094	0.557141	0.934699
hsa-miR-378d	16.32492	-0.04072	0.069516	-0.58578	0.558024	0.934699
hsa-miR-30c-5p	18473.72	0.018036	0.03085	0.584629	0.558797	0.934699
hsa-miR-34b-3p	36.07814	-0.0526	0.090248	-0.58278	0.560039	0.934699
hsa-miR-137-3p	64.88111	-0.09392	0.161185	-0.5827	0.560095	0.934699
hsa-miR-664b-3p	36.5223	0.037792	0.064938	0.581971	0.560586	0.934699
hsa-miR-758-5p	4.197026	0.062016	0.10689	0.58018	0.561793	0.934768
hsa-miR-10b-3p	14.2658	0.074519	0.130117	0.572713	0.566839	0.938584
hsa-miR-30c-1-3p	15.71138	-0.03565	0.062395	-0.57143	0.567711	0.938584
hsa-miR-101-5p	10.93981	-0.04367	0.076479	-0.57104	0.567975	0.938584
hsa-miR-433-3p	326.8594	0.028512	0.050293	0.566914	0.570773	0.938584
hsa-miR-217-5p	21.68994	-0.14002	0.250335	-0.55933	0.57594	0.938584
hsa-miR-92a-1-5p	7.550347	-0.05214	0.093262	-0.5591	0.576091	0.938584
hsa-miR-1307-5p	37.48751	0.031738	0.056905	0.557733	0.577027	0.938584
hsa-miR-376b-5p	184.1085	-0.02923	0.052505	-0.55667	0.577754	0.938584
hsa-miR-22-5p	769.2147	-0.02088	0.037664	-0.55432	0.579358	0.938584
hsa-miR-193b-3p	4325.737	-0.05294	0.095856	-0.55231	0.580734	0.938584
hsa-miR-7705	11.61044	-0.03867	0.070301	-0.55011	0.582247	0.938584
hsa-miR-520g-5p	408.9752	-0.03737	0.068127	-0.54847	0.583369	0.938584
hsa-miR-181c-3p	26.51562	-0.02966	0.054259	-0.54663	0.584631	0.938584
hsa-miR-495-5p	13.34781	0.03488	0.063898	0.545867	0.585157	0.938584
hsa-miR-5699-5p	2.475198	0.078642	0.14415	0.545556	0.585371	0.938584
hsa-miR-221-3p	14139.64	0.016469	0.030306	0.543441	0.586826	0.938584
hsa-miR-449a	5.483316	0.053276	0.098434	0.541237	0.588344	0.938584
hsa-miR-485-3p	220.8984	0.023593	0.043621	0.540859	0.588605	0.938584
hsa-miR-655-3p	785.0246	-0.02253	0.041721	-0.53993	0.589244	0.938584
hsa-miR-548b-5p	7.442943	-0.05204	0.096493	-0.53934	0.589654	0.938584
hsa-miR-6513-5p	7.900697	-0.0473	0.088123	-0.53675	0.591443	0.938584
hsa-miR-24-2-5p	1865.048	-0.02049	0.038458	-0.53271	0.594237	0.938584

hsa-miR-1843	24.05033	-0.03356	0.063171	-0.53119	0.595287	0.938584
hsa-miR-628-3p	9.870472	-0.04278	0.080754	-0.52979	0.596259	0.938584
hsa-miR-542-5p	71.26075	-0.02314	0.043814	-0.52818	0.597377	0.938584
hsa-miR-1249-3p	14.60658	0.044854	0.084954	0.52798	0.597513	0.938584
hsa-miR-660-3p	19.20918	0.03233	0.06183	0.522886	0.601054	0.938584
hsa-miR-490-3p	8.428889	-0.06822	0.130521	-0.52264	0.601228	0.938584
hsa-miR-221-5p	497.3824	-0.01888	0.036156	-0.52211	0.601592	0.938584
hsa-miR-32-3p	40.66883	0.025095	0.048111	0.521611	0.601941	0.938584
hsa-miR-224-3p	563.2488	0.026985	0.051737	0.521587	0.601958	0.938584
hsa-miR-34b-5p	28.78903	-0.05159	0.098916	-0.52151	0.602013	0.938584
hsa-miR-122-5p	2.120205	0.098846	0.190153	0.519824	0.603186	0.938584
hsa-miR-19a-3p	116.0444	-0.03478	0.067201	-0.51762	0.604724	0.938584
hsa-miR-181b-5p	2727.571	0.014645	0.028319	0.517156	0.605047	0.938584
hsa-miR-376c-5p	188.3802	-0.02675	0.052275	-0.51165	0.608893	0.938952
hsa-miR-372-5p	9.335684	0.085206	0.166565	0.511552	0.608965	0.938952
hsa-miR-527	619.2556	-0.02191	0.043	-0.50959	0.610341	0.938952
hsa-miR-335-3p	4477.964	0.027934	0.054901	0.508805	0.610889	0.938952
hsa-miR-34c-3p	33.65988	-0.04617	0.090801	-0.50845	0.611139	0.938952
hsa-let-7f-1-3p	3.148545	0.07393	0.147032	0.502812	0.615096	0.938973
hsa-miR-519e-5p	545.875	0.024735	0.049306	0.50166	0.615907	0.938973
hsa-let-7i-3p	66.75749	0.050562	0.101035	0.500435	0.616769	0.938973
hsa-miR-33a-5p	3.203024	-0.06657	0.133064	-0.50031	0.616858	0.938973
hsa-miR-136-5p	480.5529	-0.02566	0.051317	-0.49997	0.617093	0.938973
hsa-miR-500a-5p	169.1296	0.020943	0.042028	0.498304	0.61827	0.938973
hsa-miR-130a-5p	10.94018	0.03762	0.075728	0.496775	0.619348	0.938973
hsa-miR-1343-3p	2.940839	0.07064	0.14428	0.4896	0.624417	0.944567
hsa-miR-7976	12.15551	-0.0428	0.087696	-0.48804	0.625522	0.944567
hsa-miR-20b-3p	2.279285	-0.07205	0.148075	-0.48656	0.626571	0.944567
hsa-miR-2115-3p	7.102369	-0.0517	0.106733	-0.48436	0.62813	0.94514
hsa-miR-372-3p	1166.133	-0.0755	0.156624	-0.48207	0.62976	0.945819
hsa-miR-6724-5p	7.84536	0.042082	0.088066	0.477841	0.632763	0.945971
hsa-miR-222-5p	6.597139	0.04578	0.09616	0.476084	0.634015	0.945971
hsa-miR-4742-5p	2.306332	-0.06933	0.14643	-0.47344	0.635898	0.945971
hsa-miR-1248	2.561589	0.065783	0.139041	0.473119	0.636129	0.945971
hsa-miR-34c-5p	363.8841	-0.03693	0.078642	-0.46962	0.638623	0.945971
hsa-miR-134-5p	136.8442	0.02094	0.044605	0.469458	0.638742	0.945971
hsa-miR-374b-5p	1058.276	-0.02318	0.049678	-0.46655	0.640821	0.945971
hsa-miR-323b-3p	39.24783	0.03803	0.081789	0.464983	0.641944	0.945971
hsa-miR-192-3p	2.923859	0.06062	0.130383	0.464938	0.641976	0.945971
hsa-miR-3690	8.090693	0.060851	0.1311	0.464155	0.642537	0.945971
hsa-miR-519a-2-5p	1942.127	0.016379	0.035907	0.456167	0.64827	0.945971
hsa-miR-520b-5p	1941.918	0.016372	0.035905	0.455975	0.648408	0.945971
hsa-miR-548ab	3.695777	0.062486	0.137376	0.45485	0.649217	0.945971
hsa-miR-2115-5p	12.76894	-0.04297	0.094531	-0.45453	0.649446	0.945971
hsa-miR-154-3p	592.9171	-0.02089	0.046162	-0.45246	0.650941	0.945971
hsa-miR-466	6.382772	0.044886	0.099933	0.449164	0.653313	0.945971

hsa-miR-382-3p	712.2138	-0.02162	0.0484	-0.44661	0.655155	0.945971
hsa-miR-876-3p	3.767295	-0.06908	0.154895	-0.44597	0.655617	0.945971
hsa-miR-362-3p	120.2631	0.018434	0.041359	0.445691	0.655821	0.945971
hsa-miR-151a-3p	2770.355	-0.0168	0.037707	-0.44554	0.655932	0.945971
hsa-miR-301a-5p	17.31409	0.027096	0.060822	0.445492	0.655964	0.945971
hsa-miR-1283	6234.77	-0.02408	0.054364	-0.44296	0.657796	0.945971
hsa-miR-28-3p	933.6904	0.017831	0.040431	0.441029	0.659192	0.945971
hsa-miR-106a-5p	167.4338	0.027929	0.063536	0.439578	0.660243	0.945971
hsa-miR-409-3p	1189.053	0.01745	0.039808	0.438357	0.661128	0.945971
hsa-miR-210-5p	4.203658	-0.0584	0.13347	-0.43757	0.661697	0.945971
hsa-miR-199a-5p	10397.65	0.016632	0.038011	0.437556	0.661708	0.945971
hsa-miR-185-5p	1099.608	-0.02606	0.060044	-0.43403	0.664267	0.947595
hsa-miR-215-5p	21.56611	0.026883	0.062593	0.429487	0.667569	0.947595
hsa-miR-6507-5p	4.259324	0.056671	0.132247	0.428526	0.668269	0.947595
hsa-miR-16-5p	17969.26	-0.02618	0.061459	-0.42593	0.670157	0.947595
hsa-miR-361-5p	1604.772	-0.01467	0.03444	-0.42582	0.670236	0.947595
hsa-miR-210-3p	126.009	-0.03361	0.079101	-0.42487	0.67093	0.947595
hsa-miR-664a-3p	373.1305	-0.0213	0.050303	-0.42344	0.671976	0.947595
hsa-miR-380-3p	87.6724	-0.0252	0.059572	-0.423	0.672296	0.947595
hsa-miR-139-5p	919.6493	0.022777	0.05415	0.420631	0.674025	0.947783
hsa-miR-148a-5p	36.22448	0.02813	0.067159	0.418861	0.675318	0.947783
hsa-miR-130a-3p	1309.713	0.012411	0.029695	0.417962	0.675975	0.947783
hsa-miR-20a-5p	1847.959	-0.0182	0.043726	-0.41616	0.677296	0.947978
hsa-miR-374c-5p	17.99283	0.031165	0.075785	0.411225	0.680908	0.949506
hsa-miR-192-5p	919.1742	0.014399	0.035364	0.407158	0.683892	0.949506
hsa-miR-6513-3p	7.939459	-0.03412	0.084219	-0.40512	0.685393	0.949506
hsa-miR-598-3p	11.61514	-0.04005	0.09948	-0.40258	0.687259	0.949506
hsa-miR-4999-5p	6.510432	0.037378	0.092852	0.40255	0.687279	0.949506
hsa-miR-523-3p	4549.15	-0.02284	0.056968	-0.40086	0.688524	0.949506
hsa-miR-6715b-3p	6.919099	0.058811	0.146985	0.400115	0.689072	0.949506
hsa-miR-515-5p	14793.76	-0.01906	0.04768	-0.39984	0.689271	0.949506
hsa-miR-506-3p	4.030214	-0.04611	0.115611	-0.39882	0.690029	0.949506
hsa-miR-548z	14.22924	-0.02963	0.07486	-0.39577	0.692278	0.949506
hsa-miR-502-3p	462.3845	-0.01342	0.033934	-0.39535	0.692586	0.949506
hsa-miR-520f-3p	1734.064	0.030159	0.076333	0.395093	0.692774	0.949506
hsa-miR-125a-3p	88.23969	0.014859	0.037868	0.392384	0.694774	0.949506
hsa-miR-4662b	2.49423	0.055195	0.140972	0.39153	0.695406	0.949506
hsa-miR-618	15.99228	-0.04271	0.109368	-0.39053	0.696146	0.949506
hsa-miR-4708-3p	4.602669	0.042143	0.109003	0.386623	0.699035	0.949525
hsa-miR-190a-5p	46.59521	0.031937	0.083874	0.380779	0.703367	0.949525
hsa-miR-6501-5p	18.5931	-0.03198	0.084604	-0.37801	0.705425	0.949525
hsa-miR-548h-3p	14.14257	-0.0282	0.075064	-0.37567	0.707159	0.949525
hsa-miR-133a-3p	303.7453	-0.02753	0.073375	-0.37515	0.707548	0.949525
hsa-miR-629-3p	10.66532	-0.03368	0.089936	-0.37443	0.708083	0.949525
hsa-miR-9903	11.75749	0.031614	0.084566	0.37384	0.708524	0.949525
hsa-miR-3143	2.982466	-0.05545	0.14834	-0.3738	0.708552	0.949525

hsa-miR-150-5p	143.2536	-0.03478	0.093254	-0.373	0.709151	0.949525
hsa-miR-378g	2.029242	-0.05447	0.147455	-0.3694	0.711828	0.949525
hsa-miR-550a-5p	8.379241	0.034828	0.094804	0.367364	0.713347	0.949525
hsa-miR-3688-3p	13.15908	-0.02554	0.070153	-0.36409	0.71579	0.949525
hsa-miR-548e-5p	3.060684	0.048705	0.1339	0.36374	0.716053	0.949525
hsa-miR-451a	53082.9	-0.04336	0.11937	-0.36323	0.716431	0.949525
hsa-miR-374a-5p	4475.846	-0.02397	0.066263	-0.3618	0.717499	0.949525
hsa-miR-619-5p	11.42556	-0.02788	0.077146	-0.36143	0.71778	0.949525
hsa-miR-410-5p	2.109937	0.071172	0.19711	0.361077	0.718042	0.949525
hsa-miR-98-5p	557.043	0.024535	0.068223	0.35963	0.719124	0.949525
hsa-miR-514a-3p	50.97566	-0.0271	0.075768	-0.35772	0.720555	0.949525
hsa-miR-4742-3p	3.685261	0.039582	0.112066	0.353202	0.723937	0.949525
hsa-miR-4662a-3p	4.174001	0.038447	0.109136	0.352281	0.724627	0.949525
hsa-miR-25-3p	2730.289	0.023741	0.067548	0.351476	0.725231	0.949525
hsa-miR-509-3-5p	7.336196	0.040321	0.115579	0.348858	0.727196	0.949525
hsa-miR-4645-3p	2.439226	0.047859	0.137407	0.348303	0.727612	0.949525
hsa-miR-1285-3p	10.48195	-0.02618	0.07553	-0.34668	0.728834	0.949525
hsa-miR-323a-5p	1.993946	0.05427	0.156962	0.345753	0.729528	0.949525
hsa-miR-29a-5p	42.09154	0.020331	0.058972	0.344752	0.730281	0.949525
hsa-miR-625-5p	96.91345	-0.0176	0.051426	-0.34227	0.73215	0.949525
hsa-miR-362-5p	782.3239	-0.01199	0.035036	-0.34212	0.732264	0.949525
hsa-miR-556-3p	2.537778	-0.04604	0.134775	-0.34161	0.732642	0.949525
hsa-miR-193a-5p	122.8965	-0.03579	0.107811	-0.33195	0.739927	0.949525
hsa-miR-183-5p	530.4139	-0.02072	0.06345	-0.32658	0.743987	0.949525
hsa-miR-487b-3p	6108.724	-0.0142	0.043565	-0.32601	0.744419	0.949525
hsa-miR-135b-5p	5108.473	-0.02958	0.090867	-0.32554	0.744771	0.949525
hsa-miR-223-5p	25.36433	0.027336	0.084235	0.324523	0.745542	0.949525
hsa-miR-1275	5.993009	-0.0343	0.105903	-0.32386	0.746044	0.949525
hsa-miR-152-5p	3.360409	0.037597	0.117067	0.321159	0.74809	0.949525
hsa-miR-140-5p	1156.786	-0.01435	0.045008	-0.31892	0.749787	0.949525
hsa-miR-31-3p	4.354323	0.039088	0.122662	0.318667	0.749979	0.949525
hsa-miR-16-1-3p	3.478399	0.037611	0.118257	0.318043	0.750452	0.949525
hsa-miR-668-3p	39.28129	0.018142	0.057057	0.317959	0.750516	0.949525
hsa-miR-548ai	5.584643	-0.03491	0.110447	-0.3161	0.751928	0.949525
hsa-miR-570-5p	5.584643	-0.03491	0.110447	-0.3161	0.751928	0.949525
hsa-miR-627-5p	8.00061	-0.03058	0.096781	-0.316	0.752002	0.949525
hsa-miR-2277-5p	4.179399	-0.03558	0.113902	-0.31239	0.754742	0.949525
hsa-miR-548av-3p	2.144904	-0.04616	0.148075	-0.31171	0.755261	0.949525
hsa-miR-520d-3p	2764.516	0.010335	0.033432	0.309126	0.757225	0.949525
hsa-miR-514a-5p	6.386873	-0.03242	0.105004	-0.30872	0.757536	0.949525
hsa-miR-330-5p	79.87611	0.017408	0.056466	0.308295	0.757858	0.949525
hsa-miR-376b-3p	139.0142	-0.0158	0.051511	-0.30676	0.759029	0.949525
hsa-miR-19b-3p	1183.639	0.016142	0.052968	0.304755	0.760553	0.949525
hsa-miR-205-3p	3.323409	0.035774	0.11827	0.302474	0.76229	0.949525
hsa-miR-4652-5p	2.116966	0.046794	0.154819	0.30225	0.762462	0.949525
hsa-miR-6516-3p	3.456058	0.036928	0.122593	0.30122	0.763247	0.949525

hsa-miR-767-5p	84.21007	-0.02193	0.072918	-0.30078	0.763582	0.949525
hsa-miR-138-1-3p	8.448953	-0.04118	0.137107	-0.30036	0.763904	0.949525
hsa-miR-520c-3p	1127.869	0.013306	0.044333	0.30014	0.76407	0.949525
hsa-miR-6503-3p	4.504725	0.037056	0.123874	0.299145	0.76483	0.949525
hsa-miR-520e-5p	123.0014	-0.01323	0.045544	-0.29048	0.77145	0.955194
hsa-miR-15b-5p	2756.851	-0.02079	0.071679	-0.29005	0.771778	0.955194
hsa-miR-486-3p	9.62567	0.038507	0.136698	0.281694	0.778178	0.959576
hsa-miR-1185-2-3p	25.40741	0.019614	0.070234	0.279261	0.780045	0.959576
hsa-miR-4781-3p	4.563414	-0.03158	0.114699	-0.27536	0.78304	0.959576
hsa-miR-616-3p	2.322035	0.039027	0.142389	0.274085	0.78402	0.959576
hsa-miR-9898	6.605104	0.02506	0.092012	0.272355	0.785349	0.959576
hsa-miR-410-3p	1343.177	-0.01538	0.056552	-0.27202	0.785608	0.959576
hsa-miR-548am-3p	2.202856	-0.03999	0.148211	-0.26981	0.787309	0.959576
hsa-miR-10399-5p	11.5543	-0.02313	0.085877	-0.26934	0.787671	0.959576
hsa-miR-106b-5p	2747.401	-0.0123	0.046714	-0.26327	0.792344	0.959576
hsa-miR-1303	15.37552	-0.01744	0.066326	-0.26296	0.792578	0.959576
hsa-miR-3158-3p	10.64607	0.024161	0.092206	0.262029	0.793299	0.959576
hsa-miR-1306-3p	4.866026	0.025958	0.100122	0.259265	0.795431	0.959576
hsa-miR-889-5p	2.690043	-0.03821	0.147614	-0.25882	0.795773	0.959576
hsa-miR-3188	2.300542	-0.04879	0.189955	-0.25686	0.797284	0.959576
hsa-miR-133a-5p	6.925501	0.029705	0.115682	0.25678	0.797348	0.959576
hsa-miR-455-5p	430.564	-0.01527	0.060483	-0.25255	0.800618	0.959576
hsa-miR-548aj-5p	2.623956	-0.03719	0.148825	-0.2499	0.802667	0.959576
hsa-miR-26b-3p	39.87426	0.012403	0.049676	0.249676	0.802838	0.959576
hsa-miR-548h-5p	10.146	-0.02141	0.085952	-0.24911	0.803276	0.959576
hsa-miR-934	886.5642	0.014154	0.056876	0.248857	0.803472	0.959576
hsa-miR-199b-3p	22108.09	0.01134	0.045719	0.248044	0.8041	0.959576
hsa-miR-199a-3p	22255	0.011292	0.045672	0.247229	0.804731	0.959576
hsa-miR-509-5p	3.551476	-0.03334	0.134951	-0.24706	0.804864	0.959576
hsa-miR-3664-5p	2.956474	-0.03329	0.135198	-0.24622	0.805514	0.959576
hsa-miR-550a-3-5p	8.141542	0.02294	0.095156	0.241075	0.809497	0.959576
hsa-miR-6866-5p	2.033258	-0.03517	0.14619	-0.24061	0.809859	0.959576
hsa-miR-329-3p	467.2978	-0.01089	0.045588	-0.23883	0.811234	0.959576
hsa-miR-18b-5p	6.996903	-0.02703	0.113262	-0.23868	0.811356	0.959576
hsa-miR-214-5p	130.8432	-0.01053	0.044468	-0.23669	0.812898	0.959576
hsa-miR-371a-3p	57.38343	0.036174	0.153427	0.235774	0.813608	0.959576
hsa-miR-548au-5p	29.55792	0.012527	0.053394	0.234621	0.814503	0.959576
hsa-miR-5699-3p	2.615482	0.036492	0.155771	0.234266	0.814778	0.959576
hsa-miR-490-5p	3.3536	0.039263	0.167714	0.234107	0.814902	0.959576
hsa-miR-7704	1.937242	0.035412	0.152982	0.231477	0.816944	0.959576
hsa-miR-1278	7.405562	0.019962	0.086358	0.231154	0.817195	0.959576
hsa-miR-491-5p	12.04447	-0.01672	0.073562	-0.22727	0.820215	0.960696
hsa-miR-491-3p	2.268383	-0.03394	0.149598	-0.22684	0.820545	0.960696
hsa-miR-196a-5p	100.342	-0.02198	0.101976	-0.21555	0.829338	0.968261
hsa-miR-202-5p	31.43912	0.017291	0.080258	0.215445	0.82942	0.968261
hsa-miR-378i	32.08414	-0.01408	0.067398	-0.20894	0.834493	0.972484

hsa-miR-452-5p	2081.649	0.007659	0.036875	0.2077	0.835463	0.972484
hsa-miR-199b-5p	2808.335	-0.00974	0.048023	-0.20288	0.839225	0.975447
hsa-miR-664a-5p	26.75441	-0.01011	0.050501	-0.20022	0.841311	0.976456
hsa-miR-182-5p	904.7325	-0.0143	0.073286	-0.1951	0.845311	0.977692
hsa-miR-211-5p	12.12418	-0.01791	0.092467	-0.19368	0.846427	0.977692
hsa-miR-3064-5p	2.549701	0.027644	0.14283	0.193544	0.846533	0.977692
hsa-miR-656-5p	2.383976	0.026256	0.139812	0.187791	0.85104	0.977692
hsa-miR-521	3199.561	0.009513	0.050724	0.187543	0.851235	0.977692
hsa-miR-518a-3p	9544.536	0.006627	0.035695	0.185645	0.852723	0.977692
hsa-miR-548at-5p	3.416824	-0.02338	0.126133	-0.18535	0.852952	0.977692
hsa-miR-493-5p	3716.12	-0.00834	0.045257	-0.18438	0.853713	0.977692
hsa-miR-486-5p	3383.282	-0.02123	0.115749	-0.18344	0.854455	0.977692
hsa-miR-659-5p	4.458505	0.018748	0.102579	0.182772	0.854977	0.977692
hsa-miR-548l	16.77471	0.011559	0.063635	0.181645	0.855861	0.977692
hsa-miR-421	109.1079	0.00741	0.041857	0.177033	0.859482	0.977692
hsa-miR-518b	26422.14	0.009231	0.052487	0.175868	0.860398	0.977692
hsa-miR-548am-5p	27.04399	0.009077	0.053635	0.169229	0.865616	0.977692
hsa-miR-512-5p	5593.813	-0.00861	0.051104	-0.16845	0.86623	0.977692
hsa-miR-193a-3p	21.54136	0.018512	0.110023	0.168255	0.866383	0.977692
hsa-miR-3145-5p	5.291769	0.017395	0.105247	0.165282	0.868722	0.977692
hsa-miR-500b-5p	127.2513	0.007107	0.043745	0.162476	0.870931	0.977692
hsa-miR-3157-5p	2.550626	0.022833	0.141171	0.161742	0.871509	0.977692
hsa-miR-15b-3p	58.4272	-0.01512	0.093493	-0.16169	0.871548	0.977692
hsa-miR-379-3p	186.884	0.007721	0.047915	0.161129	0.871992	0.977692
hsa-miR-2110	25.90483	-0.00964	0.059991	-0.16075	0.872291	0.977692
hsa-let-7f-5p	12857.78	-0.01078	0.067657	-0.15933	0.873412	0.977692
hsa-miR-508-3p	23.72097	-0.01248	0.078445	-0.15914	0.873555	0.977692
hsa-miR-99a-3p	5.620498	-0.01726	0.108959	-0.15845	0.874106	0.977692
hsa-miR-501-3p	112.9206	-0.00648	0.041174	-0.1573	0.875011	0.977692
hsa-miR-516a-3p	6.936361	-0.01712	0.109781	-0.15598	0.876052	0.977692
hsa-miR-548g-5p	3.635126	-0.01952	0.125733	-0.15526	0.876618	0.977692
hsa-miR-370-5p	20.38799	-0.00916	0.059544	-0.15385	0.877728	0.977692
hsa-miR-2355-3p	8.771468	0.013363	0.089824	0.148766	0.881738	0.980757
hsa-miR-3617-5p	5.175281	0.023017	0.156363	0.147202	0.882972	0.980757
hsa-miR-520f-5p	75.54259	-0.00953	0.066736	-0.14274	0.886497	0.980757
hsa-miR-4684-3p	2.474515	-0.02415	0.171559	-0.14075	0.888069	0.980757
hsa-miR-3614-3p	126.9674	-0.00783	0.056028	-0.13979	0.888825	0.980757
hsa-miR-411-3p	370.0629	0.006164	0.045443	0.135637	0.892108	0.980757
hsa-miR-548ah-3p	3.576345	-0.01753	0.129701	-0.13513	0.892508	0.980757
hsa-miR-4639-5p	2.870255	-0.01726	0.127896	-0.13493	0.892668	0.980757
hsa-miR-15a-5p	1434.018	-0.00861	0.064741	-0.13302	0.894175	0.980757
hsa-miR-548b-3p	4.967972	0.01537	0.116572	0.131848	0.895104	0.980757
hsa-miR-205-5p	5230.317	0.005771	0.044402	0.129968	0.896592	0.980757
hsa-miR-653-3p	67.57911	0.009283	0.071717	0.129435	0.897014	0.980757
hsa-miR-1292-5p	2.338021	0.017816	0.13807	0.129034	0.897331	0.980757
hsa-miR-30c-2-3p	170.7443	0.004157	0.032569	0.127642	0.898432	0.980757

hsa-miR-409-5p	189.2183	0.006198	0.048748	0.127148	0.898824	0.980757
hsa-miR-489-3p	42.92588	-0.00954	0.078124	-0.1221	0.902819	0.98186
hsa-miR-148a-3p	6797.571	0.007944	0.06699	0.118584	0.905605	0.98186
hsa-miR-502-5p	38.91699	0.006031	0.051428	0.117278	0.906639	0.98186
hsa-miR-942-5p	16.21716	-0.0091	0.0781	-0.11648	0.907268	0.98186
hsa-miR-429	10.06831	-0.02067	0.178334	-0.11592	0.90772	0.98186
hsa-miR-195-3p	41.35361	-0.00556	0.048151	-0.11544	0.908098	0.98186
hsa-miR-361-3p	730.1179	0.004374	0.038638	0.113194	0.909877	0.98186
hsa-miR-103a-3p	22378.16	0.003276	0.029339	0.111646	0.911104	0.98186
hsa-miR-548x-5p	2.656564	0.017115	0.157949	0.10836	0.91371	0.98186
hsa-miR-216a-5p	8.348759	0.028406	0.263331	0.107873	0.914097	0.98186
hsa-miR-516b-3p	6.967034	-0.01179	0.109478	-0.10767	0.914254	0.98186
hsa-miR-431-3p	18.22142	0.006848	0.065917	0.103893	0.917254	0.98186
hsa-miR-200c-5p	17.24614	0.00671	0.06617	0.101413	0.919223	0.98186
hsa-let-7a-5p	36901.54	-0.00422	0.042414	-0.09947	0.920766	0.98186
hsa-miR-371a-5p	316.9375	0.01534	0.158982	0.096488	0.923133	0.98186
hsa-miR-654-3p	1179.75	-0.00343	0.036267	-0.0945	0.92471	0.98186
hsa-miR-145-3p	1651.243	-0.00433	0.045898	-0.09425	0.924908	0.98186
hsa-miR-3173-5p	2.283093	-0.01284	0.140746	-0.09124	0.9273	0.98186
hsa-miR-513c-5p	1.991972	0.015455	0.174112	0.088764	0.929269	0.98186
hsa-miR-585-3p	11.84036	-0.01127	0.128946	-0.08744	0.930322	0.98186
hsa-miR-301b-3p	11.14423	0.00895	0.102813	0.087049	0.930633	0.98186
hsa-miR-376a-5p	187.5959	0.004339	0.051876	0.083637	0.933345	0.98186
hsa-miR-551b-5p	4.381347	-0.00938	0.113074	-0.08295	0.933891	0.98186
hsa-miR-627-3p	4.06089	0.008901	0.109248	0.081475	0.935064	0.98186
hsa-miR-331-5p	66.91812	-0.00311	0.038934	-0.07978	0.936416	0.98186
hsa-miR-26a-1-3p	5.863052	-0.00718	0.090668	-0.07923	0.936847	0.98186
hsa-miR-483-3p	2729.994	0.004534	0.058895	0.07698	0.93864	0.98186
hsa-miR-200c-3p	28779.39	-0.00288	0.037542	-0.07675	0.938824	0.98186
hsa-miR-200a-3p	66.31566	-0.00734	0.096595	-0.07599	0.939428	0.98186
hsa-miR-128-3p	341.3977	-0.00211	0.028019	-0.07546	0.93985	0.98186
hsa-miR-744-3p	7.72498	-0.0067	0.090503	-0.07398	0.941026	0.98186
hsa-miR-301a-3p	88.45716	0.004554	0.061894	0.073584	0.941341	0.98186
hsa-miR-525-3p	1611.713	-0.00316	0.044427	-0.07118	0.943254	0.98186
hsa-miR-488-3p	5.594255	0.009317	0.13251	0.070309	0.943947	0.98186
hsa-miR-363-3p	695.1267	0.004548	0.065357	0.069586	0.944523	0.98186
hsa-miR-138-5p	139.9617	-0.00943	0.135773	-0.06943	0.94465	0.98186
hsa-miR-1185-5p	34.65538	-0.00451	0.065779	-0.06856	0.945339	0.98186
hsa-let-7i-5p	4220.332	-0.00562	0.08359	-0.06728	0.946356	0.98186
hsa-miR-660-5p	1535.488	-0.00218	0.034552	-0.06313	0.949661	0.982865
hsa-miR-425-5p	2607.208	0.002198	0.03489	0.062988	0.949776	0.982865
hsa-miR-624-3p	9.587269	-0.00505	0.084527	-0.0597	0.952396	0.984306
hsa-miR-296-5p	18.489	0.004309	0.07578	0.056857	0.954659	0.985375
hsa-miR-454-5p	7.95253	-0.00418	0.078764	-0.05305	0.95769	0.987233
hsa-miR-142-5p	941.0712	-0.00407	0.08456	-0.04816	0.961585	0.988742
hsa-miR-615-3p	90.98589	0.002445	0.052271	0.046776	0.962692	0.988742

hsa-miR-3139	2.664253	-0.00613	0.13636	-0.04498	0.964124	0.988742
hsa-miR-9-3p	156.501	0.003641	0.081864	0.044475	0.964526	0.988742
hsa-miR-452-3p	5.873478	0.004091	0.102328	0.039983	0.968107	0.988742
hsa-miR-3605-3p	7.327	-0.00349	0.088344	-0.03948	0.968509	0.988742
hsa-miR-3611	2.068043	-0.00692	0.177026	-0.03909	0.968818	0.988742
hsa-miR-188-3p	3.960913	0.004425	0.113929	0.038841	0.969017	0.988742
hsa-miR-184	154.2013	-0.0022	0.064576	-0.03407	0.972824	0.991366
hsa-miR-1269b	63.35845	0.013363	0.424048	0.031513	0.97486	0.99218
hsa-miR-330-3p	172.1745	0.001344	0.045555	0.029504	0.976463	0.992551
hsa-miR-2682-5p	3.171234	-0.00533	0.207291	-0.0257	0.979497	0.993791
hsa-miR-3605-5p	1.828018	0.004087	0.164362	0.024868	0.98016	0.993791
hsa-miR-135b-3p	5.701605	-0.00279	0.124554	-0.02238	0.982143	0.994543
hsa-miR-93-5p	5934.225	0.000719	0.043022	0.016715	0.986664	0.996644
hsa-miR-548o-5p	37.42233	0.000765	0.04588	0.016666	0.986703	0.996644
hsa-miR-127-5p	961.2378	0.000457	0.043642	0.01048	0.991639	0.997298
hsa-miR-20a-3p	33.10542	0.000462	0.044688	0.010332	0.991756	0.997298
hsa-miR-323a-3p	268.1224	-0.00046	0.047805	-0.00958	0.992358	0.997298
hsa-miR-3199	2.660653	-0.00131	0.14148	-0.00928	0.992595	0.997298
hsa-miR-10b-5p	2032.4	0.000884	0.12235	0.007228	0.994233	0.997298
hsa-miR-2114-5p	3.317089	-0.00105	0.162135	-0.0065	0.994811	0.997298
hsa-miR-532-5p	1629.745	0.000102	0.039865	0.00256	0.997957	0.998297
hsa-miR-548c-5p	37.41438	9.79E-05	0.045865	0.002135	0.998297	0.998297