

Supplementary Information

Table S1. Demographic variables of individuals recruited for this study.

	Healthy controls (<i>n</i> = 24)	Cohort 1 Stroke Patients (<i>n</i> = 68)	Cohort 2 Stroke Patients (<i>n</i> = 101)	Cohort 3 Metabolic Syndrome Patients (<i>n</i> = 94)
Age (Years ± SEM)	39.0 ± 8.10	45.5 ± 2.07	59.7 ± 1.39	39.4 ± 9.15
	Gender			
Female, <i>n</i> (%)	6 (25.0)	28 (41.14)	39 (38.61)	27 (28.72)
Male, <i>n</i> (%)	18 (75.0)	40 (58.82)	62 (61.39)	67 (71.28)
Ethnicity	Asian	Asian	Asian	Asian
	Risk Factors, <i>n</i> (%)			
Hypertension	NA	41(63.08)	78 (77.59)	28 (29.78)
Diabetes	NA	27(41.54)	45 (44.55)	31 (33.00)
Hyperlipidaemia	NA	31(47.69)	76 (75.24)	74 (78.72)

Table S2. Validation of miRNA expression in all stroke samples. Expression of 10 highly significant miRNAs ($p < 0.0001$) were validated using qPCR. Expression of the miRNAs was determined in all stroke samples (regardless of timepoints) as well as samples clustered according to their timepoints. Data is represented as a relative expression with respect to healthy controls ± SEM.

miRNAs	All Stroke	Acute Stroke			Recovery	
		Day 1	Day 2	Day 7	<6 months	<2 years
miR-135b	3.62 ± 1.86	4.19 ± 1.50	3.59 ± 2.49	2.69 ± 1.72	2.86 ± 2.68	2.79 ± 1.89
miR-145	1.65 ± 0.70	1.25 ± 0.80	1.30 ± 0.93	1.49 ± 0.93	1.89 ± 0.57	1.13 ± 0.15
miR-210	2.07 ± 1.36	2.29 ± 1.54	2.55 ± 2.01	1.44 ± 0.79	1.08 ± 0.79	1.66 ± 1.31
miR-494	1.74 ± 0.76	1.39 ± 0.42	2.35 ± 3.12	0.99 ± 0.60	1.25 ± 0.99	2.14 ± 2.40
miR-498	4.19 ± 2.51	4.44 ± 3.57	4.11 ± 2.79	1.38 ± 1.19	2.18 ± 2.87	5.85 ± 6.59
miR-126	0.81 ± 0.52	0.95 ± 0.90	0.80 ± 0.25	0.67 ± 0.54	0.61 ± 0.53	0.57 ± 0.49
miR-182	0.87 ± 0.57	0.61 ± 0.13	0.68 ± 0.44	0.73 ± 0.52	0.62 ± 0.57	0.55 ± 0.47
miR-183	0.56 ± 0.36	0.62 ± 0.48	0.46 ± 0.43	0.38 ± 0.25	0.30 ± 0.20	0.41 ± 0.36
miR-342-3p	0.63 ± 0.35	0.64 ± 0.20	0.58 ± 0.40	0.36 ± 0.21	0.63 ± 0.55	0.74 ± 0.62
miR-361-5p	0.68 ± 0.28	0.73 ± 0.22	0.60 ± 0.31	0.53 ± 0.26	0.56 ± 0.48	0.67 ± 0.56

miRNAs	Fold change	Tan <i>et al.</i>	Jeyaseelan <i>et al.</i>	Liu <i>et al.</i>	Dharap <i>et al.</i>	Lim <i>et al.</i>	Origin	Circulating miRNA (serum/plasma) expression in stroke co-morbidity	
		(2009)	(2008)	(2010)	(2009)	(2010)			
		Human	Rat		Rat	Rat			Rat
		Blood (2 years)	Blood (24 h)	Brain (24 h)	Blood (24 h)	Brain (24 h)			Brain (24 h)
let-7a	-1.62		↓	↓	↓	ND		↓	
let-7b*	-2.09								
let-7c	-1.66				↓	ND			
let-7d*	-3.05								
let-7e	2.23	↑							
let-7f	-1.79	↓	↓	↓					
let-7g	-1.58	↓			↓	ND			
let-7i	-1.70	↓	↓	↓					
miR-106b*	-1.33								
miR-125b-2*	1.80						↑		
miR-126	-2.04	↓			↓	ND	↓	Endothelial cell	
miR-1261	2.14	↑							
miR-129-5p	1.80	↑					↑		
miR-1299	-1.74								
miR-130a	-1.49				↓	ND		Bone marrow	
miR-1321	1.84								
miR-135b	6.51						↑		
miR-145	8.35						↑	Smooth muscle	
miR-151-5p	-1.88							↑Stroke	
miR-182	-2.53							↓ Atherosclerosis	
miR-183	-2.14								

Table S3. Cont.

[illegible]

		Tan et al. (2009)	Jeyaseelan et al. (2008)	Liu et al. (2010)	Dharap et al. (2009)	Lim et al. (2010)		Circulating miRNA (serum/plasma) expression in stroke co-morbidity
miRNAs	Fold change	Human	Rat	Rat	Rat	Rat	Origin	
		Blood (2 years)	Blood (24 h)Brain (24 h)	Blood (24 h)Brain (24 h)	Brain (24 h)	Brain (24 h)		
miR-668	2.54	↑					Heart	
miR-671-5p	2.91					↑		
miR-675	4.52							
miR-7	-2.23	↓	ND	↓	↑	ND	↓	Brain
miR-886-5p	-2.43							
miR-920	3.48							
miR-92a	-1.42				↓	ND	↓	Endothelial cell ↓ Atherosclerosis
miR-93*	-1.63							
miR-933	1.44							
miR-943	2.98							
miR-96	-2.10						Platelet	↓Coagulation
miR-99a	6.40					↑		

Table S4. Expression of human specific miR-920. Expression of miR-920 was determined in all stroke samples across various time points. Data is represented as a relative expression with respect to healthy controls $\pm$ SEM.

miRNA	Acute Stroke			Recovery	
	Day 1	Day 2	Day 7	<6 months	<2 years
miR-920	2.20 $\pm$ 0.640	1.82 $\pm$ 1.196	0.26 $\pm$ 0.752	2.70 $\pm$ 0.551	1.50 $\pm$ 0.205

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