Supplemental Materials:

RDX Induces MicroRNA Aberrant Expression in Mouse Brain and Liver

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Materials and Methods

miRNA microarray data analysis

The standard microarray data analysis included the determination of detectable signals, calculation of signal intensities, and calculation of differential ratios. The data process began with background subtraction, Cy3/Cy5 channel normalization, detectivity determination, and then p-value calculation.

The background signal was determined using a regression-based background mapping method. The regression was performed on 5% to 25% of the lowest intensity data points excluding blank spots. Raw data matrix was then subtracted by the background matrix.

miRNA microarray signal data was then normalized using a LOWESS (Locally-weighted Regression) method on the background-subtracted data (Bolstad et al. 2003). The purpose of the normalization was to remove system related variations, including sample amount variations, different labeling dyes, and signal gain differences of scanners so that biological variations could be accurately observed.

Data adjustments included data filtering, log2 transformation, and gene centering and normalization. The data filtering removed miRNAs with (normalized) intensity values below a threshold value of 32 across all samples. The Log2 transformation converted intensity values into Log2 scale. Gene centering and normalization transformed the Log2 values using the mean and the standard deviation of individual genes across all samples using the following formula:

Value = [(Value) – Mean(Gene)]/[Standard deviation(Gene)] [1]

A miRNA was listed as detectable miRNA when it met at least three criteria: a) signal intensity higher than 3× of background standard deviation, b) spot CV < 0.5, in which CV was calculated as (standard deviation)/(signal intensity), and c) at least 3 of the six repeats had signals higher than 3× of background standard deviation.

After the background subtraction and signal normalization, the p-values of the difference between control (Cy3) and treatment (Cy5) sample signals were calculated as:

$$C = \sqrt{StdBkgCy3^2 + StdBkgCy5^2} \quad [2]$$

$$dferr = \sqrt{StdCy3^2 + StdCy5^2} + C \quad [3]$$

$$Stemp = \frac{Cy5 - Cy3}{dferr} \quad [4]$$

$$Stemp = \frac{Stemp - mean(Stemp)}{\sqrt{2}} \quad [5]$$

and

$$p(i) = \frac{2}{\sqrt{\pi}} \int_{Stemp(i)}^{\infty} e^{-t^2} dt \quad [6]$$

Where C is a numeral number and dferr is a 1D array of size n; StdCy3 and StdCy5 are the standard deviations of Cy3 and Cy5 signal intensities (the values obtained after background subtraction and normalization), respectively; and StdBkgCy3 and StdBkgCy5 are the standard deviations of background values of Cy3 and Cy5 channels.

The ratio of the two sets (control and treatment) of detected signals (log2 transformed, balanced) and p-values of the t-test were calculated. t-Test was performed between control and treated sample groups (Pan 2002). T-values were calculated for each miRNA, and p-values were computed from the theoretical t-distribution. Differentially detected signals were those with p-values less than 0.01. miRNAs with p-values less than 0.01 were selected for cluster analysis. The cluster analysis was conducted with a hierarchical method and with average linkage and the Euclidean distance metrics (Eisen et al. 1998).

All data processes, except clustering plot, were carried out using LC Sciences in-house developed computer programs. The clustering plot was generated using TIGR MeV (Multiple Experimental Viewer) software from The Institute for Genomic Research.

RT PCR and qRT-PCR

miRNAs that exhibited aberrant expression patterns in microarray analysis were selected and then validated using qRT-PCR on an Applied Biosystems 7300 system (Foster City, CA). Applied Biosystems TaqMan microRNA Assays were employed to detect and quantify mouse miRNAs using a stem loop real time PCR according to the manufacturer's instructions (Chen et al. 2005). There were two steps in TaqMan miRNA Assays: 1) reverse transcription of the mature miRNAs to a longer single-stranded cDNA sequence using stem-looped primers, and 2) real time PCR. Briefly, a single-stranded miRNA cDNA was generated from 500 ng of the total RNA sample by reverse transcription using the Applied Biosystems TaqMan microRNA Reverse Transcription Kit and a miRNA-specific stem-looped RT primer. Reverse transcription reaction was performed in 15 μL solution, which contained 500 ng of total RNAs, 1 mM each of dNTPs, 1 μL MultiScribe Reverse Transcriptase (50 U/μL), 1.5 μL 10X TR Buffer, 0.188 μL RNase Inhibitor, and 3 μL 5X Taqman microRNA RT primer for a specific miRNA. The RT reaction

was conducted using a Eppendorf Mastercycler Personal PCR (Westbury, NY) operated at the following temperature conditions: initial 16 °C for 30 min followed by 42 °C for 30 min; then, the reaction was held for 5 min at 85 °C; finally held at 4 °C until next analysis or stored at -20 °C.

Quantitative real time PCR (qRT-PCR) was performed on the Applied Biosystems 7300 Real-Time PCR system using miRNA-specific primers for specific miRNAs provided by the Applied Biosystems Taqman MicroRNA Assay kit. Each reaction contained 10 μL Taqman 2X Universal PCR Master Mix (No SmpErase UNG), 1 μL Taqman MicroRNA Assays 20X Real Time Primers, 1 μL RT PCR product (10-fold dilution from RT PCR reaction). Nuclease free water was used to adjust the final volume to 20 μL. The qRT-PCR reactions were incubated in a 96-well optical microplate at 95°C for 10 min followed by 45 cycles of 95 °C for 15 sec (to denature DNA) and 60 °C for 60 sec (for primer annealing and extending). Each reaction had three replicates. In qRT-PCR, small RNA snoRNA135 was saved as endogenous reference gene for normalizing qRT-PCR results. Relative miRNA expression data were analyzed using the $\Delta\Delta C_T$ method.

Prediction of miRNA targets

Identifying miRNA targets is critical for investigating the functions of miRNAs. Currently, a majority of studies have employed computational programs to predict gene targets and then validate these targets using experimental methods. In this study, two different computational programs, TargetScan (http://genes.mit.edu/targetscan) (Lewis et al. 2003) and PicTar (http://pictar.bio.nyu.edu) (Krek et al. 2005), were employed to predict miRNA targets. Two discrete lists of the predicted targets were firstly generated by TargetScan and PicTar. Each gene was assigned a score from 1 to N by each computational program. The most likely target

was given a score of 1, then 2, 3, 4, to N, in which N represents the total number of predicted targets. After the two lists was generated by the two computational programs, a third list was generated which contained only the genes predicted by both computational programs. In the third list, a total score was calculated by adding together the two scores predicted by TargetScan and PicTar separately. The lower the total score a gene has, the more likely it is the real target gene. The 50 most promising candidate genes were listed in Table 2 based on their total scores in an ascendant order.

References

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Supplemental Material, Table 1. miRNAs with different expression in mouse liver and brain tissues under RDX treated and untreated conditions[#]

Category for miRNAs	Brain		Liver	
	Untreated	Treated	Untreated	Treated
High expression	miR-709, miR-128, miR-125b-5p, miR-9, let-7a, miR-26a, let-7c, miR-29a, let-7f, let-7d, let-7b, miR-125a-5p, let-7g, miR-132, miR-9*, miR-124, let-7e, miR-30c, miR-200b, miR-218, let-7i, miR-23b, miR-29c, miR-23a, miR-30b, miR-16, miR-126-3p, miR-434-3p, miR-429, miR-183, miR-191, miR-24, miR-200c, miR-200a, miR-182, miR-26b, miR-139-5p, miR-30a, miR-181a, miR-127, miR-137, miR-222, miR-27b, miR-151-5p, miR-150, miR-204, miR-30d, miR-29b, miR-7a, miR-361, miR-129-3p, miR-195, miR-690, miR-103	miR-9, miR-26a, let-7a, let-7f, miR-128, let-7d, let-7c, miR-124, miR-125b-5p, let-7b, miR-125a-5p, let-7g, miR-29a, miR-709, let-7e, let-7i, miR-132, miR-16, miR-9*, miR-30c, miR-195, miR-23b, miR-218, miR-30b, miR-29c, miR-200b, miR-23a, miR-26b, miR-126-3p, miR-30a, miR-434-3p, miR-139-5p, miR-24, miR-30d, miR-191, miR-181a, miR-204, miR-183, miR-429, miR-129-3p, miR-200c, miR-127, miR-29b, miR-361, miR-200a, miR-27b, miR-222, miR-150, miR-151-5p, miR-137, miR-182, miR-103, miR-107	miR-122, let-7a, let-7f, miR-709, let-7c, let-7d, let-7b, miR-26a, miR-21, let-7g, miR-26b, miR-192, miR-23b, miR-30c, miR-126-3p, miR-16, let-7e, miR-194, miR-23a, miR-29a	miR-122, miR-709, miR-192, miR-26a, let-7a, let-7f, let-7c, let-7d, miR-21, let-7g, let-7b, miR-29a, miR-194, miR-126-3p, miR-23b, miR-26b, miR-30c, miR-148a, miR-16, miR-23a
Detected	miR-709, miR-128, miR-125b-5p, miR-9, let-7a, miR-26a, let-7c, miR-29a, let-7f, let-7d, let-7b, miR-125a-5p, let-7g, miR-132, miR-9*, miR-124, let-7e, miR-30c, miR-200b, miR-218, let-7i, miR-23b, miR-29c, miR-	miR-9, miR-26a, let-7a, let-7f, miR-128, let-7d, let-7c, miR-124, miR-125b-5p, let-7b, miR-125a-5p, let-7g, miR-29a, miR-709, let-7e, let-7i, miR-132, miR-16, miR-9*, miR-30c, miR-195, miR-23b, miR-218, miR-30b, miR-	miR-122, let-7a, let-7f, miR-709, let-7c, let-7d, let-7b, miR-26a, miR-21, let-7g, miR-26b, miR-192, miR-23b, miR-30c, miR-126-3p, miR-16, let-7e, miR-194, miR-23a, miR-29a, miR-30b, let-7i, miR-92a, miR-	miR-122, miR-709, miR-192, miR-26a, let-7a, let-7f, let-7c, let-7d, miR-21, let-7g, let-7b, miR-29a, miR-194, miR-126-3p, miR-23b, miR-26b, miR-30c, miR-148a, miR-16, miR-23a, miR-30b, miR-27b, miR-30a, let-

	23a, miR-30b, miR-16, miR-126-3p, miR-434-3p, miR-429, miR-183, miR-191, miR-24, miR-200c, miR-200a, miR-182, miR-26b, miR-139-5p, miR-30a, miR-181a, miR-127, miR-137, miR-222, miR-27b, miR-151-5p, miR-150, miR-204, miR-30d, miR-29b, miR-7a, miR-361, miR-129-3p, miR-195, miR-690, miR-103, miR-382, miR-107, miR-27a, miR-21, miR-185, miR-335-5p, miR-433, miR-320, miR-99b, miR-379, miR-92b, miR-221, miR-153, miR-495, miR-138, miR-667, miR-30e, miR-100, miR-181b, miR-342-3p, miR-143, miR-451, miR-328, miR-99a, miR-145, miR-384-5p, miR-805, miR-705, miR-674, miR-92a, miR-34a, miR-98, miR-15a, miR-383, miR-744, miR-487b, miR-376b*, miR-346, miR-329, miR-423-5p, miR-486, miR-762, miR-25, miR-1224, miR-376b, miR-22, miR-411*, miR-676,	29c, miR-200b, miR-23a, miR-26b, miR-126-3p, miR-30a, miR-434-3p, miR-139-5p, miR-24, miR-30d, miR-191, miR-181a, miR-204, miR-183, miR-429, miR-129-3p, miR-200c, miR-127, miR-29b, miR-361, miR-200a, miR-27b, miR-222, miR-150, miR-151-5p, miR-137, miR-182, miR-103, miR-107, miR-320, miR-382, miR-99b, miR-21, miR-30e, miR-690, miR-98, miR-379, miR-27a, miR-221, miR-7a, miR-335-5p, miR-185, miR-99a, miR-92b, miR-433, miR-495, miR-342-3p, miR-153, miR-138, miR-100, miR-384-5p, miR-15a, miR-143, miR-145, miR-805, miR-122, miR-206, miR-181b, miR-667, miR-329, miR-328, miR-486, miR-22, miR-92a, miR-101a, miR-376b*, miR-451, miR-487b, miR-674, miR-34a, miR-705, miR-340-5p, miR-411*, miR-383, miR-346, miR-598, miR-15b, miR-25, miR-744, miR-	805, miR-148a, miR-27b, miR-191, miR-762, miR-125b-5p, miR-24, miR-151-5p, miR-22, miR-125a-5p, miR-30a, miR-361, miR-15b, miR-30d, miR-92b, miR-451, miR-320, miR-574-5p, miR-103, miR-107, miR-690, miR-486, miR-720, miR-27a, miR-145, miR-143, miR-29c, miR-185, miR-31, miR-25, miR-203, miR-10a, miR-423-5p, miR-15a, miR-199a-3p, miR-214, miR-195, miR-705, miR-20a, miR-378, miR-98, miR-146a, miR-101b, miR-30e, miR-150, miR-466f-3p, miR-1224, miR-17, miR-152, miR-221, miR-139-5p, miR-222, miR-99b, let-7d*, miR-130a, miR-30a*, miR-455, miR-151-3p, miR-425, miR-802, miR-674, miR-106b, miR-93, miR-140*, miR-181a, miR-379, miR-100, miR-200c, miR-127, miR-132, miR-676, miR-101a, miR-99a, miR-351, miR-10b, miR-128, miR-374, miR-328,	7i, miR-92a, miR-29c, miR-24, miR-125b-5p, miR-191, miR-30d, miR-22, let-7e, miR-27a, miR-451, miR-690, miR-805, miR-762, miR-125a-5p, miR-15a, miR-151-5p, miR-143, miR-30e, miR-92b, miR-25, miR-15b, miR-361, miR-101b, miR-195, miR-103, miR-20a, miR-107, miR-31, miR-720, miR-320, miR-203, miR-199a-3p, miR-185, miR-145, miR-802, miR-10a, miR-705, miR-152, miR-146a, miR-17, miR-486, miR-423-5p, miR-689, miR-214, miR-139-5p, miR-378, miR-30a*, miR-150, miR-221, miR-99b, miR-130a, miR-93, let-7d*, miR-99a, miR-106b, miR-455, miR-222, miR-101a, miR-151-3p, miR-1224, miR-425, miR-98, miR-379, miR-181a, miR-100, miR-20b, miR-29b, miR-676, miR-30e*, miR-574-5p, miR-365, miR-128, miR-351, miR-22*, miR-132, miR-140*, miR-28, miR-674, miR-127, miR-7a, miR-

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	miR-672, miR-200b*, miR-384-3p, miR-760, miR-702, miR-421, miR-323-3p, miR-10b, miR-467a*, miR-149, miR-369-5p, miR-551b, miR-29c*, miR-466g, miR-497, miR-34b-3p, miR-375, miR-34c*, miR-299*, miR-700, miR-206, miR-351, miR-300*, let-7b*, miR-380-3p, miR-543, miR-30c-2*, miR-183*, miR-125a-3p, miR-376c*, miR-712*, let-7f*, miR-130b, miR-376c, miR-184, miR-188-5p, miR-326, miR-127*, miR-801, miR-592, miR-325*, miR-374, miR-380-5p, miR-666-5p, miR-671-5p, miR-24-2*, miR-431, miR-345-5p, miR-322*, miR-539, miR-340-3p, miR-676*, miR-335-3p, miR-491, miR-22*, miR-715, miR-369-3p, miR-203, miR-322, miR-10a, miR-540-3p, miR-764-5p, miR-877*, miR-665, miR-325, miR-210, miR-191*, miR-181c, miR-382*, miR-200a*, miR-376a*, miR-370, miR-532-3p, miR-193b, miR-197, miR-365,	467b*, miR-148a, miR-672, miR-199a-3p, miR-501-3p, miR-299*, miR-34b-3p, miR-374, miR-574-3p, miR-592, miR-340-3p, miR-22*, miR-214, miR-49, miR-543, miR-582-5p, miR-184, miR-203, miR-300*, miR-760, miR-431, miR-30c-2*, miR-375, miR-467a*, miR-133a, miR-125a-3p, miR-673-5p, miR-34c*, miR-376c, miR-133b, miR-69-3p, let-7b*, miR-188-5p, miR-376c*, miR-671-5p, miR-466g, miR-351, miR-539, miR-325*, let-7f*, miR-702, miR-130b, miR-700, miR-376a, miR-335-3p, miR-181c, miR-666-5p, miR-127*, miR-24-2*, miR-496, miR-183*, miR-19b, miR-34c, miR-200a*, miR-186, miR-210, miR-380-3p, miR-325, miR-326, miR-494, miR-491,miR-801, miR-181a-1*, miR-680, miR-685, miR-322*, miR-370, miR-500, miR-532-3p, miR-540-3p, miR-433*, miR-699, miR-764-5p, miR-322, miR-671-3p, miR-150*, miR-	15a*, miR-495, miR-181a-2*, miR-125b-3p, miR-877, let-7c-1*, miR-146b, miR-30b*, miR-421, miR-155, miR-342-5p, miR-210, miR-106b*, miR-105, miR-338-5p, miR-124, miR-329, miR-101a*, miR-207, miR-181d, miR-34c*, miR-150*, miR-199a-5p, miR-429, miR-345-3p, miR-147, miR-877*, miR-483*, miR-133b, miR-223, miR-181b, miR-465a-5p, miR-29b*, miR-425*, miR-300, miR-127*, miR-500, miR-382, miR-145*, miR-465b-5p, miR-452, let-7a*, miR-340-3p, miR-181c, miR-29a*, miR-367, let-7g*, miR-294, miR-130b, miR-770-3p, miR-337-5p, miR-202-3p, miR-466d-5p, miR-466a-5p, miR-124*, miR-363, miR-448, miR-669c, miR-295, miR-181a-1*, miR-183*, miR-7b, miR-216a, miR-141, miR-450b-3p, miR-496, miR-20b*, miR-200a, miR-290-5p, miR-672, miR-882, miR-450b-5p, miR-433*, miR-291b-5p, miR-431,

	miR-685, miR296-5p, miR-671-3p, miR-680, miR-24-1*, miR-193, miR-691, miR-483*, miR-376a, miR18a, miR-378*, miR-34c	665, miR-30b*, miR-691, miR-676*, miR-27b*, miR-337-3p, miR-365, let-7a*, miR-382*, miR-301a, miR-29b*, miR-207, miR-708*, miR-126-5p, miR-106a, miR-378*, miR-488, miR-345-3p, miR-20b, miR-425*, miR-30c-1*, miR-380-5p, miR-409-3p, miR-136*, miR-362-5p, miR-298, miR-872*, miR-191*, miR-154*, miR-376a*, miR-448, miR-582-3p, miR-193, miR-689, miR-434-5p, miR-135a, miR-291b-5p, miR-193b, miR-219, let-7g*, miR-296-5p, miR-24-1*, miR-345-5p, miR-140, miR-409-5p, miR-124*, miR-330, miR-145*, miR-467e*, miR-28*, miR-468, miR-199a-5p, miR-15a*, miR-18a, miR-412, let-7c-1*, miR-877*, miR-125b-3p, miR-290-3p, miR-16*, miR-483*, miR-92a*, miR-142-3p, miR-465a-5p, miR-197	miR-449a, miR-493, miR-142-3p, miR-671-5p, miR-872*, miR-142-5p, miR-453	
Not-detected	miR-802, miR-689, miR-20b, miR-26b*, miR-126-5p, miR-27a*, miR-19b, miR-223, miR-193*, miR-28*, miR-	miR-10b, miR-712*, miR-715, miR-10a, miR-802, miR-26b*, miR-27a*, miR-223, miR-193*, miR-290-5p, miR-	miR-129-3p, miR-129-5p, miR-130b*, miR-133a, miR-133a*, miR-134, miR-135a, miR-135a*, miR-135b, miR-136,	miR-345-5p, miR-299*, miR-296-5p, let-7f*, miR-702, miR-712*, miR-149, miR-691, miR-188-5p, miR-346, miR-298,

	106a, miR-290-5p, miR-199a-5p, let-7a*, miR-699, miR-27b*, miR-30c-1*, miR-494, let-7c-1*, miR-92a*, miR-17*, miR-467a, miR-298, miR-10b*, miR-10a*, miR-466h, miR-15b*, miR-297a, miR-148a*, miR-16*, miR-540-5p, let-7i*, miR-125b*, miR-466f-5p, miR-15a*, miR-181a-2*, miR-125b-3p, miR-30b*, miR-155, miR-106b*, miR-105, miR-101a*, miR-207, miR-150*, miR-345-3p, miR-147, miR-465a-5p, miR-29b*, miR-425*, miR-500, miR-145*, miR-465b-5p, miR-452, miR-29a*, miR-367, let-7g*, miR-294, miR-202-3p, miR-466d-5p, miR-466a-5p, miR-124*, miR-363, miR-448, miR-295, miR-181a-1*, miR-216a, miR-450b-3p, miR-496, miR-20b*, miR-882, miR-450b-5p, miR-433*, miR-291b-5p, miR-449a, miR-493, miR-142-3p, miR-872*, miR-142-5p, miR-453, miR-130b*, miR-133a*, miR-135a, miR-135a*, miR-	17*, miR-467a, miR-10b*, miR-10a*, miR-466h, miR-15b*, miR-297a, miR-148a*, miR-540-5p, let-7i*, miR-125b*,miR-466f-5p, miR-181a-2*, miR-155, miR-106b*, miR-105, miR-101a*, miR-147, miR-465b-5p, miR-452, miR-29a*,miR-367 , miR-294, miR-202-3p, miR-466d-5p, miR-466a-5p, miR-363, miR-295, miR-216a, miR-450b-3p, miR-20b*, miR-882, miR-450b-5p, miR-449a, miR-493, miR-142-5p, miR-453, miR-130b*, miR-133a*, miR-135a*, miR-135b, miR-136, miR-141*, miR-144, miR-146b*, miR-186*, miR-188-3p,miR-18a*, miR-18b, miR-190, miR-190b,miR-196a , miR-196a*, miR-196b, miR-199b*, miR-19a, miR-19a*, miR-200c*, miR-201, miR-202-5p, miR-203*, miR-205, miR-208a, miR-208b, miR-20a*, miR-21*, miR-211, miR-214*, miR-215, miR-216b, miR-217,miR-218-1* , miR-218-2*, miR-220, miR-	miR-136*, miR-137, miR-138, miR-138*, miR-139-3p, miR-140, miR-141*, miR-144, miR-146b*, miR-153, miR-154*, miR-186, miR-186*, miR-188-3p, miR-18a*, miR-18b, miR-190, miR-190b, miR-191*, miR-193*, miR-193b, miR-196a, miR-196a*, miR-196b, miR-199b*, miR-19a, miR-19a*, miR-200a*, miR-200b*, miR-200c*, miR-201, miR-202-5p, miR-203*, miR-204, miR-205, miR-206, miR-208a, miR-208b, miR-20a*, miR-21*, miR-211, miR-212, miR-214*, miR-215, miR-216b, miR-217, miR-218, miR-218-1*, miR-218-2*, miR-219, miR-220, miR-224, miR-24-1*, miR-24-2*, miR-26b*, miR-27a*, miR-27b*, miR-290-3p, miR-291a-3p, miR-291a-5p, miR-291b-3p, miR-292-3p, miR-292-5p, miR-293, miR-293*, miR-294*, miR-295*, miR-296-3p, miR-297a*, miR-297b-5p, miR-297c, miR-299, miR-29c*, miR-300*,	miR-10b*, miR-466g, miR-197, miR-10a*, miR-466h, miR-1, miR-154, miR-182, miR-18a, miR-541, miR-15b*, miR-434-3p, miR-184, miR-297a, miR-148a*, miR-16*, miR-540-5p, let-7i*, miR-125b*, miR-466f-5p, miR-433, miR-15a*, miR-495, miR-181a-2*, miR-125b-3p, miR-877, miR-146b, miR-30b*, miR-155, miR-342-5p, miR-210, miR-106b*, miR-105, miR-338-5p, miR-124, miR-101a*, miR-207, miR-181d, miR-34c*, miR-150*, miR-429, miR-345-3p, miR-147, miR-877*, miR-483*, miR-133b, miR-181b, miR-465a-5p, miR-29b*, miR-425*, miR-300, miR-127*, miR-500, miR-145*, miR-465b-5p, miR-452, miR-340-3p, miR-181c, miR-29a*, miR-367, let-7g*, miR-294, miR-130b, miR-770-3p, miR-202-3p, miR-466d-5p, miR-466a-5p, miR-124*, miR-363, miR-448, miR-669c, miR-295, miR-181a-1*, miR-183*, miR-

	135b, miR-136, miR-136*, miR-140, miR-141*, miR-144, miR-146b*, miR-154*, miR-186, miR-186*, miR-188-3p, miR-18a*, miR-18b, miR-190, miR-190b, miR-196a, miR-196a*, miR-196b, miR-199b*, miR-19a, miR-19a*, miR-200c*, miR-201, miR-202-5p, miR-203*, miR-205, miR-208a, miR-208b, miR-20a*, miR-21*, miR-211, miR-214*, miR-215, miR-216b, miR-217, miR-218-1*, miR-218-2*, miR-219, miR-220, miR-224, miR-290-3p, miR-291a-3p, miR-291a-5p, miR-291b-3p, miR-292-3p, miR-292-5p, miR-293, miR-293*, miR-294*, miR-295*, miR-296-3p, miR-297a*, miR-297b-5p, miR-297c, miR-299, miR-301a, miR-301b, miR-302a, miR-302a*, miR-302b, miR-302b*, miR-302c, miR-302c*, miR-302d, miR-31*, miR-32, miR-323-5p, miR-324-3p, miR-327, miR-33, miR-33*, miR-330, miR-331-5p, miR-337-3p, miR-339-3p, miR-339-	224, miR-291a-3p,miR-291a-5p, miR-291b-3p, miR-292-3p,miR-292-5p, miR-293, miR-293*, miR-294*, miR-295*, miR-296-3p, miR-297a*, miR-297b-5p, miR-297c, miR-299, miR-301b, miR-302a, miR-302a*, miR-302b, miR-302b*, miR-302c, miR-302c*, miR-302d, miR-31*, miR-32, miR-323-5p, miR-324-3p, miR-327, miR-33, miR-33*, miR-331-5p, miR-339-3p, miR-339-5p, miR-343, miR-34b-5p, miR-362-3p, miR-374*, miR-423-3p, miR-431*, miR-449b, miR-449c, miR-450a-3p, miR-450a-5p, miR-455*, miR-463, miR-463*, miR-464, miR-465a-3p, miR-465c-5p, miR-466a-3p, miR-466b-3-3p, miR-466b-5p, miR-466c-5p, miR-466d-3p, miR-466e-5p, miR-467b, miR-467c, miR-467d, miR-467e, miR-469, miR-470, miR-470*, miR-471, miR-488*, miR-489, miR-490, miR-499, miR-501-5p, miR-503, miR-503*, miR-504, miR-	miR-301a, miR-301b, miR-302a, miR-302a*, ,miR-302b, miR-302b*, miR-302c, miR-302c*, miR-302d, miR-30c-1*, miR-31*, miR-32, miR-322, miR-323-3p, miR-323-5p, miR-324-3p, miR-324-5p, miR-325, miR-325*, miR-326, miR-327, miR-33, miR-33*, miR-330, miR-330*, miR-331-3p, miR-331-5p, miR-335-3p, miR-337-3p, miR-338-3p, miR-339-3p, miR-339-5p, miR-343, miR-344, miR-34b-3p, miR-34b-5p, miR-34c, miR-362-3p, miR-362-5p, miR-369-3p, miR-369-5p, miR-370, miR-374*, miR-375, miR-376a, miR-376a*, miR-376b, miR-376b*, miR-376c, miR-376c*, miR-380-3p, miR-380-5p, miR-381, miR-382*, miR-383, miR-384-3p, miR-384-5p, miR-409-3p, miR-409-5p, miR-410, miR-411, miR-411*, miR-412, miR-423-3p, miR-431*, miR-434-5p, miR-449b, miR-449c, miR-450a-3p, miR-450a-5p, miR-455*, miR-463, miR-463*, miR-464, miR-465a-3p, miR-	7b, miR-216a, miR-141, miR-450b-3p, miR-496, miR-20b*, miR-200a, miR-672, miR-882, miR-450b-5p, miR-433*, miR-291b-5p, miR-431, miR-449a, miR-493, miR-142-3p, miR-671-5p, miR-872*, miR-142-5p, miR-453, miR-129-3p, miR-129-5p, miR-130b*, miR-133a, miR-133a*, miR-135a, miR-135a*, miR-135b, miR-136, miR-136*, miR-138, miR-138*, miR-140, miR-141*, miR-144, miR-146b*, miR-153, miR-154*, miR-186, miR-186*, miR-188-3p, miR-18a*, miR-18b, miR-190, miR-190b, miR-196a, miR-196a*, miR-196b, miR-199b*, miR-19a, miR-19a*, miR-200a*, miR-200b*, miR-200c*, miR-201, miR-202-5p, miR-203*, miR-204, miR-205, miR-206, miR-208a, miR-208b, miR-20a*, miR-21*, miR-211, miR-212, miR-214*, miR-215, miR-216b, miR-217, miR-218, miR-218-1*, miR-218-2*, miR-219, miR-220, miR-224,

	5p, miR-343, miR-34b-5p, miR-362-3p, miR-362-5p, miR-374*, miR-409-3p, miR-409-5p, miR-412, miR-423-3p, miR-431*, miR-434-5p, miR-449b, miR-449c, miR-450a-3p, miR-450a-5p, miR-455*, miR-463, miR-463*, miR-464, miR-465a-3p, miR-465c-5p, miR-466a-3p, miR-466b-3-3p, miR-466b-5p, miR-466c-5p, miR-466d-3p, miR-466e-5p, miR-467b, miR-467c, miR-467d, miR-467e, miR-467e*, miR-468, miR-469, miR-470, miR-470*, miR-471, miR-488, miR-488*, miR-489, miR-490, miR-499, miR-501-5p, miR-503, miR-503*,miR-504, miR-505, miR-509-3p, miR-509-5p, miR-511, miR-542-3p, miR-542-5p, miR-544, miR-546, miR-547, miR-568, miR-582-3p, miR-582-5p, miR-590-3p, miR-590-5p, miR-615-3p, miR-615-5p, miR-653, miR-654-3p, miR-654-5p, miR-666-3p, miR-669a, miR-669b, miR-670, miR-673-3p,	505, miR-509-3p, miR-509-5p,miR-511, miR-542-3p, miR-542-5p, miR-544, miR-546, miR-547, miR-568, miR-590-3p, miR-590-5p, miR-615-3p, miR-615-5p, miR-653,miR-654-3p, miR-654-5p, miR-666-3p, miR-669a, miR-669b, miR-670, miR-673-3p,miR-675-3p, miR-675-5p, miR-677, miR-678, miR-679, miR-681, miR-682, miR-683, miR-684, miR-686, miR-687, miR-688, miR-692, miR-693-3p, miR-693-5p, miR-694, miR-695, miR-696, miR-697, miR-698, miR-701, miR-703, miR-704, miR-706, miR-707, miR-710, miR-711, miR-712, miR-713, miR-714, miR-717, miR-718, miR-719, miR-721, miR-741, miR-742, miR-742*, miR-743a,miR-743b-3p, miR-743b-5p, miR-744*, miR-758, miR-759, miR-761, miR-763, miR-764-3p, miR-770-5p, miR-804, miR-871, miR-873, miR-874, miR-875-3p, miR-875-5p,miR-	465c-5p, miR-466a-3p, miR-466b-3-3p, miR-466b-5p, miR-466c-5p, miR-466d-3p, miR-466e-5p, miR-467a, miR-467b, miR-467c, miR-467d, miR-467e, miR-467e*, miR-468, miR-469, miR-470, miR-470*, miR-471, miR-485, miR-487b, miR-488, miR-488*, miR-489, miR-490, miR-491, miR-499, miR-501-5p, miR-503, miR-503*, miR-504, miR-505, miR-509-3p, miR-509-5p, miR-511, miR-532-3p, miR-539, miR-540-3p, miR-542-3p, miR-542-5p, miR-543, miR-544, miR-546, miR-547, miR-551b, miR-568, miR-582-3p, miR-582-5p, miR-590-3p, miR-590-5p, miR-592, miR-598, miR-615-3p, miR-615-5p, miR-652, miR-653, miR-654-3p, miR-654-5p, miR-665, miR-666-3p, miR-666-5p, miR-667, miR-668, miR-669a, miR-669b, miR-670, miR-671-3p, miR-673-3p, miR-673-5p, miR-675-3p, miR-675-5p, miR-676*, miR-677, miR-	miR-290-3p, miR-291a-3p, miR-291a-5p, miR-291b-3p, miR-292-3p, miR-292-5p, miR-293, miR-293*, miR-294*, miR-295*, miR-296-3p, miR-297a*, miR-297b-5p, miR-297c, miR-299, miR-300*, miR-301a, miR-301b, miR-302a, miR-302a*, miR-302b, miR-302b*, miR-302c, miR-302c*, miR-302d, miR-31*, miR-32, miR-323-3p, miR-323-5p, miR-324-3p, miR-325, miR-325*, miR-326, miR-327, miR-33, miR-33*, miR-330, miR-330*, miR-331-3p, miR-331-5p, miR-335-3p, miR-337-3p, miR-338-3p, miR-339-3p, miR-339-5p, miR-343, miR-344, miR-34b-3p, miR-34b-5p, miR-34c, miR-362-3p, miR-362-5p, miR-369-3p, miR-369-5p, miR-370, miR-374*, miR-376a, miR-376a*, miR-376c, miR-376c*, miR-380-5p, miR-381, miR-382*, miR-383, miR-384-3p, miR-384-5p, miR-409-3p, miR-409-5p, miR-410, miR-411*, miR-412, miR-423-3p, miR-431*,

	miR-673-5p, miR-675-3p, miR-675-5p, miR-677, miR-678, miR-679, miR-681, miR-682, miR-683, miR-684, miR-686, miR-687, miR-688, miR-692, miR-693-3p, miR-693-5p, miR-694, miR-695, miR-696, miR-697, miR-698, miR-701, miR-703, miR-704, miR-706, miR-707, miR-708*, miR-710, miR-711, miR-712, miR-713, miR-714, miR-717, miR-718, miR-719, miR-721, miR-741, miR-742, miR-742*, miR-743a, miR-743b-3p, miR-743b-5p, miR-744*, miR-758, miR-759, miR-761, miR-763, miR-764-3p, miR-770-5p, miR-804, miR-871, miR-873, miR-874, miR-875-3p, miR-875-5p, miR-876-3p, miR-876-5p, miR-878-3p, miR-878-5p, miR-879, miR-879*, miR-880, miR-881, miR-881*, miR-883a-3p, miR-883a-5p, miR-883b-3p, miR-883b-5p, miR-93*, miR-99b*	876-3p, miR-876-5p, miR-878-3p, miR-878-5p, miR-879, miR-879*, miR-880, miR-881, miR-881*, miR-883a-3p, miR-883a-5p, miR-883b-3p, miR-883b-5p, miR-93*, miR-99b*	678, miR-679, miR-681, miR-682, miR-683, miR-684, miR-685, miR-686, miR-687, miR-688, miR-692, miR-693-3p, miR-693-5p, miR-694, miR-695,miR-696, miR-697, miR-698, miR-700, miR-701, miR-703, miR-704, miR-706, miR-707, miR-708, miR-708*, miR-710, miR-711, miR-712, miR-713, miR-714, miR-715, miR-717, miR-718, miR-719, miR-721, miR-741, miR-742, miR-742*, miR-743a, miR-743b-3p, miR-743b-5p, miR-744*, miR-758, miR-759, miR-760, miR-761, miR-763, miR-764-3p, miR-764-5p, miR-770-5p, miR-804, miR-871, miR-873, miR-874, miR-875-3p, miR-875-5p, miR-876-3p, miR-876-5p, miR-878-3p, miR-878-5p, miR-879, miR-879*, miR-880, miR-881, miR-881*, miR-883a-3p, miR-883a-5p, miR-883b-3p, miR-883b-5p, miR-9, miR-9*, miR-92a*, miR-93*, miR-96, miR-	miR-434-5p, miR-449b, miR-449c, miR-450a-3p, miR-450a-5p, miR-455*, miR-463, miR-463*, miR-464, miR-465a-3p, miR-465c-5p, miR-466a-3p, miR-466b-3-3p, miR-466b-5p, miR-466c-5p, miR-466d-3p, miR-466e-5p, miR-467b, miR-467c, miR-467d, miR-467e, miR-467e*, miR-468, miR-469, miR-470, miR-470*, miR-471, miR-485, miR-487b, miR-488, miR-488*, miR-489, miR-490, miR-491, miR-499, miR-501-5p, miR-503, miR-503*, miR-504, miR-505, miR-509-3p, miR-509-5p, miR-511, miR-532-3p, miR-539, miR-540-3p, miR-542-3p, miR-542-5p, miR-543, miR-544, miR-546, miR-547, miR-551b, miR-568, miR-582-3p, miR-582-5p, miR-590-3p, miR-590-5p, miR-592, miR-598, miR-615-3p, miR-615-5p, miR-653, miR-654-3p, miR-654-5p, miR-665, miR-666-3p, miR-666-5p, miR-667, miR-668, miR-669a, miR-

		99b*	669b, miR-670, miR-671-3p, miR-673-3p, miR-673-5p, miR-675-3p, miR-675-5p, miR-676*, miR-677, miR-678, miR-679, miR-681, miR-682, miR-683, miR-684, miR-685, miR-686, miR-687, miR-688, miR-692, miR-693-3p, miR-693-5p, miR-694, miR-695, miR-696, miR-697, miR-698, miR-701, miR-703, miR-704, miR-706, miR-707, miR-708, miR-708*, miR-710, miR-711, miR-712, miR-713, miR-714, miR-715, miR-717, miR-718, miR-719, miR-721, miR-741, miR-742, miR-742*, miR-743a, miR-743b-3p, miR-743b-5p, miR-744*, miR-758, miR-759, miR-760, miR-761, miR-763, miR-764-3p, miR-764-5p, miR-770-5p, miR-804, miR-871, miR-873, miR-874, miR-875-3p, miR-875-5p, miR-876-3p, miR-876-5p, miR-878-3p, miR-878-5p, miR-879, miR-879*, miR-880, miR-881, miR-881*, miR-883a-

	3p, miR-883a-5p, miR-883b-3p, miR-883b-5p, miR-9, miR-9*, miR-93*, miR-96, miR-99b*

High expression represents the microRNAs with a detected signal >5000.

Supplemental Material, Table 2. miRNAs with different expression in mouse liver and brain tissues [#]

Category	microRNAs
High expression in liver (20)	miR-122, miR-709, let-7a, let-7f, let-7c, let-7d, miR-26a, let-7b, miR-192, miR-21, let-7g, miR-26b, miR-29a, miR-126-3p, miR-194, miR-23b, miR-30c, miR-16, miR-23a, miR-148a
High expression in brain (53)	miR-709, miR-9, miR-128, let-7a, miR-26a, miR-125b-5p, let-7f, let-7c, let-7d, miR-29a, let-7b, miR-125a-5p, let-7g, miR-124, let-7e, miR-132, miR-9*, let-7i, miR-30c, miR-16, miR-218, miR-23b, miR-200b, miR-29c, miR-30b, miR-23a, miR-126-3p, miR-195, miR-434-3p, miR-26b, miR-429, miR-24, miR-191, miR-183, miR-30a, miR-139-5p, miR-200c, miR-181a, miR-30d, miR-200a, miR-204, miR-127, miR-182, miR-222, miR-137, miR-27b, miR-151-5p, miR-29b, miR-129-3p, miR-150, miR-361, miR-103, miR-107
High expression in brain but not in liver (38)	miR-9, miR-9*, miR-218, miR-204, miR-129-3p, miR-200a, miR-429, miR-124, miR-434-3p, miR-182, miR-137, miR-183, miR-200b, miR-200c, miR-128, miR-127, miR-132, miR-29b, miR-181a, miR-222, miR-139-5p, miR-150, miR-195, miR-107, miR-103, miR-361, miR-125a-5p, miR-151-5p, miR-30d, miR-29c, miR-30a, miR-24, miR-191, miR-125b-5p, miR-27b, let-7i, miR-30b, let-7e
High expression in liver but not in brain (5)	miR-148a, miR-192, miR-194, miR-122, miR-21
High expression in both brain and liver (15)	miR-709, let-7a, let-7f, let-7c, let-7d, miR-26a, let-7b, let-7g, miR-26b, miR-29a, miR-126-3p, miR-23b, miR-30c, miR-16, miR-23a
Detected in brain but not in liver (85)	miR-9, miR-9*, miR-218, miR-204, miR-129-3p, miR-153, miR-138, miR-384-5p, miR-667, miR-487b, miR-383, miR-411*, miR-212, miR-206, miR-485, miR-598, miR-330*, miR-708, miR-344, miR-138*, miR-668, miR-331-3p, miR-129-5p, miR-338-3p, miR-96, miR-410, miR-381, miR-369-5p, miR-551b, miR-133a, miR-200b*, miR-323-3p, miR-384-3p, miR-760, miR-34b-3p, miR-543, miR-300*, miR-592, miR-376c, miR-376c*, miR-369-3p, miR-325*, miR-539, miR-666-5p, miR-326, miR-335-3p, miR-582-5p, miR-491, miR-376a, miR-325, miR-200a*, miR-673-5p, miR-676*, miR-380-5p, miR-540-3p, miR-370, miR-685, miR-532-3p, miR-764-5p, miR-34c, miR-665, miR-382*, miR-671-3p, miR-376a*, miR-715, miR-186, miR-337-3p, miR-301a, miR-708*, miR-488, miR-409-3p, miR-136*, miR-362-5p, miR-154*, miR-582-3p, miR-434-5p, miR-135a, miR-219, miR-140, miR-409-5p, miR-330, miR-467e*, miR-468, miR-412, miR-290-3p
Detected in liver but not in brain (43)	miR-802, miR-223, miR-290-5p, miR-17*, miR-26b*, miR-27a*, miR-193*, miR-10b*, miR-10a*, miR-466h, miR-15b*, miR-297a, miR-148a*, miR-540-5p, let-7i*, miR-125b*, miR-466f-5p, miR-181a-2*, miR-155, miR-106b*, miR-105, miR-101a*, miR-147, miR-465b-5p, miR-452, miR-29a*, miR-367, miR-294, miR-202-3p, miR-466d-5p, miR-466a-5p, miR-363, miR-295, miR-216a, miR-450b-3p, miR-20b*, miR-882, miR-450b-5p, miR-449a, miR-493, miR-142-5p, miR-453, miR-467a
High expression in liver but not detected in brain (0)	None
High expression in brain but not detected in liver (5)	miR-9, miR-9*, miR-218, miR-204, miR-129-3p
10-fold expression higher in liver than in brain (6)	miR-192, miR-122, miR-148a, miR-10a, miR-194, miR-689
10-fold expression higher in brain than in liver (68)	miR-676, miR-674*, miR-672, miR-187, miR-669c, miR-29c, miR-98, miR-877, miR-29c*, miR-652, miR-139-3p, miR-342-5p, miR-7b, miR-141, miR-497, miR-674, miR-221, miR-125b-5p, miR-1, miR-340-5p, miR-744, miR-485*, miR-99b, miR-134, miR-99a, miR-195, miR-100, miR-150, miR-125a-5p, miR-541, miR-300, miR-324-5p, miR-328, miR-146b, miR-411, miR-379, miR-770-3p, miR-34a, miR-222, miR-139-5p, miR-338-5p, miR-154, miR-329, miR-181d, miR-342-3p, miR-376b, miR-7a, miR-346, miR-29b, miR-181a, miR-127, miR-335-5p, miR-200c, miR-181b, miR-376b*, miR-382, miR-495, miR-433, miR-132, miR-183, miR-137, miR-200b, miR-182, miR-128, miR-200a, miR-434-3p, miR-429, miR-124

High expression represents the microRNAs with a detected signal >5000.

Supplemental Material, Table 3. miRNAs with aberrant expression in mouse liver and brain tissues after RDX exposure

Category		microRNAs
Tissue	**microRNAs**	
Liver	Detected in control but not in treatment (105)	miR-496, miR-181a-1*, miR-500, miR-433*, miR-150*, miR-30b*, miR-29b*, miR-207, miR-345-3p, miR-425*, miR-298, miR-872*, miR-448, miR-291b-5p, let-7g*, miR-124*, miR-145*, miR-15a*, miR-125b-3p, miR-16*, miR-142-3p, miR-465a-5p, miR-340-3p, miR-431, miR-184, miR-146b, miR-299*, miR-124, miR-671-5p, miR-154, miR-181c, miR-7b, miR-300, miR-188-5p, miR-342-5p, miR-210, miR-669c, miR-672, miR-34c*, miR-149, miR-495, miR-141, miR-541, miR-691, let-7f*, miR-130b, miR-338-5p, miR-434-3p, miR-127*, miR-346, miR-466g, miR-429, miR-200a, miR-877, miR-433, miR-183*, miR-182, miR-181b, miR-181d, miR-133b, miR-18a, miR-296-5p, miR-770-3p, miR-702, miR-1, miR-877*, miR-483*, miR-345-5p, miR-197, miR-712*, miR-10b*, miR-10a*, miR-466h, miR-15b*, miR-297a, miR-148a*, miR-540-5p, let-7i*, miR-125b*, miR-466f-5p, miR-181a-2*, miR-155, miR-106b*, miR-105, miR-101a*, miR-147, miR-465b-5p, miR-452, miR-29a*, miR-367, miR-294, miR-202-3p, miR-466d-5p, miR-466a-5p, miR-363, miR-295, miR-216a, miR-450b-3p, miR-20b*, miR-882, miR-450b-5p, miR-449a, miR-493, miR-142-5p, miR-453
	Detected in treatment but not in control (24)	miR-27b*, miR-30c-1*, miR-92a*, miR-652, miR-29c*, miR-411, miR-139-3p, miR-375, miR-376b*, miR-24-2*, miR-324-5p, miR-137, miR-322, miR-376b, miR-700, miR-191*, miR-380-3p, miR-193b, miR-24-1*, miR-134, miR-26b*, miR-27a*, miR-193*, miR-467a (all less than 100)
Brain	Detected in control but not in treatment (4)	miR-10a, miR-10b, miR-712*, miR-715
	Detected in treatment but not in control (58)	miR-27b*, miR-30c-1*, miR-92a*, miR-689, miR-20b, miR-126-5p, miR-199a-5p, let-7a*, miR-19b, miR-106a, miR-28*, let-7c-1*, miR-494, miR-699, miR-496, miR-181a-1*, miR-500, miR-433*, miR-150*, miR-30b*, miR-29b*, miR-207, miR-345-3p, miR-425*, miR-298, miR-872*, miR-448, miR-291b-5p, let-7g*, miR-124*, miR-145*, miR-15a*, miR-125b-3p, miR-16*, miR-142-3p, miR-465a-5p, miR-582-5p, miR-673-5p, miR-186, miR-337-3p, miR-301a, miR-708*, miR-488, miR-409-3p, miR-136*, miR-362-5p, miR-154*, miR-582-3p, miR-434-5p, miR-135a, miR-219, miR-140, miR-409-5p, miR-330, miR-467e*, miR-468, miR-412, miR-290-3p

Supplemental Material, Table 4. Potential target genes of miR-206 predicted by PicTar and TargetScan.

Target gene	Accession No	PicTar Score	TargetScan Score	Total score	Target gene name
TNKS2	NM_025235	2	1	3	tankyrase, TRF1-interacting ankyrin-related ADP-ribose polymerase 2
BDNF	NM_170735	5	7	12	brain-derived neurotrophic factor, transcript variant 1
BDNF	NM_170733	6	7	13	brain-derived neurotrophic factor, transcript variant 5
BDNF	NM_001709	7	7	14	brain-derived neurotrophic factor, transcript variant 4
BDNF	NM_170732	8	7	15	brain-derived neurotrophic factor, transcript variant 2
BDNF	NM_170734	9	7	16	brain-derived neurotrophic factor, transcript variant 6
BDNF	NM_170731	10	7	17	brain-derived neurotrophic factor, transcript variant 3
PAX3	NM_181459	18	8	26	paired box gene 3 (Waardenburg syndrome 1), transcript variant PAX3E
PAX3	NM_181460	19	8	27	paired box gene 3 (Waardenburg syndrome 1), transcript variant PAX3H
PAX3	NM_181457	21	8	29	paired box gene 3 (Waardenburg syndrome 1), transcript variant PAX3
FOXP1	NM_032682	11	23	34	forkhead box P1
GJA1	NM_000165	31	3	34	gap junction protein, alpha 1, 43kDa (connexin 43)
PAX3	NM_181458	29	8	37	paired box gene 3 (Waardenburg syndrome 1), transcript variant PAX3D
POGK	NM_017542	3	38	41	pogo transposable element with KRAB domain
MMD	NM_012329	16	32	48	monocyte to macrophage differentiation-associated
AP1G1	NM_001128	35	16	51	adaptor-related protein complex 1, gamma 1 subunit
SERP1	NM_014445	1	51	52	stress-associated endoplasmic reticulum protein 1
CORO1C	NM_014325	34	18	52	coronin, actin binding protein, 1C
LOC285636	NM_175921	40	15	55	hypothetical protein LOC285636
KIF2	NM_004520	28	28	56	kinesin heavy chain member 2
ARF3	NM_001659	12	48	60	ADP-ribosylation factor 3
Hc	NM_004859	13	47	60	clathrin, heavy polypeptide (Hc)
SPRED1	NM_152594	39	22	61	sprouty-related, EVH1 domain containing 1
FLJ38973	NM_153689	67	10	77	hypothetical protein FLJ38973
MET	NM_000245	36	64	100	met proto-oncogene (hepatocyte growth factor receptor)
LPPR4	NM_014839	91	13	104	plasticity related gene 1
NFAT5	NM_138714	22	88	110	nuclear factor of activated T-cells 5, tonicity-responsive, transcript variant 1
NFAT5	NM_138713	23	88	111	nuclear factor of activated T-cells 5, tonicity-responsive, transcript variant 2
HS3ST3B1	NM_006041	86	25	111	heparan sulfate (glucosamine) 3-O-sulfotransferase 3B1
NFAT5	NM_006599	24	88	112	nuclear factor of activated T-cells 5, tonicity-responsive, transcript variant 3
NFAT5	NM_173214	25	88	113	nuclear factor of activated T-cells 5, tonicity-responsive, transcript variant 4
UST	NM_005715	114	2	116	uronyl-2-sulfotransferase
LASP1	NM_006148	33	85	118	LIM and SH3 protein 1
GPR85	NM_018970	59	63	122	G protein-coupled receptor 85
FLJ21986	NM_024913	93	30	123	hypothetical protein FLJ21986
PFTK1	NM_012395	94	29	123	PFTAIRE protein kinase 1
ZNF236	NM_007345	32	96	128	zinc finger protein 236
BACH2	NM_021813	38	93	131	BTB and CNC homology 1, basic leucine zipper transcription factor 2
VAMP4	NM_003762	66	69	135	vesicle-associated membrane protein 4, transcript variant 2
PRKACB	NM_182948	78	58	136	protein kinase, cAMP-dependent, catalytic, beta, transcript variant 1
PRKACB	NM_002731	79	58	137	protein kinase, cAMP-dependent, catalytic, beta, transcript variant 2
ARHGEF18	NM_015318	51	90	141	rho/rac guanine nucleotide exchange factor (GEF) 18
ETS1	NM_005238	49	97	146	v-ets erythroblastosis virus E26 oncogene homolog 1 (avian)
TRIM2	NM_015271	127	21	148	tripartite motif-containing 2
COL4A3	NM_031364	27	130	157	collagen, type IV, alpha 3 (Goodpasture antigen) , transcript variant 4
COL4A3	NM_031363	30	130	160	collagen, type IV, alpha 3 (Goodpasture antigen), transcript variant 3
SFRS9	NM_003769	88	76	164	splicing factor, arginine/serine-rich 9
ZFP36L1	NM_004926	62	103	165	zinc finger protein 36, C3H type-like 1
CREBL2	NM_001310	37	129	166	cAMP responsive element binding protein-like 2
XPO6	NM_015171	15	155	170	exportin 6